

# アキシャルリードインダクタ

## AXIAL LEADED INDUCTORS

|                |                                                          |
|----------------|----------------------------------------------------------|
| OPERATING TEMP | -25~+105℃ (製品自己発熱を含む)<br>(Including self-generated heat) |
|----------------|----------------------------------------------------------|



### 特長 FEATURES

- ・自動挿入に対し極めて高い信頼性を有するインダクタ
- ・自動化高速ラインによる生産の為、量産性に優れかつ高品質
- ・アキシャルリードタイプ他、ラジアルターピング、単品加工品がありバリエーションが豊富

- ・Extremely reliable inductors that are ideal for automatic insertion.
- ・Highly efficient automated production processes can provide high quality inductors in large volumes.
- ・Wide selection of configurations including axial leaded, formed radial leads and bulk products to meet most manufacturing needs.

### 用途 APPLICATIONS

- ・VTR、CTV、オーディオ、通信機、その他電子機器全般

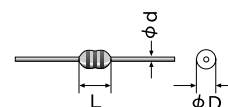
Consumer electronics such as VTRs, TVs, audio equipment, mobile communications, and general electronic appliances.

### 形名表記法 ORDERING CODE

|                                                                                 |                                                                                                                        |                                                                                                                                                                                                                                                      |                                                                    |                                                            |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------------------------------|
| <b>1</b><br><b>形式</b><br>LA アキシャルインダクタ                                          | <b>3</b><br><b>形状寸法(L×D)(mm以下)</b><br>02 3.4×2.3 (LAL/LAP)<br>3.6×2.4 (LAN)<br>03 7.0×2.7<br>04 9.8×4.0<br>05 14.0×5.5 | <b>4</b><br><b>リード加工形状 (mm)</b><br>KB フォーミング単品(04タイプ)<br>KH フォーミング単品(03タイプ)<br>KR フォーミング単品(02タイプ)<br>NA ストレート単品<br>SK 縦形フォーミング<br>TA アキシャルつづらテーパーピッチ26.0幅<br>TB アキシャルつづらテーパーピッチ52.0幅<br>VA 縦形ラジアルテーパーピッチ2.5<br>VB 縦形ラジアルテーパーピッチ5.0<br>VD ラジアルテーパーピッチ | <b>5</b><br><b>公称インダクタンス [μH]</b><br>例 ※R=小数点<br>1R5 1.5<br>120 12 | <b>6</b><br><b>インダクタンス許容差[%]</b><br>J ±5<br>K ±10<br>M ±20 |
| <b>2</b><br><b>製品区分</b><br>L△ 一般<br>N△ 高電流タイプ<br>P△ 一般 (リード線径0.45φmm)<br>△=スペース |                                                                                                                        |                                                                                                                                                                                                                                                      |                                                                    | <b>7</b><br><b>当社管理記号</b><br>△△△△ 標準品<br>△=スペース            |

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | A | L | △ | 0 | 3 | T | A | R | 2 | 2 | M | ○ | ○ | ○ | ○ | ○ |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |   |   |   |   |   |   |   |   |   |   |

|                                                                                                                                                     |                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                            |                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <b>1</b><br><b>Type</b><br>LA Axial inductor                                                                                                        | <b>3</b><br><b>Body size(L×D)(mm)</b><br>02 3.4×2.3 (LAL/LAP)<br>3.6×2.4 (LAN)<br>03 7.0×2.7<br>04 9.8×4.0<br>05 14.0×5.5 | <b>4</b><br><b>Lead configurations(mm)</b><br>KB Formed lead/bulk(04 type)<br>KH Formed lead/bulk(03 type)<br>KR Formed lead/bulk(02 type)<br>NA Axial lead/bulk<br>SK Formed lead(hair pin)/bulk(04 type)<br>TA Axial lead(26mm lead space)<br>/ammo pack(02/03 type)<br>TB Axial lead(52mm lead space)<br>/ammo pack(all types)<br>VA Formed lead(hair pin)<br>/ammo pack(02 type)<br>VB Formed lead(hair pin)<br>/ammo pack(03 type)<br>VD Formed lead/ammo pack(02 type) | <b>5</b><br><b>Nominal inductance[μH]</b><br>example ※R=decimal point<br>1R5 1.5<br>120 12 | <b>6</b><br><b>Inductance tolerance[%]</b><br>J ±5<br>K ±10<br>M ±20       |
| <b>2</b><br><b>Product Specification</b><br>L△ Standard type<br>N△ High current type<br>P△ Standard type<br>(lead diameter:0.45mm)<br>△=Blank space |                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                            | <b>7</b><br><b>Internal code</b><br>△△△△ Standard product<br>△=Blank space |

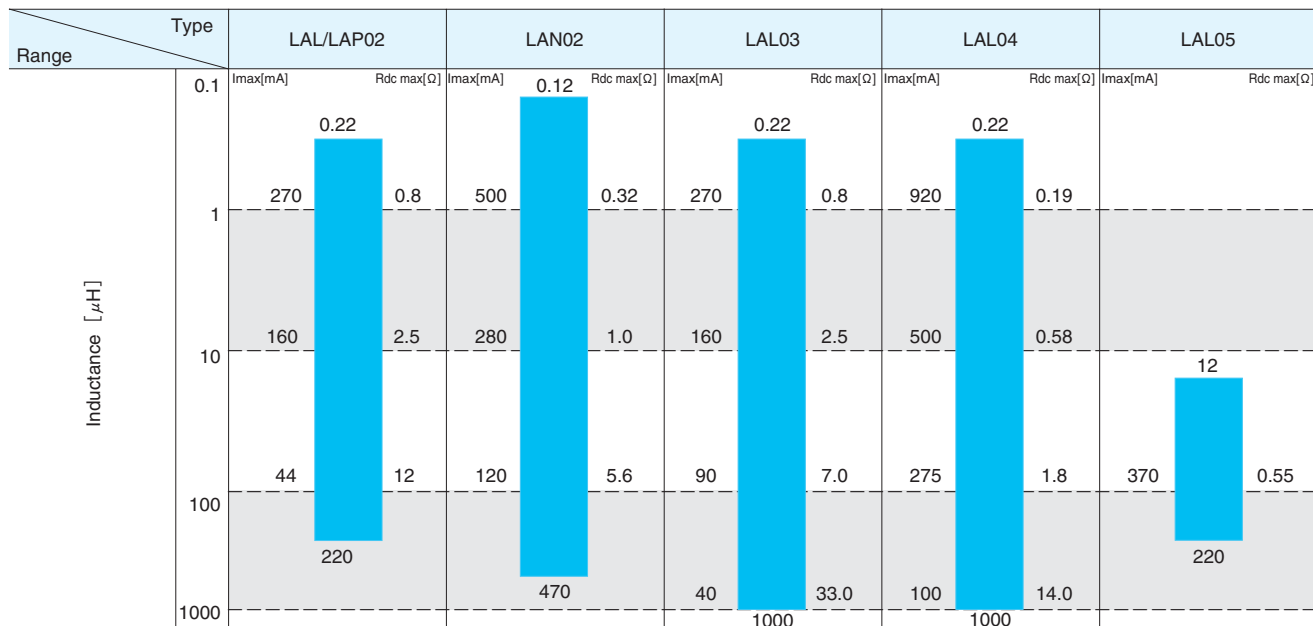


| Type  | Dimensions[mm](inch)  |                                                                                     |                            | テーピング Taped   |              | 単品Bulk        |              |
|-------|-----------------------|-------------------------------------------------------------------------------------|----------------------------|---------------|--------------|---------------|--------------|
|       | L                     | φD                                                                                  | φd                         | ストレートStraight | フォーミングFormed | ストレートStraight | フォーミングFormed |
| LAL02 | 3.4max<br>(0.134max)  | 2.3max<br>(0.091max)                                                                | 0.5±0.05<br>(0.020±0.002)  | TB<br>        | VD VA<br>    | NA<br>        | —            |
| LAP02 | 3.4max<br>(0.134max)  | 2.3max<br>(0.091max)                                                                | 0.45±0.05<br>(0.018±0.002) | TA<br>        | —            | —             | KR<br>       |
| LAN02 | 3.6max<br>(0.142max)  | 2.4max<br>(0.094max)                                                                |                            | —             | —            | —             | —            |
| LAL03 | 7.0max<br>(0.276max)  | 2.6 <sup>+0.1</sup> <sub>-0.2</sub><br>(0.102 <sup>+0.004</sup> <sub>-0.008</sub> ) | ※0.5±0.05<br>(0.020±0.002) | TA TB<br>     | VB<br>       | NA<br>        | KH<br>       |
| LAL04 | 9.8max<br>(0.386max)  | 4.0max<br>(0.157max)                                                                | 0.65±0.05<br>(0.026±0.002) | TB<br>        | —            | NA<br>        | SK KB<br>    |
| LAL05 | 14.0max<br>(0.551max) | 5.5max<br>(0.217max)                                                                | 0.65±0.05<br>(0.026±0.002) | TB<br>        | —            | —             | —            |

※VB: 0.6±0.05  
(0.024±0.002)

Unit: mm(inch)

概略バリエーション AVAILABLE INDUCTANCE RANGE



| 代表値<br>Examples | Inductance | Imax [mA] | Rdcmax [Ω] | Imax [mA] | Rdcmax [Ω] | Imax [mA] | Rdcmax [Ω] | Imax [mA] | Rdcmax [Ω] | Imax [mA] | Rdcmax [Ω] |
|-----------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 1μH             | 270        | 0.8       | 500        | 0.32      | 270        | 0.8       | 920        | 0.19      | —          | —         | —          |
| 10μH            | 160        | 2.5       | 280        | 1.0       | 160        | 2.5       | 500        | 0.58      | —          | —         | —          |
| 100μH           | 44         | 12        | 120        | 5.6       | 90         | 7.0       | 275        | 1.8       | 370        | 0.55      | —          |
| 1000μH          | —          | —         | —          | —         | 40         | 33.0      | 100        | 14.0      | —          | —         | —          |

セレクトションガイド  
Selection Guide

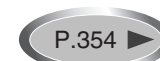
アイテム一覧  
Part Numbers

特性図  
Electrical Characteristics

梱包  
Packaging

信頼性  
Reliability Data

使用上の注意  
Precautions



etc

LAL/LAP02

| 形 名<br>Ordering code | 公 称<br>インダクタンス<br>Inductance<br>[μH] | インダクタンス<br>許容差<br>Inductance<br>Tolerance | Q<br>(min.) | 測 定<br>周波数<br>Measuring<br>frequency<br>[MHz] | 自己共振<br>周 波 数<br>Self-resonant<br>frequency<br>[MHz]<br>(min.) | 直流抵抗<br>DC<br>Resistance<br>[Ω]<br>(max.) | 定格電流<br>Rated<br>current<br>[mA]<br>(max.) |
|----------------------|--------------------------------------|-------------------------------------------|-------------|-----------------------------------------------|----------------------------------------------------------------|-------------------------------------------|--------------------------------------------|
| LA□02○R22K           | 0.22                                 | ±10%                                      | 35.0        | 25.2                                          | 450.0                                                          | 0.40                                      | 400.0                                      |
| LA□02○R27K           | 0.27                                 |                                           |             |                                               | 410.0                                                          | 0.43                                      | 380.0                                      |
| LA□02○R33K           | 0.33                                 |                                           |             |                                               | 360.0                                                          | 0.48                                      | 370.0                                      |
| LA□02○R39K           | 0.39                                 |                                           |             |                                               | 300.0                                                          | 0.51                                      | 350.0                                      |
| LA□02○R47K           | 0.47                                 |                                           |             |                                               | 230.0                                                          | 0.56                                      | 330.0                                      |
| LA□02○R56K           | 0.56                                 |                                           |             |                                               | 210.0                                                          | 0.61                                      | 320.0                                      |
| LA□02○R68K           | 0.68                                 |                                           |             |                                               | 190.0                                                          | 0.67                                      | 310.0                                      |
| LA□02○R82K           | 0.82                                 |                                           |             |                                               | 170.0                                                          | 0.74                                      | 290.0                                      |
| LA□02○1R0K           | 1.0                                  |                                           |             |                                               | 150.0                                                          | 0.80                                      | 270.0                                      |
| LA□02○1R2K           | 1.2                                  |                                           | 40.0        | 7.96                                          | 110.0                                                          | 0.9                                       | 260.0                                      |
| LA□02○1R5K           | 1.5                                  |                                           |             |                                               | 80.0                                                           | 1.0                                       | 250.0                                      |
| LA□02○1R8K           | 1.8                                  |                                           |             |                                               | 60.0                                                           | 1.1                                       | 240.0                                      |
| LA□02○2R2K           | 2.2                                  |                                           |             |                                               | 45.0                                                           | 1.2                                       | 230.0                                      |
| LA□02○2R7K           | 2.7                                  |                                           |             |                                               | 40.0                                                           | 1.3                                       | 220.0                                      |
| LA□02○3R3K           | 3.3                                  |                                           |             |                                               | 38.0                                                           | 1.4                                       | 210.0                                      |
| LA□02○3R9K           | 3.9                                  |                                           |             |                                               | 35.0                                                           | 1.6                                       | 200.0                                      |
| LA□02○4R7K           | 4.7                                  |                                           |             |                                               | 32.0                                                           | 1.7                                       | 190.0                                      |
| LA□02○5R6K           | 5.6                                  |                                           |             |                                               | 30.0                                                           | 1.9                                       | 180.0                                      |
| LA□02○6R8K           | 6.8                                  |                                           |             |                                               | 28.0                                                           | 2.0                                       | 175.0                                      |
| LA□02○8R2K           | 8.2                                  |                                           |             |                                               | 26.0                                                           | 2.2                                       | 165.0                                      |
| LA□02○100K           | 10.0                                 |                                           |             |                                               | 24.0                                                           | 2.5                                       | 160.0                                      |
| LA□02○120K           | 12.0                                 |                                           |             | 2.52                                          | 22.0                                                           | 2.5                                       | 150.0                                      |
| LA□02○150K           | 15.0                                 |                                           |             |                                               | 20.0                                                           | 2.8                                       | 145.0                                      |
| LA□02○180K           | 18.0                                 |                                           |             |                                               | 18.0                                                           | 3.1                                       | 140.0                                      |
| LA□02○220K           | 22.0                                 |                                           |             |                                               | 17.0                                                           | 3.4                                       | 130.0                                      |
| LA□02○270K           | 27.0                                 |                                           |             |                                               | 16.0                                                           | 4.3                                       | 80.0                                       |
| LA□02○330K           | 33.0                                 |                                           |             |                                               | 14.0                                                           | 4.7                                       | 76.0                                       |
| LA□02○390K           | 39.0                                 |                                           |             |                                               | 13.0                                                           | 5.2                                       | 74.0                                       |
| LA□02○470K           | 47.0                                 |                                           |             |                                               | 12.0                                                           | 5.8                                       | 70.0                                       |
| LA□02○560K           | 56.0                                 |                                           |             |                                               | 11.0                                                           | 6.4                                       | 68.0                                       |
| LA□02○680K           | 68.0                                 |                                           |             |                                               | 10.0                                                           | 7.2                                       | 64.0                                       |
| LA□02○820K           | 82.0                                 |                                           |             |                                               | 9.5                                                            | 11.0                                      | 46.0                                       |
| LA□02○101K           | 100.0                                |                                           |             | 0.796                                         | 9.0                                                            | 12.0                                      | 44.0                                       |
| LA□02○121K           | 120.0                                |                                           |             |                                               | 8.0                                                            | 13.0                                      | 42.0                                       |
| LA□02○151K           | 150.0                                |                                           |             |                                               | 6.0                                                            | 16.0                                      | 39.0                                       |
| LA□02○181K           | 180.0                                |                                           |             |                                               | 5.5                                                            | 18.0                                      | 37.0                                       |
| LA□02○221K           | 220.0                                |                                           |             |                                               | 5.0                                                            | 20.0                                      | 35.0                                       |

形名の□には製品区分記号(リード線径)が入ります。(L:標準0.5mm, P:0.45mm)

形名の○にはリード加工形状記号が入ります。

□ Please specify the Product Specification(lead diameter)code. (L:standard 0.5mm or P:0.45mm)

○ Please specify the Lead configuration code.

LAN02

| 形 名<br>Ordering code | 公 称<br>インダクタンス<br>Inductance<br>[μH] | インダクタンス<br>許容差<br>Inductance<br>Tolerance | Q<br>(min.) | 測 定<br>周波数<br>Measuring<br>frequency<br>[MHz] | 自己共振<br>周 波 数<br>Self-resonant<br>frequency<br>[MHz]<br>(min.) | 直流抵抗<br>DC<br>Resistance<br>[Ω]<br>(max.) | 定格電流<br>Rated<br>current<br>[mA]<br>(max.) |
|----------------------|--------------------------------------|-------------------------------------------|-------------|-----------------------------------------------|----------------------------------------------------------------|-------------------------------------------|--------------------------------------------|
| LAN02○R12K           | 0.12                                 | ±10%                                      | 50.0        | 25.2                                          | 500.0                                                          | 0.12                                      | 850.0                                      |
| LAN02○R15K           | 0.15                                 |                                           |             |                                               | 500.0                                                          | 0.14                                      | 800.0                                      |
| LAN02○R18K           | 0.18                                 |                                           |             |                                               | 500.0                                                          | 0.15                                      | 760.0                                      |
| LAN02○R22K           | 0.22                                 |                                           |             |                                               | 500.0                                                          | 0.16                                      | 730.0                                      |
| LAN02○R27K           | 0.27                                 |                                           |             |                                               | 500.0                                                          | 0.18                                      | 690.0                                      |
| LAN02○R33K           | 0.33                                 |                                           |             |                                               | 480.0                                                          | 0.19                                      | 660.0                                      |
| LAN02○R39K           | 0.39                                 |                                           |             |                                               | 430.0                                                          | 0.21                                      | 640.0                                      |
| LAN02○R47K           | 0.47                                 |                                           |             |                                               | 380.0                                                          | 0.23                                      | 610.0                                      |
| LAN02○R56K           | 0.56                                 |                                           |             |                                               | 350.0                                                          | 0.25                                      | 580.0                                      |
| LAN02○R68K           | 0.68                                 |                                           |             |                                               | 310.0                                                          | 0.27                                      | 550.0                                      |
| LAN02○R82K           | 0.82                                 |                                           |             |                                               | 270.0                                                          | 0.29                                      | 520.0                                      |
| LAN02○1R0J           | 1.0                                  | ±5 %                                      | 40.0        | 7.96                                          | 240.0                                                          | 0.32                                      | 500.0                                      |
| LAN02○1R2J           | 1.2                                  |                                           |             |                                               | 210.0                                                          | 0.35                                      | 480.0                                      |
| LAN02○1R5J           | 1.5                                  |                                           |             |                                               | 190.0                                                          | 0.38                                      | 450.0                                      |
| LAN02○1R8J           | 1.8                                  |                                           |             |                                               | 140.0                                                          | 0.42                                      | 430.0                                      |
| LAN02○2R2J           | 2.2                                  |                                           |             |                                               | 90.0                                                           | 0.47                                      | 410.0                                      |
| LAN02○2R7J           | 2.7                                  |                                           |             |                                               | 70.0                                                           | 0.52                                      | 390.0                                      |
| LAN02○3R3J           | 3.3                                  |                                           |             |                                               | 50.0                                                           | 0.57                                      | 370.0                                      |
| LAN02○3R9J           | 3.9                                  |                                           |             |                                               | 35.0                                                           | 0.63                                      | 360.0                                      |
| LAN02○4R7J           | 4.7                                  |                                           |             |                                               | 32.0                                                           | 0.69                                      | 340.0                                      |
| LAN02○5R6J           | 5.6                                  |                                           |             |                                               | 30.0                                                           | 0.75                                      | 320.0                                      |
| LAN02○6R8J           | 6.8                                  |                                           |             |                                               | 28.0                                                           | 0.84                                      | 310.0                                      |
| LAN02○8R2J           | 8.2                                  |                                           |             |                                               | 26.0                                                           | 0.92                                      | 290.0                                      |
| LAN02○100J           | 10.0                                 |                                           | 50.0        | 2.52                                          | 24.0                                                           | 1.0                                       | 280.0                                      |
| LAN02○120J           | 12.0                                 |                                           |             |                                               | 22.0                                                           | 1.0                                       | 280.0                                      |
| LAN02○150J           | 15.0                                 |                                           |             |                                               | 20.0                                                           | 1.2                                       | 265.0                                      |
| LAN02○180J           | 18.0                                 |                                           |             |                                               | 18.0                                                           | 1.3                                       | 250.0                                      |
| LAN02○220J           | 22.0                                 |                                           |             |                                               | 17.0                                                           | 1.5                                       | 235.0                                      |
| LAN02○270J           | 27.0                                 |                                           |             |                                               | 15.0                                                           | 1.7                                       | 220.0                                      |
| LAN02○330J           | 33.0                                 |                                           |             |                                               | 14.0                                                           | 2.2                                       | 180.0                                      |
| LAN02○390J           | 39.0                                 |                                           |             |                                               | 13.0                                                           | 2.4                                       | 170.0                                      |
| LAN02○470J           | 47.0                                 |                                           |             |                                               | 12.0                                                           | 2.8                                       | 160.0                                      |
| LAN02○560J           | 56.0                                 |                                           |             |                                               | 10.0                                                           | 4.1                                       | 140.0                                      |
| LAN02○680J           | 68.0                                 |                                           |             |                                               | 9.2                                                            | 4.5                                       | 130.0                                      |
| LAN02○820J           | 82.0                                 |                                           |             |                                               | 8.8                                                            | 5.0                                       | 125.0                                      |
| LAN02○101J           | 100.0                                |                                           |             |                                               | 8.0                                                            | 5.6                                       | 120.0                                      |
| LAN02○121J           | 120.0                                |                                           | 50.0        | 0.796                                         | 6.6                                                            | 9.2                                       | 90.0                                       |
| LAN02○151J           | 150.0                                |                                           |             |                                               | 5.8                                                            | 10.5                                      | 85.0                                       |
| LAN02○181J           | 180.0                                |                                           |             |                                               | 5.4                                                            | 11.5                                      | 80.0                                       |
| LAN02○221J           | 220.0                                |                                           |             |                                               | 4.8                                                            | 13.0                                      | 75.0                                       |
| LAN02○271J           | 270.0                                |                                           |             |                                               | 3.6                                                            | 16.0                                      | 70.0                                       |
| LAN02○331J           | 330.0                                |                                           |             |                                               | 3.4                                                            | 18.0                                      | 66.0                                       |
| LAN02○391J           | 390.0                                |                                           |             |                                               | 3.2                                                            | 20.0                                      | 63.0                                       |
| LAN02○471J           | 470.0                                |                                           |             |                                               | 3.0                                                            | 22.0                                      | 60.0                                       |

形名の○にはリード加工形状記号が入ります。

○ Please specify the Lead configuration code.

LAL03

| 形 名<br>Ordering code | 公 称<br>インダクタンス<br>Inductance<br>[μH] | インダクタンス<br>許容差<br>Inductance<br>Tolerance | Q<br>(min.) | 測 定<br>周波数<br>Measuring<br>frequency<br>[MHz] | 自己共振<br>周 波 数<br>Self-resonant<br>frequency<br>[MHz]<br>(min.) | 直流抵抗<br>DC<br>Resistance<br>[Ω]<br>(max.) | 定格電流<br>Rated<br>current<br>[mA]<br>(max.) |       |
|----------------------|--------------------------------------|-------------------------------------------|-------------|-----------------------------------------------|----------------------------------------------------------------|-------------------------------------------|--------------------------------------------|-------|
| LAL03○R22M           | 0.22                                 | ±20%                                      | 35.0        | 25.2                                          | 450.0                                                          | 0.40                                      | 400.0                                      |       |
| LAL03○R27M           | 0.27                                 |                                           |             |                                               | 410.0                                                          | 0.43                                      | 380.0                                      |       |
| LAL03○R33M           | 0.33                                 |                                           |             |                                               | 360.0                                                          | 0.48                                      | 370.0                                      |       |
| LAL03○R39M           | 0.39                                 |                                           |             |                                               | 300.0                                                          | 0.51                                      | 350.0                                      |       |
| LAL03○R47M           | 0.47                                 |                                           |             |                                               | 230.0                                                          | 0.56                                      | 330.0                                      |       |
| LAL03○R56M           | 0.56                                 |                                           | 40.0        |                                               | 210.0                                                          | 0.61                                      | 320.0                                      |       |
| LAL03○R68M           | 0.68                                 |                                           |             |                                               | 190.0                                                          | 0.67                                      | 310.0                                      |       |
| LAL03○R82M           | 0.82                                 |                                           |             |                                               | 170.0                                                          | 0.74                                      | 290.0                                      |       |
| LAL03○1R0M           | 1.0                                  |                                           |             |                                               | 150.0                                                          | 0.80                                      | 270.0                                      |       |
| LAL03○1R2M           | 1.2                                  |                                           |             |                                               | ±10%                                                           | 50.0                                      | 7.96                                       | 144.0 |
| LAL03○1R5M           | 1.5                                  | 131.0                                     | 1.0         | 250.0                                         |                                                                |                                           |                                            |       |
| LAL03○1R8M           | 1.8                                  | 121.0                                     | 1.1         | 240.0                                         |                                                                |                                           |                                            |       |
| LAL03○2R2M           | 2.2                                  | 110.0                                     | 1.2         | 230.0                                         |                                                                |                                           |                                            |       |
| LAL03○2R7M           | 2.7                                  | 100.0                                     | 1.3         | 220.0                                         |                                                                |                                           |                                            |       |
| LAL03○3R3K           | 3.3                                  | 94.0                                      | 1.4         | 210.0                                         |                                                                |                                           |                                            |       |
| LAL03○3R9K           | 3.9                                  | 65.0                                      | 1.6         | 200.0                                         |                                                                |                                           |                                            |       |
| LAL03○4R7K           | 4.7                                  | 56.0                                      | 1.7         | 190.0                                         |                                                                |                                           |                                            |       |
| LAL03○5R6K           | 5.6                                  | 48.0                                      | 1.9         | 180.0                                         |                                                                |                                           |                                            |       |
| LAL03○6R8K           | 6.8                                  | 37.0                                      | 2.0         | 175.0                                         |                                                                |                                           |                                            |       |
| LAL03○8R2K           | 8.2                                  | 25.0                                      | 2.2         | 165.0                                         |                                                                |                                           |                                            |       |
| LAL03○100K           | 10.0                                 | 21.0                                      | 2.5         | 160.0                                         |                                                                |                                           |                                            |       |
| LAL03○120K           | 12.0                                 | 2.52                                      | 2.52        | 19.0                                          |                                                                |                                           | 2.5                                        | 150.0 |
| LAL03○150K           | 15.0                                 |                                           |             | 17.0                                          |                                                                |                                           | 2.8                                        | 145.0 |
| LAL03○180K           | 18.0                                 |                                           |             | 13.0                                          |                                                                |                                           | 3.1                                        | 140.0 |
| LAL03○220K           | 22.0                                 |                                           |             | 9.6                                           |                                                                |                                           | 3.4                                        | 130.0 |
| LAL03○270K           | 27.0                                 |                                           |             | 7.2                                           |                                                                |                                           | 3.8                                        | 125.0 |
| LAL03○330K           | 33.0                                 |                                           |             | 6.3                                           |                                                                |                                           | 4.1                                        | 120.0 |
| LAL03○390K           | 39.0                                 |                                           |             | 6.3                                           |                                                                |                                           | 4.5                                        | 115.0 |
| LAL03○470K           | 47.0                                 |                                           |             | 6.3                                           |                                                                |                                           | 4.9                                        | 110.0 |
| LAL03○560K           | 56.0                                 |                                           |             | 6.2                                           |                                                                |                                           | 5.3                                        | 105.0 |
| LAL03○680K           | 68.0                                 |                                           |             | 5.7                                           |                                                                |                                           | 5.8                                        | 100.0 |
| LAL03○820K           | 82.0                                 |                                           |             | 5.3                                           |                                                                |                                           | 6.3                                        | 95.0  |
| LAL03○101K           | 100.0                                |                                           |             | 4.8                                           | 7.0                                                            | 90.0                                      |                                            |       |
| LAL03○121K           | 120.0                                |                                           |             | 0.796                                         | 0.796                                                          | 3.8                                       | 13.0                                       | 90.0  |
| LAL03○151K           | 150.0                                |                                           |             |                                               |                                                                | 3.5                                       | 15.0                                       | 85.0  |
| LAL03○181K           | 180.0                                |                                           |             |                                               |                                                                | 3.3                                       | 16.0                                       | 80.0  |
| LAL03○221K           | 220.0                                |                                           |             |                                               |                                                                | 3.0                                       | 17.0                                       | 75.0  |
| LAL03○271K           | 270.0                                |                                           |             |                                               |                                                                | 2.8                                       | 19.0                                       | 65.0  |
| LAL03○331K           | 330.0                                |                                           |             |                                               |                                                                | 2.6                                       | 20.0                                       | 60.0  |
| LAL03○391K           | 390.0                                |                                           |             |                                               |                                                                | 2.4                                       | 22.0                                       | 55.0  |
| LAL03○471K           | 470.0                                |                                           |             |                                               |                                                                | 2.25                                      | 24.0                                       | 55.0  |
| LAL03○561K           | 560.0                                |                                           |             |                                               |                                                                | 2.10                                      | 26.0                                       | 50.0  |
| LAL03○681K           | 680.0                                |                                           |             |                                               |                                                                | 1.95                                      | 28.0                                       | 45.0  |
| LAL03○821K           | 820.0                                |                                           |             |                                               |                                                                | 1.85                                      | 30.0                                       | 40.0  |
| LAL03○102K           | 1000.0                               |                                           |             |                                               |                                                                | 1.40                                      | 33.0                                       | 40.0  |

形名の○にはリード加工形状記号が入ります。

○ Please specify the Lead configuration code.

LAL04

| 形 名<br>Ordering code | 公 称<br>インダクタンス<br>Inductance<br>[μH] | インダクタンス<br>許容差<br>Inductance<br>Tolerance | Q<br>(min.) | 測 定<br>周波数<br>Measuring<br>frequency<br>(MHz) | 自己共振<br>周 波 数<br>Self-resonant<br>frequency<br>(MHz)<br>(min.) | 直流抵抗<br>DC<br>Resistance<br>[Ω]<br>(max.) | 定格電流<br>Rated<br>current<br>[mA]<br>(max.) |
|----------------------|--------------------------------------|-------------------------------------------|-------------|-----------------------------------------------|----------------------------------------------------------------|-------------------------------------------|--------------------------------------------|
| LAL04○R22M           | 0.22                                 | ±20%                                      | 45.0        | 25.2                                          | 300.0                                                          | 0.10                                      | 1400.0                                     |
| LAL04○R27M           | 0.27                                 |                                           |             |                                               | 270.0                                                          | 0.11                                      | 1320.0                                     |
| LAL04○R33M           | 0.33                                 |                                           |             |                                               | 250.0                                                          | 0.12                                      | 1280.0                                     |
| LAL04○R39M           | 0.39                                 |                                           |             |                                               | 230.0                                                          | 0.13                                      | 1200.0                                     |
| LAL04○R47M           | 0.47                                 |                                           |             |                                               | 220.0                                                          | 0.14                                      | 1150.0                                     |
| LAL04○R56M           | 0.56                                 |                                           |             |                                               | 200.0                                                          | 0.15                                      | 1100.0                                     |
| LAL04○R68M           | 0.68                                 |                                           |             |                                               | 190.0                                                          | 0.16                                      | 1030.0                                     |
| LAL04○R82M           | 0.82                                 |                                           |             |                                               | 172.0                                                          | 0.17                                      | 980.0                                      |
| LAL04○1R0M           | 1.0                                  |                                           |             |                                               | 157.0                                                          | 0.19                                      | 920.0                                      |
| LAL04○1R2M           | 1.2                                  |                                           |             |                                               | 50.0                                                           | 7.96                                      | 144.0                                      |
| LAL04○1R5M           | 1.5                                  | 131.0                                     | 0.23        | 830.0                                         |                                                                |                                           |                                            |
| LAL04○1R8M           | 1.8                                  | 121.0                                     | 0.25        | 790.0                                         |                                                                |                                           |                                            |
| LAL04○2R2M           | 2.2                                  | 110.0                                     | 0.28        | 750.0                                         |                                                                |                                           |                                            |
| LAL04○2R7M           | 2.7                                  | 100.0                                     | 0.30        | 720.0                                         |                                                                |                                           |                                            |
| LAL04○3R3K           | 3.3                                  | 94.0                                      | 0.34        | 670.0                                         |                                                                |                                           |                                            |
| LAL04○3R9K           | 3.9                                  | 65.0                                      | 0.37        | 640.0                                         |                                                                |                                           |                                            |
| LAL04○4R7K           | 4.7                                  | 70.0                                      | 56.0        | 0.39                                          |                                                                |                                           | 620.0                                      |
| LAL04○5R6K           | 5.6                                  |                                           | 48.0        | 0.43                                          |                                                                |                                           | 590.0                                      |
| LAL04○6R8K           | 6.8                                  |                                           | 37.0        | 0.48                                          |                                                                |                                           | 550.0                                      |
| LAL04○8R2K           | 8.2                                  | 80.0                                      | 25.0        | 0.52                                          | 530.0                                                          |                                           |                                            |
| LAL04○100K           | 10.0                                 | 65.0                                      | 21.0        | 0.58                                          | 500.0                                                          |                                           |                                            |
| LAL04○120K           | 12.0                                 | 50.0                                      | 2.52        | 19.0                                          | 0.63                                                           | 480.0                                     |                                            |
| LAL04○150K           | 15.0                                 |                                           |             | 17.0                                          | 0.72                                                           | 460.0                                     |                                            |
| LAL04○180K           | 18.0                                 |                                           |             | 13.0                                          | 0.77                                                           | 430.0                                     |                                            |
| LAL04○220K           | 22.0                                 |                                           |             | 9.6                                           | 0.84                                                           | 410.0                                     |                                            |
| LAL04○270K           | 27.0                                 |                                           |             | 7.2                                           | 0.94                                                           | 390.0                                     |                                            |
| LAL04○330K           | 33.0                                 |                                           |             | 6.3                                           | 1.03                                                           | 370.0                                     |                                            |
| LAL04○390K           | 39.0                                 |                                           |             | 6.3                                           | 1.12                                                           | 350.0                                     |                                            |
| LAL04○470K           | 47.0                                 |                                           |             | 6.3                                           | 1.22                                                           | 340.0                                     |                                            |
| LAL04○560K           | 56.0                                 |                                           |             | 6.2                                           | 1.34                                                           | 320.0                                     |                                            |
| LAL04○680K           | 68.0                                 |                                           |             | 5.7                                           | 1.47                                                           | 305.0                                     |                                            |
| LAL04○820K           | 82.0                                 | 35.0                                      | 5.3         | 1.62                                          | 290.0                                                          |                                           |                                            |
| LAL04○101K           | 100.0                                | 30.0                                      | 4.8         | 1.80                                          | 275.0                                                          |                                           |                                            |
| LAL04○121K           | 120.0                                | 55.0                                      | 0.796       | 3.8                                           | 3.70                                                           | 185.0                                     |                                            |
| LAL04○151K           | 150.0                                | 45.0                                      |             | 3.5                                           | 4.20                                                           | 175.0                                     |                                            |
| LAL04○181K           | 180.0                                | 50.0                                      |             | 3.3                                           | 4.60                                                           | 165.0                                     |                                            |
| LAL04○221K           | 220.0                                | 55.0                                      |             | 3.0                                           | 5.10                                                           | 155.0                                     |                                            |
| LAL04○271K           | 270.0                                | 65.0                                      |             | 2.8                                           | 5.80                                                           | 145.0                                     |                                            |
| LAL04○331K           | 330.0                                |                                           |             | 2.6                                           | 6.40                                                           | 137.0                                     |                                            |
| LAL04○391K           | 390.0                                |                                           |             | 2.4                                           | 7.00                                                           | 133.0                                     |                                            |
| LAL04○471K           | 470.0                                |                                           |             | 2.25                                          | 7.70                                                           | 126.0                                     |                                            |
| LAL04○561K           | 560.0                                | 60.0                                      |             | 2.10                                          | 8.50                                                           | 120.0                                     |                                            |
| LAL04○681K           | 680.0                                |                                           |             | 1.95                                          | 9.40                                                           | 113.0                                     |                                            |
| LAL04○821K           | 820.0                                |                                           | 1.85        | 10.50                                         | 105.0                                                          |                                           |                                            |
| LAL04○102K           | 1000.0                               | 50.0                                      | 1.40        | 14.00                                         | 100.0                                                          |                                           |                                            |

形名の○にはリード加工形状記号が入ります。

○ Please specify the Lead configuration code.

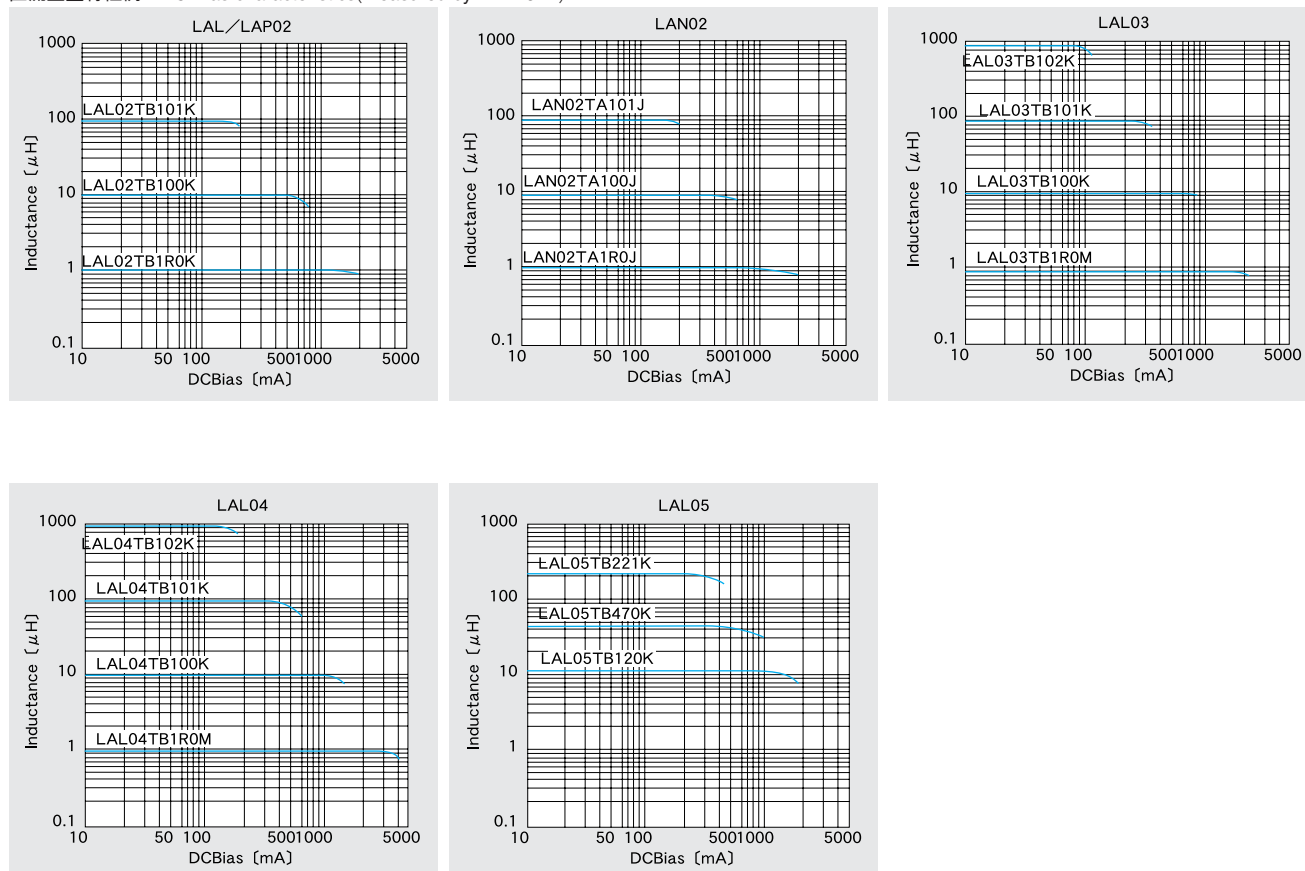
LAL05

| 形 名           |  | 公 称<br>インダクタンス<br>Inductance | インダクタンス<br>許容差<br>Inductance<br>Tolerance | Q<br>(min.) | 測 定<br>周波数<br>Measuring<br>frequency<br>[MHz] | 自己共振<br>周 波 数<br>Self-resonant<br>frequency<br>[MHz]<br>(min.) | 直流抵抗<br>DC<br>Resistance<br>[Ω]<br>(max.) | 定格電流<br>Rated<br>current<br>[A]<br>(max.) |  |
|---------------|--|------------------------------|-------------------------------------------|-------------|-----------------------------------------------|----------------------------------------------------------------|-------------------------------------------|-------------------------------------------|--|
| Ordering code |  | [μH]                         |                                           |             |                                               |                                                                |                                           |                                           |  |
| LAL05○120K    |  | 12.0                         | ±10%                                      | 30.0        | 2.52                                          | 11.0                                                           | 0.15                                      | 1.05                                      |  |
| LAL05○150K    |  | 15.0                         |                                           |             |                                               | 10.0                                                           | 0.16                                      | 1.00                                      |  |
| LAL05○180K    |  | 18.0                         |                                           |             |                                               | 9.0                                                            | 0.18                                      | 0.82                                      |  |
| LAL05○220K    |  | 22.0                         |                                           |             |                                               | 8.0                                                            | 0.19                                      | 0.80                                      |  |
| LAL05○270K    |  | 27.0                         |                                           |             |                                               | 7.0                                                            | 0.21                                      | 0.70                                      |  |
| LAL05○330K    |  | 33.0                         |                                           |             |                                               | 6.0                                                            | 0.27                                      | 0.60                                      |  |
| LAL05○390K    |  | 39.0                         |                                           |             |                                               | 5.5                                                            | 0.30                                      | 0.54                                      |  |
| LAL05○470K    |  | 47.0                         |                                           |             |                                               | 5.0                                                            | 0.32                                      | 0.52                                      |  |
| LAL05○560K    |  | 56.0                         |                                           | 20.0        | 0.796                                         | 4.5                                                            | 0.36                                      | 0.49                                      |  |
| LAL05○680K    |  | 68.0                         |                                           |             |                                               | 4.0                                                            | 0.40                                      | 0.45                                      |  |
| LAL05○820K    |  | 82.0                         |                                           |             |                                               | 3.7                                                            | 0.43                                      | 0.40                                      |  |
| LAL05○101K    |  | 100.0                        |                                           |             |                                               | 3.3                                                            | 0.55                                      | 0.37                                      |  |
| LAL05○121K    |  | 120.0                        |                                           | 30.0        |                                               | 3.0                                                            | 1.10                                      | 0.31                                      |  |
| LAL05○151K    |  | 150.0                        |                                           |             |                                               | 2.6                                                            | 1.20                                      | 0.27                                      |  |
| LAL05○181K    |  | 180.0                        |                                           |             |                                               | 2.3                                                            | 1.30                                      | 0.25                                      |  |
| LAL05○221K    |  | 220.0                        |                                           |             |                                               | 2.0                                                            | 1.40                                      | 0.22                                      |  |

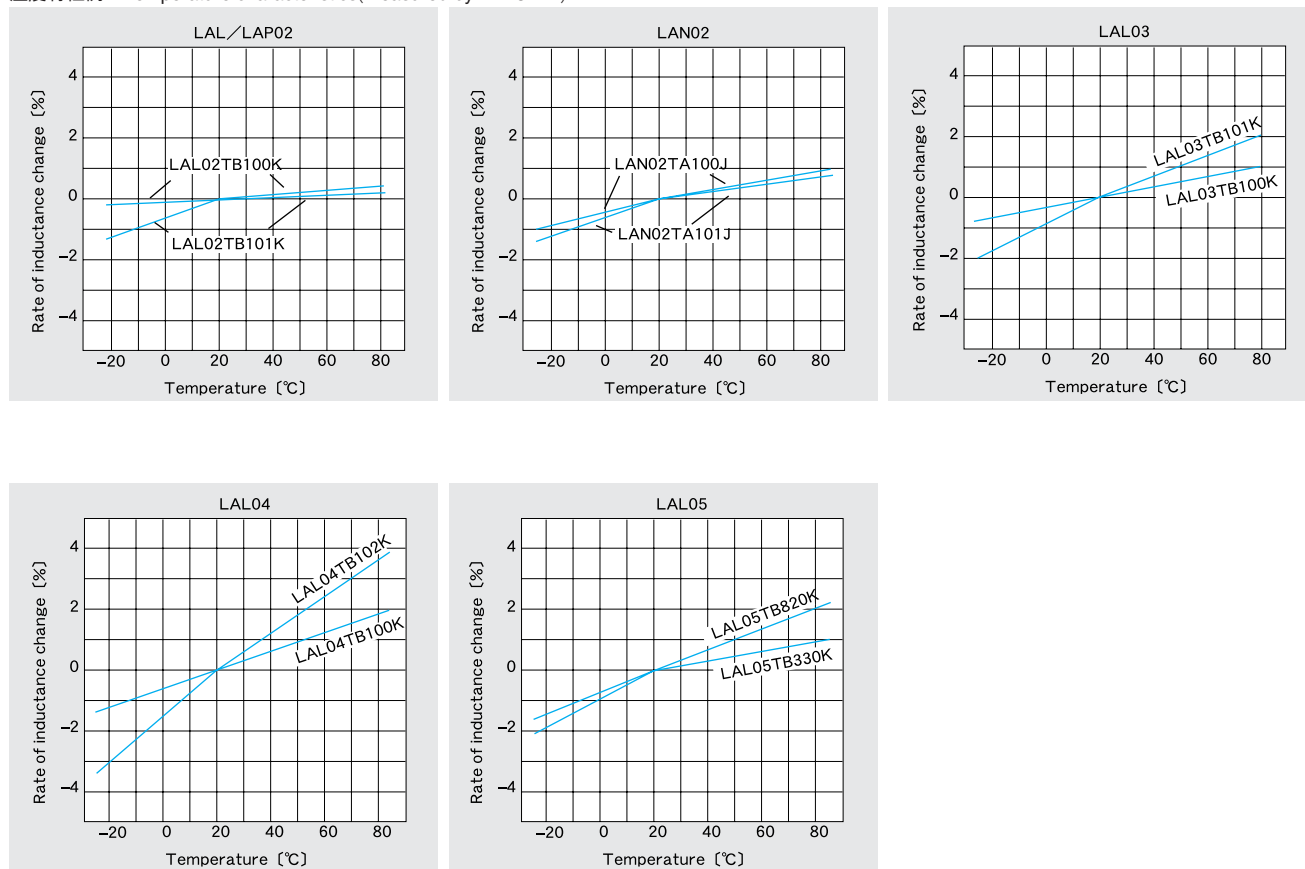
形名の○にはリード加工形状記号が入ります。

○ Please specify the Lead configuration code.

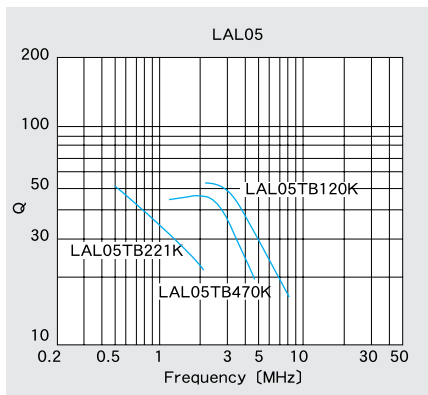
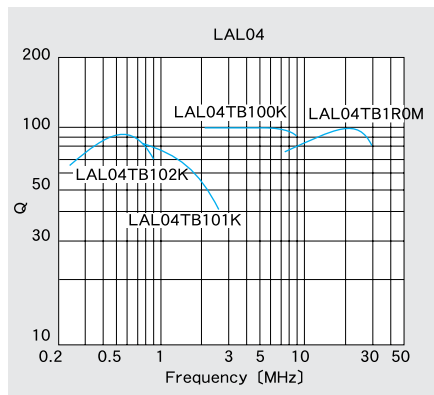
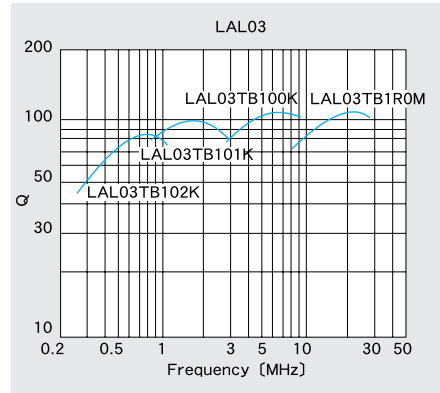
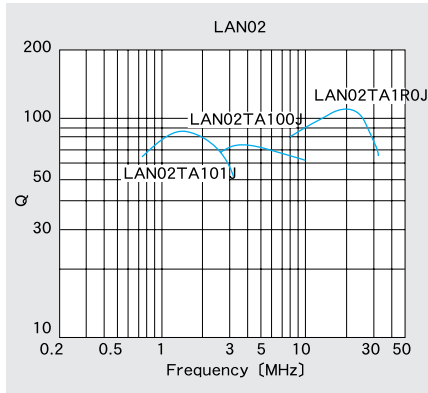
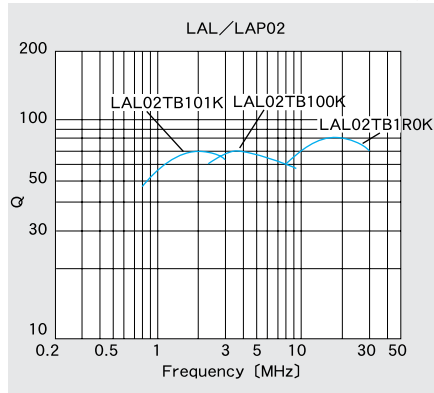
直流重量特性例 DC Bias characteristics(Measured by HP4262A)



温度特性例 Temperature characteristics(Measured by HP4342A)



Q-周波数特性例 Q-Characteristics(Measured by HP4342A)



## 標準数量 Standard quantity

### ①アキシャルリードの横テーピング Taping for Straight Leads

| Type  | リード加工記号<br>Lead Configuration code | 標準数量(pcs.)<br>Standard quantity |
|-------|------------------------------------|---------------------------------|
| LAL02 | TB                                 | 2,000                           |
| LAP02 | TA                                 | 2,000                           |
| LAN02 | TA                                 | 2,000                           |
| LAL03 | TA・TB                              | 2,000                           |
| LAL04 | TB                                 | 2,500                           |
| LAL05 | TB                                 | 2,000                           |

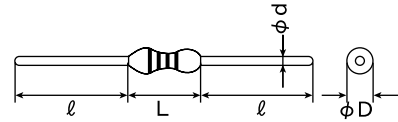
### ②アキシャルリードの縦テーピング Taping for Formed Leads

| Type  | リード加工記号<br>Lead Configuration code | 標準数量(pcs.)<br>Standard quantity |
|-------|------------------------------------|---------------------------------|
| LAL02 | VD・VA                              | 2,000                           |
| LAL03 | VB                                 | 2,000                           |

### ③バルク(袋づめ) Bulk

| Type  | リード加工記号<br>Lead Configuration code | 標準数量(pcs.)<br>Standard quantity |
|-------|------------------------------------|---------------------------------|
| LAL02 | NA                                 | 500                             |
| LAP02 | KR                                 | 2,000                           |
| LAN02 | KR                                 | 500                             |
| LAL03 | NA・KH                              | 500                             |
| LAL04 | NA・KB・SK                           | 500                             |

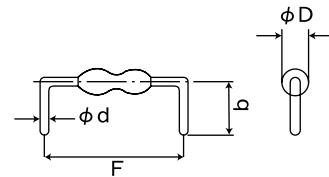
### NA形状



| Type  | 寸法<br>Dimensions                                     |                      |                                        |                                     | 最小挿入ピッチ<br>Minimum insertion pitch |
|-------|------------------------------------------------------|----------------------|----------------------------------------|-------------------------------------|------------------------------------|
|       | $\phi D$                                             | L                    | $\phi d$                               | $l$                                 |                                    |
| LAL02 | 2.3max<br>(0.091max)                                 | 3.4max<br>(0.134max) | $0.50 \pm 0.05$<br>(0.020 $\pm$ 0.002) | $24 \pm 2.0$<br>(0.945 $\pm$ 0.079) | 5.0<br>(0.197)                     |
| LAL03 | $2.6^{+0.1}_{-0.2}$<br>(0.102 $^{+0.004}_{-0.008}$ ) | 7.0max<br>(0.276max) | $0.50 \pm 0.05$<br>(0.020 $\pm$ 0.002) | $22 \pm 2.0$<br>(0.866 $\pm$ 0.079) | 10.0<br>(0.394)                    |
| LAL04 | 4.0max<br>(0.157max)                                 | 9.8max<br>(0.386max) | $0.65 \pm 0.05$<br>(0.026 $\pm$ 0.002) | $20 \pm 2.0$<br>(0.787 $\pm$ 0.079) | 12.5<br>(0.492)                    |

Unit : mm(inch)

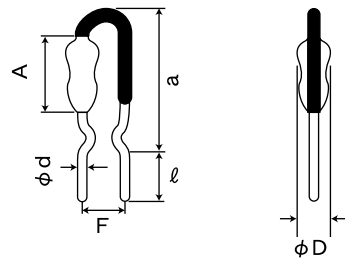
### KR/KH/KB形状



| Type  | リード加工<br>形状記号<br>Lead configuration<br>code | 寸法<br>Dimensions                                     |                                       |                                        |                                      |
|-------|---------------------------------------------|------------------------------------------------------|---------------------------------------|----------------------------------------|--------------------------------------|
|       |                                             | $\phi D$                                             | F                                     | $\phi d$                               | b                                    |
| LAP02 | KR                                          | 2.3max<br>(0.091max)                                 | $5.0 \pm 0.5$<br>(0.197 $\pm$ 0.020)  | $0.45 \pm 0.05$<br>(0.018 $\pm$ 0.002) | $7.0 \pm 1.0$<br>(0.276 $\pm$ 0.039) |
| LAN02 | KR                                          | 2.4max<br>(0.094max)                                 | $5.0 \pm 0.5$<br>(0.197 $\pm$ 0.020)  | $0.45 \pm 0.05$<br>(0.018 $\pm$ 0.002) | $7.0 \pm 1.0$<br>(0.276 $\pm$ 0.039) |
| LAL03 | KH                                          | $2.6^{+0.1}_{-0.2}$<br>(0.102 $^{+0.004}_{-0.008}$ ) | $10.0 \pm 0.5$<br>(0.394 $\pm$ 0.020) | $0.50 \pm 0.05$<br>(0.020 $\pm$ 0.002) | $6.5 \pm 0.5$<br>(0.256 $\pm$ 0.020) |
| LAL04 | KB                                          | 4.0max<br>(0.157max)                                 | $12.5 \pm 1.0$<br>(0.492 $\pm$ 0.039) | $0.65 \pm 0.05$<br>(0.026 $\pm$ 0.002) | $6.0 \pm 0.5$<br>(0.236 $\pm$ 0.020) |

Unit : mm(inch)

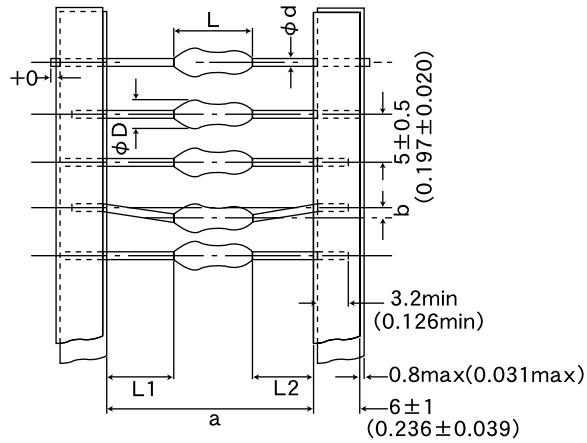
### SK形状



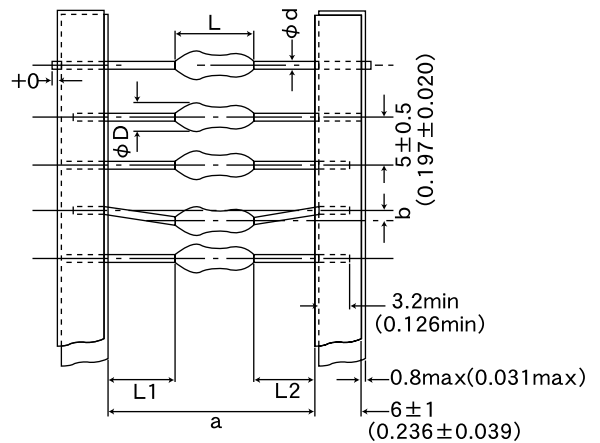
| Type  | 寸法<br>Dimensions     |                       |                      |                                      |                                        |                                      |
|-------|----------------------|-----------------------|----------------------|--------------------------------------|----------------------------------------|--------------------------------------|
|       | A                    | a                     | $\phi D$             | F                                    | $\phi d$                               | $l$                                  |
| LAL04 | 9.8max<br>(0.386max) | 14.0max<br>(0.551max) | 4.0max<br>(0.157max) | $5.0 \pm 1.5$<br>(0.197 $\pm$ 0.059) | $0.65 \pm 0.05$<br>(0.026 $\pm$ 0.002) | $6.0 \pm 1.0$<br>(0.236 $\pm$ 0.039) |

Unit : mm(inch)

TA (a : 26mm lead space)  
(1.02 inch)



TB (a : 52mm lead space)  
(2.05 inches)



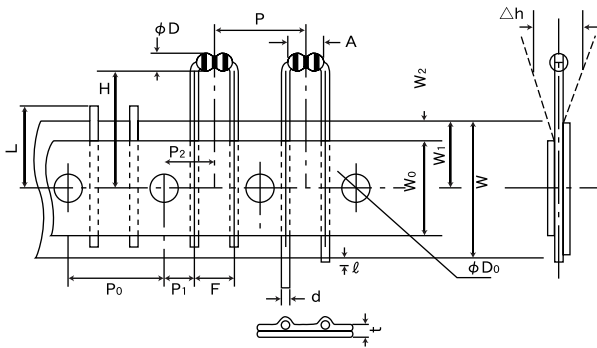
| Type  | 寸法<br>Dimensions                                     |                      |                                                  |                      |                      |                                        | 最小挿入<br>ピッチ<br>Minimum<br>insertion<br>pitch |
|-------|------------------------------------------------------|----------------------|--------------------------------------------------|----------------------|----------------------|----------------------------------------|----------------------------------------------|
|       | $\phi D$                                             | L                    | a                                                | b                    | $ L_1 - L_2 $        | $\phi d$                               |                                              |
| LAP02 | 2.3max<br>(0.091max)                                 | 3.4max<br>(0.134max) | $26^{+0.5}_{-0}$<br>(1.02 $^{+0.020}_{-0}$ )     | 0.8max<br>(0.031max) | 0.5max<br>(0.020max) | $0.45 \pm 0.05$<br>(0.018 $\pm$ 0.002) | 5.0<br>(0.197)                               |
| LAN02 | 2.4max<br>(0.094max)                                 | 3.6max<br>(0.142max) | $26^{+0.5}_{-0}$<br>(1.02 $^{+0.020}_{-0}$ )     | 0.8max<br>(0.031max) | 0.5max<br>(0.020max) | $0.45 \pm 0.05$<br>(0.018 $\pm$ 0.002) | 5.0<br>(0.197)                               |
| LAL03 | $2.6^{+0.1}_{-0.2}$<br>(0.102 $^{+0.004}_{-0.008}$ ) | 7.0max<br>(0.276max) | $26^{+1}_{-0.5}$<br>(1.02 $^{+0.039}_{-0.020}$ ) | 0.8max<br>(0.031max) | 1.0max<br>(0.039max) | $0.5 \pm 0.05$<br>(0.020 $\pm$ 0.002)  | 10.0<br>(0.394)                              |

Unit : mm(inch)

| Type  | 寸法<br>Dimensions                                     |                      |                                                |                      |                      |                                        | 最小挿入<br>ピッチ<br>Minimum<br>insertion<br>pitch |
|-------|------------------------------------------------------|----------------------|------------------------------------------------|----------------------|----------------------|----------------------------------------|----------------------------------------------|
|       | $\phi D$                                             | L                    | a                                              | b                    | $ L_1 - L_2 $        | $\phi d$                               |                                              |
| LAL02 | 2.3max<br>(0.091max)                                 | 3.4max<br>(0.134max) | $52^{+2}_{-1}$<br>(2.05 $^{+0.079}_{-0.039}$ ) | 1.2max<br>(0.047max) | 1.0max<br>(0.039max) | $0.5 \pm 0.05$<br>(0.020 $\pm$ 0.002)  | 5.0<br>(0.197)                               |
| LAL03 | $2.6^{+0.1}_{-0.2}$<br>(0.102 $^{+0.004}_{-0.008}$ ) | 7.0max<br>(0.276max) | $52^{+2}_{-1}$<br>(2.05 $^{+0.079}_{-0.039}$ ) | 1.2max<br>(0.047max) | 1.0max<br>(0.039max) | $0.5 \pm 0.05$<br>(0.020 $\pm$ 0.002)  | 10.0<br>(0.394)                              |
| LAL04 | 4.0max<br>(0.157max)                                 | 9.8max<br>(0.386)    | $52^{+2}_{-1}$<br>(2.05 $^{+0.079}_{-0.039}$ ) | 1.2max<br>(0.047max) | 1.0max<br>(0.039max) | $0.65 \pm 0.05$<br>(0.026 $\pm$ 0.002) | 12.5<br>(0.492)                              |
| LAL05 | 5.5max<br>(0.217max)                                 | 14.0max<br>(0.551)   | $52^{+2}_{-1}$<br>(2.05 $^{+0.079}_{-0.039}$ ) | 1.2max<br>(0.047max) | 1.0max<br>(0.039max) | $0.65 \pm 0.05$<br>(0.026 $\pm$ 0.002) | 17.5<br>(0.689)                              |

Unit : mm(inch)

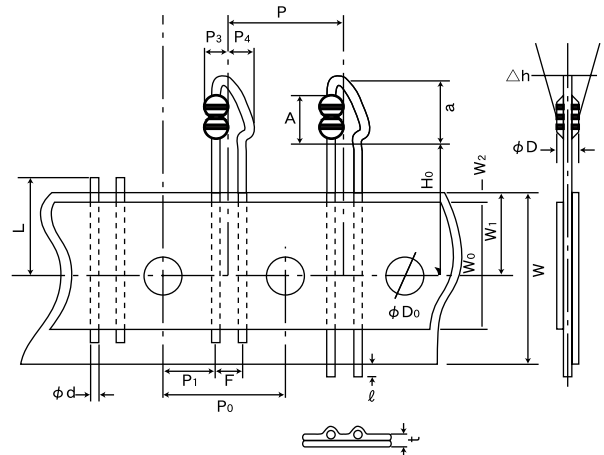
VD形状



| Type  | 記号<br>Symbol   | 寸 法<br>Dimensions                      | 記号<br>Symbol    | 寸 法<br>Dimensions                                     |
|-------|----------------|----------------------------------------|-----------------|-------------------------------------------------------|
| LAL02 | A              | 3.9max<br>(0.154max)                   | W               | $18.0^{+1.0}_{-0.5}$<br>(0.709 $^{+0.039}_{-0.020}$ ) |
|       | φD             | 2.3max<br>(0.091max)                   | W <sub>0</sub>  | 12.5min<br>(0.492min)                                 |
|       | H              | $19.5 \pm 0.5$<br>(0.768 $\pm 0.020$ ) | W <sub>1</sub>  | $9.0^{+0.75}_{-0.5}$<br>(0.354 $^{+0.030}_{-0.020}$ ) |
|       | P              | $12.7 \pm 1.0$<br>(0.500 $\pm 0.039$ ) | W <sub>2</sub>  | 3.0max<br>(0.118max)                                  |
|       | P <sub>0</sub> | $12.7 \pm 0.3$<br>(0.500 $\pm 0.012$ ) | ℓ               | 2.0max<br>(0.079max)                                  |
|       | P <sub>1</sub> | $3.85 \pm 0.7$<br>(0.152 $\pm 0.028$ ) | φD <sub>0</sub> | $4.0 \pm 0.3$<br>(0.157 $\pm 0.012$ )                 |
|       | P <sub>2</sub> | $6.35 \pm 0.5$<br>(0.250 $\pm 0.020$ ) |                 |                                                       |
|       | F              | $5.08 \pm 0.5$<br>(0.200 $\pm 0.020$ ) | φd              | $0.50 \pm 0.05$<br>(0.020 $\pm 0.002$ )               |
|       | Δh             | $0 \pm 1.0$<br>(0 $\pm 0.039$ )        | L               | 11.0max<br>(0.433max)                                 |
|       | —              | —                                      | t               | $0.5 \pm 0.2$<br>(0.020 $\pm 0.008$ )                 |

Unit : mm(inch)

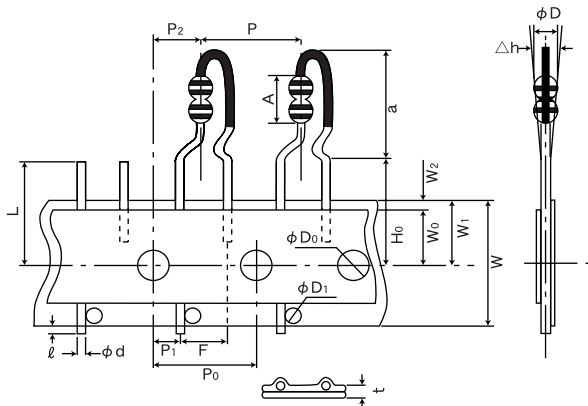
VA形状



| Type  | 記号<br>Symbol   | 寸 法<br>Dimensions                      | 記号<br>Symbol    | 寸 法<br>Dimensions                                     |
|-------|----------------|----------------------------------------|-----------------|-------------------------------------------------------|
| LAL02 | A              | 3.9max<br>(0.154max)                   | W               | $18.0^{+1.0}_{-0.5}$<br>(0.709 $^{+0.039}_{-0.020}$ ) |
|       | a              | 6.5max<br>(0.256max)                   | W <sub>0</sub>  | 12.5min<br>(0.492min)                                 |
|       | φD             | 2.3max<br>(0.091max)                   | W <sub>1</sub>  | $9.0^{+0.75}_{-0.5}$<br>(0.354 $^{+0.030}_{-0.020}$ ) |
|       | H <sub>0</sub> | $16.0 \pm 1.0$<br>(0.630 $\pm 0.039$ ) | W <sub>2</sub>  | 3.0max<br>(0.118max)                                  |
|       | P              | $12.7 \pm 1.0$<br>(0.500 $\pm 0.039$ ) | ℓ               | 2.0max<br>(0.079max)                                  |
|       | P <sub>0</sub> | $12.7 \pm 0.3$<br>(0.500 $\pm 0.012$ ) | φD <sub>0</sub> | $4.0 \pm 0.3$<br>(0.157 $\pm 0.012$ )                 |
|       | P <sub>1</sub> | $5.1 \pm 0.7$<br>(0.201 $\pm 0.028$ )  | φd              | $0.50 \pm 0.05$<br>(0.020 $\pm 0.002$ )               |
|       | P <sub>2</sub> | $6.35 \pm 0.5$<br>(0.250 $\pm 0.020$ ) |                 |                                                       |
|       | P <sub>3</sub> | 3.0max<br>(0.118max)                   | L               | 11.0max<br>(0.433max)                                 |
|       | P <sub>4</sub> | 3.0max<br>(0.118max)                   |                 |                                                       |
|       | F              | $2.5 \pm 0.5$<br>(0.098 $\pm 0.020$ )  | t               | $0.5 \pm 0.2$<br>(0.020 $\pm 0.008$ )                 |
|       | Δh             | $0 \pm 1.0$<br>(0 $\pm 0.039$ )        | —               | —                                                     |

Unit : mm(inch)

VB形状



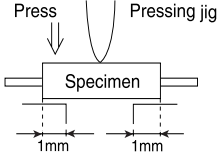
| Type  | 記号<br>Symbol   | 寸 法<br>Dimensions         | 記号<br>Symbol   | 寸 法<br>Dimensions                                                                    |
|-------|----------------|---------------------------|----------------|--------------------------------------------------------------------------------------|
| LAL03 | A              | 7.0max<br>(0.276max)      | W              | 18.0 <sup>+1.0</sup> <sub>-0.5</sub><br>(0.709 <sup>+0.039</sup> <sub>-0.020</sub> ) |
|       | a              | 12.5max<br>(0.492max)     | W <sub>0</sub> | 12.5min<br>(0.492min)                                                                |
|       | $\phi D$       | 2.7max<br>(0.106max)      | W <sub>1</sub> | 9.0 <sup>+0.75</sup> <sub>-0.5</sub><br>(0.354 <sup>+0.030</sup> <sub>-0.020</sub> ) |
|       | H <sub>0</sub> | 16.0±0.5<br>(0.630±0.020) | W <sub>2</sub> | 3.0max<br>(0.118max)                                                                 |
|       | P              | 12.7±1.0<br>(0.500±0.039) | $\ell$         | 1.0max<br>(0.039max)                                                                 |
|       | P <sub>0</sub> | 12.7±0.3<br>(0.500±0.012) | $\phi D_0$     | 4.0±0.2<br>(0.157±0.008)                                                             |
|       | P <sub>1</sub> | 3.85±0.7<br>(0.152±0.028) | $\phi D_1$     | 3.5max<br>(0.138max)                                                                 |
|       | P <sub>2</sub> | 6.35±1.0<br>(0.250±0.039) | $\phi d$       | 0.60±0.05<br>(0.024±0.002)                                                           |
|       | F              | 5.0±1.0<br>(0.197±0.039)  | L              | 11.0max<br>(0.433max)                                                                |
|       | $\Delta h$     | 0±2.0<br>(0±0.079)        | t              | 0.7±0.2<br>(0.028±0.008)                                                             |

Unit : mm(inch)

| Item                             | Specified Value                |           |           |                                 |                                      |           |               |                                              | Test Method and Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------|--------------------------------|-----------|-----------|---------------------------------|--------------------------------------|-----------|---------------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                  | LA02 Type/<br>LA03 Type        | LA04 Type | LA05 Type | LHL□□□/<br>LHF15BB/<br>LHFP□□BB | FBA/FBR                              | LAV35     | FL05□<br>Type | FL06BT<br>Type                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 1.Operating temperature<br>Range | -25~+105℃                      |           |           |                                 | -25~+85℃                             | -25~+105℃ |               |                                              | LA・FL：<br>Including self-generated heat<br><br>LHL・LHF・LHFP：<br>Including self-generated heat<br>[LHL□□□, LHF15BB]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 2.Storage temperature<br>Range   | -40~+85℃                       |           |           |                                 |                                      |           |               |                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 3.Rated current                  | Within the specified tolerance |           |           |                                 |                                      |           |               |                                              | LA：<br><br>The maximum DC value having inductance within 10% and temperature increase within 20℃ by the application of DC bias.<br><br>LHL・LHF・LHFP・LAV35：<br><br>The maximum DC value having inductance decrease within 10% and temperature increase within the following specified temperature by the application of DC bias.<br>規定温度：20℃(LHL06, LAV35)<br>：25℃(LHL08, LHL10, LHL13)<br>：30℃(LHLC06, LHLZ06, LHL16, LHF15BB, LHFP□□BB)<br><br>FB：<br><br>No disconnection or appearance abnormality by continuous current application for 30 min. Chage after the application shall be within ±20% of the initial value.This is not guaranteed for electrial characteristics during current application.<br><br>FL：<br><br>The maximum DC value having temperature rise within specified value. |
| 4.Impedance                      |                                |           |           |                                 | Within the<br>specified<br>tolerance |           |               | Refer to<br>individual<br>specifica-<br>tion | FB：<br>Measuring equipment：Impedance analyzer (HP4191A)or<br>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

| Item                         | Specified Value                     |           |                     |                                 |         |                                      |               |                | Test Method and Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |                |   |    |   |                                     |   |                           |   |                                     |   |    |
|------------------------------|-------------------------------------|-----------|---------------------|---------------------------------|---------|--------------------------------------|---------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------|---|----|---|-------------------------------------|---|---------------------------|---|-------------------------------------|---|----|
|                              | LA02 Type/<br>LA03 Type             | LA04 Type | LA05 Type           | LHL□□□/<br>LHF15BB/<br>LHFP□□BB | FBA/FBR | LAV35                                | FL05□<br>Type | FL06BT<br>Type |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |                |   |    |   |                                     |   |                           |   |                                     |   |    |
| 6.Q                          | Within the specified tolerance      |           |                     |                                 |         | Within the<br>specified<br>tolerance |               |                | LA :<br><br>Measuring equipment : LCR meter(HP4285A+HP42851A<br>or its equivalent)<br><br>Measuring frequency : Specified frequency<br><br><br>LHL・LHF・LHFP・LAV35 :<br>Measuring equipment : Q meter(HP4285A+HP42851A or<br>its equivalent)<br>Q meter(HP4342A)or its equivalent<br><br>Measuring frequency : Specified frequency                                                                                                                                                                                                                                                                                                                                                                                                                |      |                |   |    |   |                                     |   |                           |   |                                     |   |    |
| 7.DC Resisittance            | Within the specified tolerance      |           |                     |                                 |         |                                      |               |                | LA :<br><br>Measuring equipment : low ohmmeter (A&D AD5812 or its<br>equivalent)<br><br><br>LHL・LHF・LHFP・FB・LAV35・FL :<br>Measuring equipment : DC ohmmetr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |   |    |   |                                     |   |                           |   |                                     |   |    |
| 8.Self resonance frequency   | Within the specified tolerance      |           |                     |                                 |         | Within the<br>specified<br>tolerance |               |                | LA :<br><br>Measuring equipment : Network analyzer(Anritsu MS620J<br>or its equivalent)<br><br><br>LHL・LHF・LHFP・LAV35 :<br>Measuring equipment : (HP4191A, 4192A) its equivalent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |                |   |    |   |                                     |   |                           |   |                                     |   |    |
| 9.Temperature characteristic | ΔL/L : Within±5%                    |           | ΔL/L :<br>Within±7% |                                 |         | ΔL/L :<br>Within±5%                  |               |                | LA :<br><br>Change of maximum inductance deviation in step 1to5<br><table><tr><td>step</td><td>Temperature(℃)</td></tr><tr><td>1</td><td>20</td></tr><tr><td>2</td><td>−25 (Minimum operating temperature)</td></tr><tr><td>3</td><td>20 (Standard temperature)</td></tr><tr><td>4</td><td>+85 (Maximum operating temperature)</td></tr><tr><td>5</td><td>20</td></tr></table><br><br>LHL・LHF・LHFP・LAV35 :<br>[LHL□□□, LHF15BB, LAV35, LHFP□BB]<br><br>Change of maximum inductance deviation in step 1to5<br>Temperature at step 1 : 20℃<br>Temperature at step 2 : Minimum operating temperature<br>Temperature at step 3 : 20℃ (Standard temperature)<br>Temperature at step 4 : Maximum operating temperature<br>Temperature at step 5 : 20℃ | step | Temperature(℃) | 1 | 20 | 2 | −25 (Minimum operating temperature) | 3 | 20 (Standard temperature) | 4 | +85 (Maximum operating temperature) | 5 | 20 |
| step                         | Temperature(℃)                      |           |                     |                                 |         |                                      |               |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |                |   |    |   |                                     |   |                           |   |                                     |   |    |
| 1                            | 20                                  |           |                     |                                 |         |                                      |               |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |                |   |    |   |                                     |   |                           |   |                                     |   |    |
| 2                            | −25 (Minimum operating temperature) |           |                     |                                 |         |                                      |               |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |                |   |    |   |                                     |   |                           |   |                                     |   |    |
| 3                            | 20 (Standard temperature)           |           |                     |                                 |         |                                      |               |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |                |   |    |   |                                     |   |                           |   |                                     |   |    |
| 4                            | +85 (Maximum operating temperature) |           |                     |                                 |         |                                      |               |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |                |   |    |   |                                     |   |                           |   |                                     |   |    |
| 5                            | 20                                  |           |                     |                                 |         |                                      |               |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |                |   |    |   |                                     |   |                           |   |                                     |   |    |

| Item                                                           | Specified Value                                |                            |           |                                            |                                                |                                                |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Test Method and Remarks              |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
|----------------------------------------------------------------|------------------------------------------------|----------------------------|-----------|--------------------------------------------|------------------------------------------------|------------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------|----------------------------|------------|--------------------------------------|-----------|-------------|------------|------|--------------------------------------|-------------------|----------------------------|------------|-----|------|------------|---|-----|------------|----|-----|
|                                                                | LA02 Type/<br>LA03 Type                        | LA04 Type                  | LA05 Type | LHL□□□/<br>LHF15BB/<br>LHFP□□BB            | FBA/FBR                                        | LAV35                                          | FL05□<br>Type | FL06BT<br>Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 10.Terminal strength :<br>tensile force                        | No abnormality such as cut lead, or looseness. |                            |           |                                            | No abnormality such as cut lead, or looseness. | No abnormality such as cut lead, or looseness. |               | LA :<br>Apply the stated tensile force progressively in the direction to draw terminal.<br><table><tr><th>force(N)</th><th>duration(S)</th></tr><tr><td>25</td><td>5</td></tr></table> LHL・LHF・LAV・LHFP :<br>Apply the stated tensile force progressively in the direction to draw terminal.<br><table><tr><th>Nominal wire diameter tensile ϕd(mm)</th><th>force (N)</th><th>duration(S)</th></tr><tr><td>0.3&lt;ϕd≤0.5</td><td>5</td><td rowspan="3">30±5</td></tr><tr><td>0.5&lt;ϕd≤0.8</td><td>10</td></tr><tr><td>0.8&lt;ϕd≤1.2</td><td>25</td></tr></table> FBA :<br>本体を固定し、端子方向に20±1Nの引張力を10±1秒間加える。<br><br>FL05R□ :<br>Fix the component in the direction to draw terminal, and gradually apply the tensile force of 4.9 N.                                                                                                                                                                                                                                                                                                                                                                 | force(N)                             | duration(S)       | 25                         | 5          | Nominal wire diameter tensile ϕd(mm) | force (N) | duration(S) | 0.3<ϕd≤0.5 | 5    | 30±5                                 | 0.5<ϕd≤0.8        | 10                         | 0.8<ϕd≤1.2 | 25  |      |            |   |     |            |    |     |
| force(N)                                                       | duration(S)                                    |                            |           |                                            |                                                |                                                |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 25                                                             | 5                                              |                            |           |                                            |                                                |                                                |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| Nominal wire diameter tensile ϕd(mm)                           | force (N)                                      | duration(S)                |           |                                            |                                                |                                                |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 0.3<ϕd≤0.5                                                     | 5                                              | 30±5                       |           |                                            |                                                |                                                |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 0.5<ϕd≤0.8                                                     | 10                                             |                            |           |                                            |                                                |                                                |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 0.8<ϕd≤1.2                                                     | 25                                             |                            |           |                                            |                                                |                                                |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 11.Over current                                                |                                                |                            |           | There shall be no scorch or short of wire. |                                                |                                                |               | LHL・LHF・LHFP :<br>Measuring current : Rated current×2<br>Duration : 5min.<br>Number of measuring : one time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 12.Terminal strength :<br>bending                              | No abnormality such as cut lead, or looseness. |                            |           |                                            |                                                |                                                |               | LA :<br>Suspend a mass at the end the terminal, incline the body though angel of 90 and return it to initial position.This operation is done over a period of 2-3 sec.Then second bend in the opposite direction shall be made.<br>Number of bends : Two times.<br><table><tr><th>Nominal wire diameter tensile ϕd(mm)</th><th>Bending force (N)</th><th>Mass reference weight (kg)</th></tr><tr><td>0.3&lt;ϕd≤0.5</td><td>2.5</td><td>0.25</td></tr><tr><td>0.5&lt;ϕd≤0.8</td><td>5</td><td>0.50</td></tr></table> LH・FB・LAV :<br>Suspend a mass at the end the terminal, incline the body though angel of 90 and return it to initial position.This operation is done over a period of 2-3 sec.Then second bend in the opposite direction shall be made.<br>Number of bends : Two times.<br><table><tr><th>Nominal wire diameter tensile ϕd(mm)</th><th>Bending force (N)</th><th>Mass reference weight (kg)</th></tr><tr><td>0.3&lt;ϕd≤0.5</td><td>2.5</td><td>0.25</td></tr><tr><td>0.5&lt;ϕd≤0.8</td><td>5</td><td>0.5</td></tr><tr><td>0.8&lt;ϕd≤1.2</td><td>10</td><td>1.0</td></tr></table> | Nominal wire diameter tensile ϕd(mm) | Bending force (N) | Mass reference weight (kg) | 0.3<ϕd≤0.5 | 2.5                                  | 0.25      | 0.5<ϕd≤0.8  | 5          | 0.50 | Nominal wire diameter tensile ϕd(mm) | Bending force (N) | Mass reference weight (kg) | 0.3<ϕd≤0.5 | 2.5 | 0.25 | 0.5<ϕd≤0.8 | 5 | 0.5 | 0.8<ϕd≤1.2 | 10 | 1.0 |
| Nominal wire diameter tensile ϕd(mm)                           | Bending force (N)                              | Mass reference weight (kg) |           |                                            |                                                |                                                |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 0.3<ϕd≤0.5                                                     | 2.5                                            | 0.25                       |           |                                            |                                                |                                                |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 0.5<ϕd≤0.8                                                     | 5                                              | 0.50                       |           |                                            |                                                |                                                |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| Nominal wire diameter tensile ϕd(mm)                           | Bending force (N)                              | Mass reference weight (kg) |           |                                            |                                                |                                                |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 0.3<ϕd≤0.5                                                     | 2.5                                            | 0.25                       |           |                                            |                                                |                                                |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 0.5<ϕd≤0.8                                                     | 5                                              | 0.5                        |           |                                            |                                                |                                                |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 0.8<ϕd≤1.2                                                     | 10                                             | 1.0                        |           |                                            |                                                |                                                |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 13.Insulation resisittance :<br>between the terminals and body |                                                |                            |           | 100MΩ min.                                 |                                                |                                                |               | LHL・LHF :<br>Applied voltage : 500 VDC<br>Duration : 60 sec.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 14.Insulation resistance :<br>between terminals and core       |                                                |                            |           |                                            | 1MΩ min.<br>(Other than material code MA)      |                                                |               | FBA・FBR :<br>Applied voltage : 100 VDC<br>Duration : 60±5 sec.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |
| 15.Withstanding : between<br>the terminals and body            |                                                |                            |           | No abnormality such as insulation damage   |                                                |                                                |               | {LHL□□□, LHF15BB}<br>Accoding to JIS C5102. 7. 1. 3 (C)<br>Metal global method<br>Applied voltage : 500 VDC<br>Duration : 60 sec.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                      |                   |                            |            |                                      |           |             |            |      |                                      |                   |                            |            |     |      |            |   |     |            |    |     |

| Item                       | Specified Value                                  |                                                                           |                                                  |                                                                                                            |                                                                                 |                                                  |               |                | Test Method and Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------|--------------------------------------------------|---------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------|---------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                            | LA02 Type/<br>LA03 Type                          | LA04 Type                                                                 | LA05 Type                                        | LHL□□□/<br>LHF15BB/<br>LHFP□□BB                                                                            | FBA/FBR                                                                         | LAV35                                            | FL05□<br>Type | FL06BT<br>Type |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 16.DC bias characteristic  | $\Delta L/L$ : Within $-10\%$                    |                                                                           |                                                  |                                                                                                            |                                                                                 | $\Delta L/L$ :<br>$-10\%$<br>Within              |               |                | LA・LAV35 :<br>Measure inductance with application of rated current using LCR meter to compare it with the initial value.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 17.Body strength           | No abnormality as damage.                        |                                                                           |                                                  |                                                                                                            | No significant damage such as cracks on body.                                   | No abnormality as damage.                        |               |                | LA02・LAV35 :<br>Applied force : 30N<br>Duration : 10 sec.<br>Speed : Shall attain to specified force in 2 sec.<br><br>LA03・LA04・LA05 :<br>Applied force : 50N<br>Duration : 10 sec.<br>Speed : Shall attain to specified force in 2 sec.<br><br>FB :<br>Applied force : $50 \pm 3$ N<br>Duration : $30 \pm 1$ sec.<br><br>                                                                                                                                                                                                                                                                                                    |
| 18.Resistance to vibration | $\Delta L/L$ :<br>Within $\pm 5\%$<br>Q : 30min. | $\Delta L/L$ :<br>Within $\pm 5\%$<br>$\Delta Q/Q$ :<br>Within $\pm 10\%$ | $\Delta L/L$ :<br>Within $\pm 5\%$<br>Q : 15min. | Appearance :<br>No<br>abnormality<br>$\Delta L/L$ :<br>Within $\pm 5\%$<br>Q change :<br>Within $\pm 30\%$ | Appearance :<br>No<br>abnormality<br>Impedance<br>change :<br>Within $\pm 20\%$ | $\Delta L/L$ :<br>Within $\pm 5\%$<br>Q : 30min. |               |                | LA :<br>According to JIS C5102 8. 2<br>Vibration type : A<br>Directions : 2 hrs each in X, Y and Z directions total : 6hrs.<br>Frequency range : 10 to 55 to 10Hz(1min.)<br>Amplitude : 1.5mm<br>Mounting method : Soldering onto printed board.<br>Recovery : At least 1hr of recovery under the standard condition after the test, followed by the measurement within 2hrs.<br><br>LHL・LHF・LHFP・FB・LAV :<br>According to JIS C0040<br>Vibration type : A<br>Directions : 2 hrs each in X, Y and Z directions total : 6hrs.<br>Frequency range : 10 to 55 to 10Hz(1min.)<br>Amplitude : 1.5mm (But don't exceed acceleration 196m/s <sup>2</sup> (two power)<br>Mounting method : Soldering onto printed board. |

| Item                    | Specified Value                                              |           |                                                              |                                                              |         |                                                              |               |                | Test Method and Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|--------------------------------------------------------------|-----------|--------------------------------------------------------------|--------------------------------------------------------------|---------|--------------------------------------------------------------|---------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | LA02 Type/<br>LA03 Type                                      | LA04 Type | LA05 Type                                                    | LHL□□□/<br>LHF15BB/<br>LHFP□□BB                              | FBA/FBR | LAV35                                                        | FL05□<br>Type | FL06BT<br>Type |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 19. Resistance to shock | No significant abnormality in appearance                     |           |                                                              |                                                              |         | No significant abnormality in appearance                     |               |                | LA・LAV35 :<br>Drop test<br>Impact material : concrete or vinyl tile<br>Height : 1m<br>Total number of drops : 10 times                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 20. Solderability       | At least 75% of terminal electrode is covered by new solder. |           | At least 75% of lead circumference is covered by new solder. | At least 90% of lead circumference is covered by new solder. |         | At least 75% of lead circumference is covered by new solder. |               |                | LA :<br>Solder temperature : 230±5℃<br>Duration : 2±0.5 sec.<br><br>LHL・LHF・LHFP :<br>Solder temperature : 235±5℃<br>Duration : 2±0.5 sec.<br>Immersion depth : Up to 1.5mm from bottom of kinked part.<br>[LHL06, LHLC06, LHLZ06]<br>: Up to 1.5mm from bottom of case.<br>[LHL08, LHL10, LHL13, LHL16]<br>: Up to 1.5mm from bottom of base.<br>[LHF15BB, LHFP□□BB]<br><br>FB :<br>Solder temperature : 230±5℃<br>Duration : 3±1 sec.<br>Immersion depth : Up to 1.5mm from terminal root.<br><br>LAV35 :<br>Solder temperature : 230±5℃<br>Duration : 2±0.5 sec.<br><br>FL05R□ :<br>Solder temperature : 230±5℃<br>Duration : 2±0.5 sec.<br>Immersion depth : Up to 2~2.5mm from terminal root.<br><br>FL06BT :<br>Solder temperature : 230±5℃<br>Duration : 3±1 sec.<br>Immersion depth : Up to 0.5~1.0mm from terminal root. |

| Item                              | Specified Value                          |                                    |                                                                                                                            |                                                                                                |                                   |                                              |                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                           | Test Method and Remarks |
|-----------------------------------|------------------------------------------|------------------------------------|----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
|                                   | LA02 Type/<br>LA03 Type                  | LA04 Type                          | LA05 Type                                                                                                                  | LHL□□□/<br>LHF15BB/<br>LHFP□□BB                                                                | FBA/FBR                           | LAV35                                        | FL05□<br>Type                                                                                  | FL06BT<br>Type                                                                                                                                                                                                                                                                                                                                                                                                            |                         |
| 21.Resisistance to soldering heat | No significant abnormality in appearance | △L/L :<br>Within ±5%<br>Q : 15min. | No signifi-<br>cant abnor-<br>mality in ap-<br>pearance<br>Inductance<br>change :<br>Within±5%<br>Q change :<br>Within±30% | No signifi-<br>cant abnor-<br>mality in ap-<br>pearance<br>Impedance<br>change :<br>Within±20% | △L/L :<br>Within±5%<br>Q : 30min. | Refer to<br>individual<br>specifica-<br>tion | No signifi-<br>cant abnor-<br>mality in ap-<br>pearance<br>Impedance<br>change :<br>Within±20% | LA :<br><br>Solder temperature : 260±5℃(LA02)<br>270±5℃(LA03・LA04・LA05)<br><br>Duration : 5±0.5 sec. One time<br>Immersed conditions : Inserted into substrate with t = 1.6mm<br>Recovery : At least 1hr of recovery under the standard<br>condition after the test, followed by the mea-<br>surement within 2hrs.<br><br>LHL・LHF・LHFP :<br>Solder bath method<br>Solder temperature : 260±5℃<br>Duration : 10±1 sec.<br> |                         |

| Item                     | Specified Value                                              |                                              |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            | Test Method and Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
|--------------------------|--------------------------------------------------------------|----------------------------------------------|------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------|---------------|---|---------------------------------|------|---|------------------|----------|---|---------------------------------|------|---|------------------|----------|------|----------------|---------------|---|--------------------------------------------------------------|------|---|------------------|----------|---|--------------------------------------------------------------|------|---|------------------|----------|------|----------------|---------------|---|--------------------------------------------------------------|------|---|------------------|----------|---|--------------------------------------------------------------|------|---|------------------|----------|------|----------------|---------------|---|---------------------------------|------|---|------------------|----------|---|---------------------------------|------|---|------------------|----------|
|                          | LA02 Type/<br>LA03 Type                                      | LA04 Type                                    | LA05 Type                          | LHL□□□/<br>LHF15BB/<br>LHFP□□BB                                                                         | FBA/FBR                                                                                        | LAV35                                                                           | FL05□<br>Type                                | FL06BT<br>Type                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 22.Resistance to solvent | Pleasa avoid the ultrasonic cleaning of this product.        |                                              |                                    |                                                                                                         | No signifi-<br>cant abnor-<br>mality in ap-<br>pearance<br>Impedance<br>change :<br>Within±20% | P l e a s e<br>avoid the ul-<br>t r a s o n i c<br>cleaning of<br>this product. |                                              |                                                                            | FB :<br><br>Solvent temperature : 20~25℃<br>Duration : 30±5 sec.<br>Solvent type : Acetone, trichloroethylene<br>Recovery : 3hrs of recovery under the standard condition<br>after the test.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 23.Thermnal shock        | △L/L :<br>Within±10%<br>Q : 30min.                           | △L/L :<br>Within±10%<br>△Q/Q :<br>Within±30% | △L/L :<br>Within±10%<br>Q : 15min. | Appearance :<br>No abnor-<br>mality<br>Inductance<br>change :<br>Within±10%<br>Q change :<br>Within±30% | Appearance :<br>No abnor-<br>mality<br>Impedance<br>change :<br>Within±20%                     | △L/L :<br>Within±10%<br>Q : 20min.                                              | Refer to<br>individual<br>specifica-<br>tion | Appearance :<br>No abnor-<br>mality<br>Impedance<br>change :<br>Within±20% | LA :<br><br>Conditions for 1cycle<br><table><tr><th>Step</th><th>Temperature(℃)</th><th>Duration(min)</th></tr><tr><td>1</td><td>-25<sup>+0</sup><sub>-3</sub></td><td>30±3</td></tr><tr><td>2</td><td>Room temperature</td><td>Within 3</td></tr><tr><td>3</td><td>+85<sup>+2</sup><sub>-0</sub></td><td>30±3</td></tr><tr><td>4</td><td>Room temperature</td><td>Within 3</td></tr></table><br>Number of cycles : 5 cycles<br>Recovery : At least 1hr of recovery under the standard<br>condition after the removal from test chamber,<br>followed by the measurement within 2hrs.<br><br>LHL・LHF・FB :<br>According to JIS C0025<br>Conditions for 1 cycle<br><table><tr><th>Step</th><th>Temperature(℃)</th><th>Duration(min)</th></tr><tr><td>1</td><td>Minimum operating<br/>temperature<sup>+0</sup><sub>-3</sub></td><td>30±3</td></tr><tr><td>2</td><td>Room temperature</td><td>Within 3</td></tr><tr><td>3</td><td>Maximum oparating<br/>temperature<sup>+2</sup><sub>-0</sub></td><td>30±3</td></tr><tr><td>4</td><td>Room temperature</td><td>Within 3</td></tr></table><br>Number of cycles : 10 cycles<br>(LHL□□□, LHF□□BB, LHF15BB)<br>: 5 cycles(FBA, FBR)<br>Recovery : 4 to 24hrs of recovery under the standard con-<br>dition after the removal from the test cfamber.<br>(LHL□□□, LHF□□BB, LHF15BB)<br>: 3hrs of recovery under the standard condition af-<br>ter the removal from the test cfamber.(FBA, FBR)<br><br>LAV :<br>Conditions for 1 cycle<br><table><tr><th>Step</th><th>Temperature(℃)</th><th>Duration(min)</th></tr><tr><td>1</td><td>Minimum operating<br/>temperature<sup>+0</sup><sub>-3</sub></td><td>30±3</td></tr><tr><td>2</td><td>Room temperature</td><td>Within 3</td></tr><tr><td>3</td><td>Maximum oparating<br/>temperature<sup>+2</sup><sub>-0</sub></td><td>30±3</td></tr><tr><td>4</td><td>Room temperature</td><td>Within 3</td></tr></table><br>Number of cycles : 10 cycles<br>Recovery : At least 1hr of recovery under the standard<br>condition after the removal from test chamber,<br>followed by the measurement within 2hrs.<br><br>FL :<br>According to JIS C0025<br>Conditions for 1 cycle<br><table><tr><th>Step</th><th>Temperature(℃)</th><th>Duration(min)</th></tr><tr><td>1</td><td>-25<sup>+0</sup><sub>-3</sub></td><td>30±3</td></tr><tr><td>2</td><td>Room temperature</td><td>Within 3</td></tr><tr><td>3</td><td>+85<sup>+2</sup><sub>-0</sub></td><td>30±3</td></tr><tr><td>4</td><td>Room temperature</td><td>Within 3</td></tr></table><br>Number of cycles : 10 cycles<br>Recovery : 1 to 2hrs of recovery under the standard con-<br>dition after the removal from the test cfamber. | Step | Temperature(℃) | Duration(min) | 1 | -25 <sup>+0</sup> <sub>-3</sub> | 30±3 | 2 | Room temperature | Within 3 | 3 | +85 <sup>+2</sup> <sub>-0</sub> | 30±3 | 4 | Room temperature | Within 3 | Step | Temperature(℃) | Duration(min) | 1 | Minimum operating<br>temperature <sup>+0</sup> <sub>-3</sub> | 30±3 | 2 | Room temperature | Within 3 | 3 | Maximum oparating<br>temperature <sup>+2</sup> <sub>-0</sub> | 30±3 | 4 | Room temperature | Within 3 | Step | Temperature(℃) | Duration(min) | 1 | Minimum operating<br>temperature <sup>+0</sup> <sub>-3</sub> | 30±3 | 2 | Room temperature | Within 3 | 3 | Maximum oparating<br>temperature <sup>+2</sup> <sub>-0</sub> | 30±3 | 4 | Room temperature | Within 3 | Step | Temperature(℃) | Duration(min) | 1 | -25 <sup>+0</sup> <sub>-3</sub> | 30±3 | 2 | Room temperature | Within 3 | 3 | +85 <sup>+2</sup> <sub>-0</sub> | 30±3 | 4 | Room temperature | Within 3 |
| Step                     | Temperature(℃)                                               | Duration(min)                                |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 1                        | -25 <sup>+0</sup> <sub>-3</sub>                              | 30±3                                         |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 2                        | Room temperature                                             | Within 3                                     |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 3                        | +85 <sup>+2</sup> <sub>-0</sub>                              | 30±3                                         |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 4                        | Room temperature                                             | Within 3                                     |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| Step                     | Temperature(℃)                                               | Duration(min)                                |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 1                        | Minimum operating<br>temperature <sup>+0</sup> <sub>-3</sub> | 30±3                                         |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 2                        | Room temperature                                             | Within 3                                     |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 3                        | Maximum oparating<br>temperature <sup>+2</sup> <sub>-0</sub> | 30±3                                         |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 4                        | Room temperature                                             | Within 3                                     |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| Step                     | Temperature(℃)                                               | Duration(min)                                |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 1                        | Minimum operating<br>temperature <sup>+0</sup> <sub>-3</sub> | 30±3                                         |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 2                        | Room temperature                                             | Within 3                                     |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 3                        | Maximum oparating<br>temperature <sup>+2</sup> <sub>-0</sub> | 30±3                                         |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 4                        | Room temperature                                             | Within 3                                     |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| Step                     | Temperature(℃)                                               | Duration(min)                                |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 1                        | -25 <sup>+0</sup> <sub>-3</sub>                              | 30±3                                         |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 2                        | Room temperature                                             | Within 3                                     |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 3                        | +85 <sup>+2</sup> <sub>-0</sub>                              | 30±3                                         |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |
| 4                        | Room temperature                                             | Within 3                                     |                                    |                                                                                                         |                                                                                                |                                                                                 |                                              |                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                                              |      |   |                  |          |   |                                                              |      |   |                  |          |      |                |               |   |                                 |      |   |                  |          |   |                                 |      |   |                  |          |

| Item                           | Specified Value                    |                                              |                                    |                                                                                                 |                                                                    |                                    |                                   |                                                                    | Test Method and Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------------|------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|------------------------------------|-----------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | LA02 Type/<br>LA03 Type            | LA04 Type                                    | LA05 Type                          | LHL□□□/<br>LHF15BB/<br>LHFP□□BB                                                                 | FBA/FBR                                                            | LAV35                              | FL05□<br>Type                     | FL06BT<br>Type                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 24.Damp heat                   | △L/L :<br>Within±10%<br>Q : 30min. | △L/L :<br>Within±10%<br>△Q/Q :<br>Within±30% | △L/L :<br>Within±10%<br>Q : 15min. |                                                                                                 | Appearance :<br>No abnormality<br>Impedance change :<br>Within±20% | △L/L :<br>Within±10%<br>Q : 20min. |                                   |                                                                    | LA・LAV35 :<br>Temperature : 40±2℃<br>Humidity : 90~95%RH<br>Duration : 1000 hrs<br>Recovery : At least 1hr of recovery under the standard removal from test chamber, followed by the measurement within 2hrs.<br><br>FB :<br>Temperature : 60±2℃<br>Humidity : 90~95%RH<br>Duration : 1000 hrs<br>Recovery : 1 to 2hrs of recovery under the standard condition after the removal from the test chamber.                                                                                                                                                                                                                                                                                                                          |
| 25.Loading under damp heat     | △L/L :<br>Within±10%<br>Q : 30min. | △L/L :<br>Within±10%<br>△Q/Q :<br>Within±30% | △L/L :<br>Within±10%<br>Q : 15min. | Appearance :<br>No abnormality<br>Inductance change :<br>Within±10%<br>Q change :<br>Within±30% |                                                                    | △L/L :<br>Within±10%<br>Q : 20min. | Refer to individual specification | Appearance :<br>No abnormality<br>Impedance change :<br>Within±20% | LA・LAV35 :<br>Temperature : 40±2℃<br>Humidity : 90~95%RH<br>Duration : 1000 hrs<br>Applied current : Rated current<br>Recovery : At least 1hr of recovery under the standard removal from test chamber, followed by the measurement within 2hrs.<br><br>LHL・LHF・LHFP :<br>Temperature : 40±2℃<br>Humidity : 90~95%RH<br>Duration : 1000±24 hrs<br>Applied current : Rated current<br>Recovery : 1 to 2hrs of recovery under the standard condition after the removal from the test chamber.<br><br>FL :<br>Temperature : 60±3℃<br>Humidity : 90~95%RH<br>Duration : 500 (+12, -0)hrs<br>Applied current : Rated current<br>Recovery : 1 to 2hrs of recovery under the standard condition after the removal from the test chamber. |
| 26.Loading at high temperature | △L/L :<br>Within±10%<br>Q : 30min. | △L/L :<br>Within±10%<br>△Q/Q :<br>Within±30% | △L/L :<br>Within±10%<br>Q : 15min. |                                                                                                 |                                                                    | △L/L :<br>Within±10%<br>Q : 20min. |                                   |                                                                    | LA・LAV35 :<br>Temperature : 85±2℃<br>Duration : 1000 hrs<br>Applied current : Rated current<br>Recovery : At least 1hr of recovery under the standard removal from test chamber, followed by the measurement within 2hrs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| Item                          | Specified Value                    |                                              |                                    |                                                                                                 |         |                                    |                                   |                                                                    | Test Method and Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------|------------------------------------|----------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------|---------|------------------------------------|-----------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               | LA02 Type/<br>LA03 Type            | LA04 Type                                    | LA05 Type                          | LHL□□□/<br>LHF15BB/<br>LHFP□□BB                                                                 | FBA/FBR | LAV35                              | FL05□<br>Type                     | FL06BT<br>Type                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 27.Low temperature life test  | △L/L :<br>Within±10%<br>Q : 30min. | △L/L :<br>Within±10%<br>△Q/Q :<br>Within±30% | △L/L :<br>Within±10%<br>Q : 15min. | Appearance :<br>No abnormality<br>Inductance change :<br>Within±10%<br>Q change :<br>Within±30% |         | △L/L :<br>Within±10%<br>Q : 20min. | Refer to individual specification | Appearance :<br>No abnormality<br>Impedance change :<br>Within±20% | LA :<br>Temperature : -25±2°C<br>Duration : 1000 hrs<br>Recovery : At least 1hr of recovery under the standard removal from test chamber, followed by the measurement within 2hrs.<br><br>LHL · LHF · LHFP :<br>Temperature : -40±3°C<br>Duration : 1000±24 hrs<br>Recovery : 1 to 2hrs of recovery under the standard condition after the removal from the test chamber.<br><br>LAV35 :<br>Temperature : -40±3°C<br>Duration : 1000 hrs<br>Recovery : At least 1hr of recovery under the standard removal from test chamber, followed by the measurement within 2hrs.<br><br>FL :<br>Temperature : -40±3°C<br>Duration : 500(+12, -0)hrs<br>Recovery : 1 to 2hrs of recovery under the standard condition after the removal from the test chamber. |
| 28.High temperature life test |                                    |                                              |                                    | Appearance :<br>No abnormality<br>Inductance change :<br>Within±10%<br>Q change :<br>Within±30% |         |                                    | Refer to individual specification | Appearance :<br>No abnormality<br>Impedance change :<br>Within±20% | LHL · LHF · LHFP :<br>Temperature : 105±3°C<br>Duration : 1000±24 hrs<br>Recovery : 1 to 2hrs of recovery under the standard condition after the removal from the test chamber.<br><br>FL :<br>Temperature : 85±3°C<br>Duration : 500(+12, -0)hrs<br>Recovery : 1 to 2hrs of recovery under the standard condition after the removal from the test chamber.                                                                                                                                                                                                                                                                                                                                                                                         |

## PRECAUTIONS

LA Type, LH Type, FB Type, FL Type

| Stages                                   | Precautions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Technical considerations                                                                                                                                                                                                                                                                          |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.Circuit Design                         | <p>Operating environment,</p> <p>1.The products described in this specification are intended for use in general electronic equipment,(office supply equipment, telecommunications systems, measuring equipment, and household equipment). They are not intended for use in mission-critical equipment or systems requiring special quality and high reliability (traffic systems, safety equipment, aerospace systems, nuclear control systems and medical equipment including life-support systems,) where product failure might result in loss of life, injury or damage. For such uses, contact TAIYO YUDEN Sales Department in advance.</p>                                       |                                                                                                                                                                                                                                                                                                   |
| 2.PCB Design                             | <p>Design</p> <p>1.Please design insertion pitches of a base in the pitches that fitted a terminal interval.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>1.When Inductors are mounted onto a PC board, hole dimensions on the board should match the lead pitch of the component, if not, it will cause breakage of the terminals or cracking of terminal roots covered with resin as excess stress travels through the terminal legs.</p>              |
| 3.Considerations for automatic placement | <p>Adjustment of mounting machine</p> <p>1.Excessive impact load should not be imposed on the products when mounting onto the PC boards.</p> <p>2.Mounting and soldering conditions should be checked beforehand.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <p>1. When installing products, care should be taken not to apply distortion stress as it may deform the products.</p>                                                                                                                                                                            |
| 4.Soldering                              | <p>Wave soldering</p> <p>1.Please refer to the specifications in the catalog for a wave soldering.</p> <p>2.Do not immerse the entire Inductors in the flux during the soldering operation.</p> <p>Lead free soldering</p> <p>1.When using products with lead free soldering, we request to use them after confirming of adhesion, temperature of resistance to soldering heat, soldering etc sufficiently.</p> <p>Recommended conditions for using a soldering iron:</p> <p>Put the soldering iron on the land-pattern.</p> <p>Soldering iron's temperature - Below 350 °C</p> <p>Duration - 3 seconds or less</p> <p>The soldering iron should not directly touch the inductor.</p> | <p>1.If products are used beyond the range of the recommended conditions, heat stresses may deform the products, and consequently degrade the reliability of the products.</p>                                                                                                                    |
| 5.Cleaning                               | <p>Cleaning conditions</p> <p>1.LA type, LH type</p> <p>Please do not do cleaning by a supersonic wave.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>LA type, LH type</p> <p>1.If washing by supersonic waves, supersonic waves may deform products.</p>                                                                                                                                                                                            |
| 6.Handling                               | <p>Handling</p> <p>1.Keep the inductors away from all magnets and magnetic objects.</p> <p>Mechanical considerations</p> <p>1.Please do not give the inductors any excessive mechanical shocks.</p> <p>2.LH type</p> <p>If inductors are dropped onto the floor or a hard surface they should not be used.</p> <p>Packing</p> <p>1.Please do not give the inductors any excessive mechanical shocks.</p> <p>In loading, please pay attention to handling indication mentioned in a packing box (a loading direction / number of maximum loading / fragile item).</p>                                                                                                                  | <p>1.There is a case that a characteristic varies with magnetic influence.</p> <p>1.There is a case to be damaged by a mechanical shock.</p> <p>2.LH type</p> <p>There is a case to be broken by a fall.</p> <p>1.There is a case that a lead route turns at by a fall or an excessive shock.</p> |
| 7.Storage conditions                     | <p>Storage</p> <p>Storage</p> <p>1.To maintain the solderability of terminal electrodes and to keep the packing material in good condition, temperature and humidity in the storage area should be controlled..</p> <p>• Recommended conditions</p> <p>Ambient temperature 0~40°C</p> <p>Humidity Below 70 % RH</p> <p>The ambient temperature must be kept below 30°C. Even under ideal storage conditions, solderability of products electrodes may decrease as time passes. For this reason, inductors should be used within one year from the time of delivery.</p> <p>In case of storage over 6 months, solderability shall be checked before actual usage.</p>                  | <p>1. Under a high temperature and humidity environment, problems such as reduced solderability caused by oxidation of terminal electrodes and deterioration of taping/packaging materials may take place.</p>                                                                                    |