

# ALUMINUM ELECTROLYTIC CAPACITORS

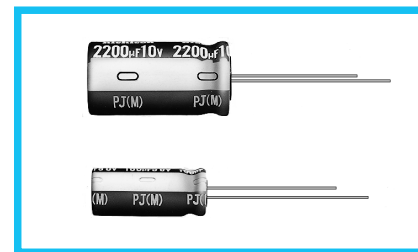
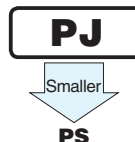
nichicon

**PJ** series

Low Impedance, For Switching Power Supplies



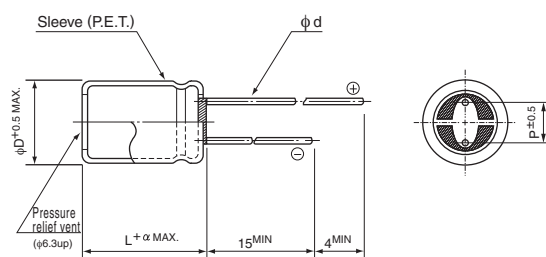
- Low impedance and high reliability withstanding 5000 hours load life at +105°C (3000 / 2000 hours for smaller case sizes as specified below).
- Capacitance ranges available based on the numerical values in E12 series under JIS.
- Ideally suited for use of switching power supplies.
- Compliant to the RoHS directive (2011/65/EU).



## Specifications

| Item                                                                        | Performance Characteristics                                                                                                                                                                                                                                                    |                                                                                                                                 |        |      |       |           |                    |                                                                            |            |         |     |
|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------|------|-------|-----------|--------------------|----------------------------------------------------------------------------|------------|---------|-----|
| Category Temperature Range                                                  | -55 to +105°C (6.3 to 100V), -40 to +105°C (160 to 400V), -25 to +105°C (450V)                                                                                                                                                                                                 |                                                                                                                                 |        |      |       |           |                    |                                                                            |            |         |     |
| Rated Voltage Range                                                         | 6.3 to 450V                                                                                                                                                                                                                                                                    |                                                                                                                                 |        |      |       |           |                    |                                                                            |            |         |     |
| Rated Capacitance Range                                                     | 0.47 to 15000μF                                                                                                                                                                                                                                                                |                                                                                                                                 |        |      |       |           |                    |                                                                            |            |         |     |
| Capacitance Tolerance                                                       | ±20% at 120Hz, 20°C                                                                                                                                                                                                                                                            |                                                                                                                                 |        |      |       |           |                    |                                                                            |            |         |     |
| Leakage Current                                                             | Rated Voltage (V)                                                                                                                                                                                                                                                              | 6.3 to 100                                                                                                                      |        |      |       |           |                    | 160 to 450                                                                 |            |         |     |
|                                                                             | Leakage current                                                                                                                                                                                                                                                                | After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV or 4 (μA), whichever is greater. |        |      |       |           |                    | CV ≤ 1000 : I = 0.1CV+40 (μA) max.<br>CV > 1000 : I = 0.04CV+100 (μA) max. |            |         |     |
| Tangent of loss angle (tan δ)                                               | 120Hz, 20°C                                                                                                                                                                                                                                                                    |                                                                                                                                 |        |      |       |           |                    |                                                                            |            |         |     |
|                                                                             | Rated Voltage (V)                                                                                                                                                                                                                                                              | 6.3                                                                                                                             | 10     | 16   | 25    | 35        | 50                 | 63 to 100                                                                  | 160 to 350 | 400·450 |     |
|                                                                             | tan δ (MAX.)                                                                                                                                                                                                                                                                   | 0.22                                                                                                                            | 0.19   | 0.16 | 0.14  | 0.12      | 0.10               | 0.08                                                                       | 0.20       | 0.25    |     |
| For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF. |                                                                                                                                                                                                                                                                                |                                                                                                                                 |        |      |       |           |                    |                                                                            |            |         |     |
| Stability at Low Temperature                                                | Rated voltage (V)                                                                                                                                                                                                                                                              |                                                                                                                                 | 6.3·10 | 16   | 25·35 | 50 to 100 | 160·200            | 250                                                                        | 315·350    | 400     | 450 |
|                                                                             | Impedance ratio (MAX.)                                                                                                                                                                                                                                                         | Z-25°C / Z+20°C                                                                                                                 | —      | —    | —     | —         | —                  | —                                                                          | —          | —       | 15  |
|                                                                             |                                                                                                                                                                                                                                                                                | Z-40°C / Z+20°C                                                                                                                 | —      | —    | —     | —         | 4                  | 6                                                                          | 8          | 10      | —   |
|                                                                             |                                                                                                                                                                                                                                                                                | Z-55°C / Z+20°C                                                                                                                 | 4      | 3    | 3     | 2         | —                  | —                                                                          | —          | —       | —   |
| Endurance                                                                   | The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 5000 hours (2000 hours for φD=5 and 6.3, 3000 hours for φD=8) at 105°C, the peak voltage shall not exceed the rated voltage. |                                                                                                                                 |        |      |       |           | Capacitance change | Within ±20% of the initial capacitance value                               |            |         |     |
|                                                                             |                                                                                                                                                                                                                                                                                |                                                                                                                                 |        |      |       |           | tan δ              | 200% or less than the initial specified value                              |            |         |     |
|                                                                             |                                                                                                                                                                                                                                                                                |                                                                                                                                 |        |      |       |           | Leakage current    | Less than or equal to the initial specified value                          |            |         |     |
| Shelf Life                                                                  | After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.                                        |                                                                                                                                 |        |      |       |           | Capacitance change | Within ±20% of the initial capacitance value                               |            |         |     |
|                                                                             |                                                                                                                                                                                                                                                                                |                                                                                                                                 |        |      |       |           | tan δ              | 150% or less than the initial specified value                              |            |         |     |
|                                                                             |                                                                                                                                                                                                                                                                                |                                                                                                                                 |        |      |       |           | Leakage current    | Less than or equal to the initial specified value                          |            |         |     |
| Marking                                                                     | Printed with white color letter on dark brown sleeve.                                                                                                                                                                                                                          |                                                                                                                                 |        |      |       |           |                    |                                                                            |            |         |     |

## Radial Lead Type



## Type numbering system (Example : 25V 470µF)

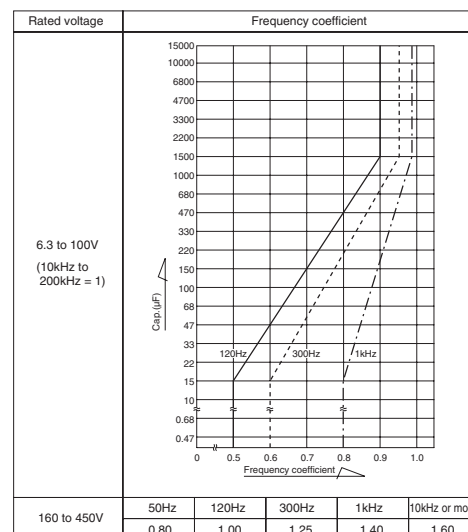
| Type                         | Code                                   |
|------------------------------|----------------------------------------|
| Small Dia                    | —                                      |
| Low Profile                  | 6                                      |
| Size code                    |                                        |
| Configuration ※              |                                        |
| Capacitance tolerance (±20%) |                                        |
| Rated capacitance (470µF)    |                                        |
| Rated voltage (25V)          |                                        |
| Series name                  |                                        |
| Type                         |                                        |
| φ D                          | Pb-free leadwire<br>Pb-free PET sleeve |
| 5                            | DD                                     |
| 6.3                          | ED                                     |
| 8 · 10                       | PD                                     |
| 12.5 to 18                   | HD                                     |

|   |                                |
|---|--------------------------------|
| α | (φD < 10) 1.0<br>(φD ≥ 10) 1.5 |
|---|--------------------------------|

|    |      |     |     |     |                  |     |     |
|----|------|-----|-----|-----|------------------|-----|-----|
|    | (mm) |     |     |     |                  |     |     |
| φD | 5    | 6.3 | 8   | 10  | 12.5             | 16  | 18  |
| P  | 2.0  | 2.5 | 3.5 | 5.0 | 5.0              | 7.5 | 7.5 |
| φd | 0.5  | 0.5 | 0.6 | 0.6 | 0.6 <sup>※</sup> | 0.8 | 0.8 |

※ In case L > 25 for the φ12.5 dia. unit, lead dia. φd=0.8mm.

- Frequency coefficient of rated ripple current



Please refer to page 20, 21, 22 about the formed or taped product spec.  
Please refer to page 4 for the minimum order quantity.

- Dimension table in next pages.

CAT.8100D

## ■ Dimensions

| Cap. (μF) | V (Code)<br>Size code<br>Code | 6.3 (0J)    |           | 10 (1A)     |           | 16 (1C)     |           | 25 (1E)     |           | 35 (1V)     |              |
|-----------|-------------------------------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|--------------|
|           |                               | —           | 6         | —           | 6         | —           | 6         | —           | 6         | —           | 6            |
| 22        | 220                           |             |           |             |           |             |           |             |           | 5 × 11      |              |
| 27        | 270                           |             |           |             |           |             |           |             |           | 5 × 11      |              |
| 33        | 330                           |             |           |             |           |             |           | 5 × 11      |           | 6.3 × 11    |              |
| 39        | 390                           |             |           |             |           |             |           | 5 × 11      |           | 6.3 × 11    |              |
| 47        | 470                           |             |           |             |           | 5 × 11      |           | 6.3 × 11    |           | 6.3 × 11    |              |
| 56        | 560                           |             |           |             |           | 5 × 11      |           | 6.3 × 11    |           | 6.3 × 11    |              |
| 68        | 680                           |             |           | 5 × 11      |           | 6.3 × 11    |           | 6.3 × 11    |           | 6.3 × 15    |              |
| 82        | 820                           |             |           | 5 × 11      |           | 6.3 × 11    |           | 6.3 × 11    |           | 6.3 × 15    |              |
| 100       | 101                           | 5 × 11      |           | 6.3 × 11    |           | 6.3 × 11    |           | 6.3 × 15    |           | 8 × 11.5    |              |
| 120       | 121                           | 5 × 11      |           | 6.3 × 11    |           | 6.3 × 11    |           | 6.3 × 15    |           | 8 × 15      | 10 × 12.5    |
| 150       | 151                           | 6.3 × 11    |           | 6.3 × 11    |           | 6.3 × 15    |           | 8 × 11.5    |           | 8 × 15      | 10 × 12.5    |
| 180       | 181                           | 6.3 × 11    |           | 6.3 × 11    |           | 6.3 × 15    |           | 8 × 15      | 10 × 12.5 | 8 × 20      | 10 × 15      |
| 220       | 221                           | 6.3 × 11    |           | 6.3 × 15    |           | 8 × 11.5    |           | 8 × 15      | 10 × 12.5 | 8 × 20      | 10 × 15      |
| 270       | 271                           | 6.3 × 15    |           | 6.3 × 15    |           | 8 × 15      | 10 × 12.5 | 8 × 20      | 10 × 15   | 10 × 20     | 12.5 × 15    |
| 330       | 331                           | 6.3 × 15    |           | 8 × 11.5    |           | 8 × 15      | 10 × 12.5 | 8 × 20      | 10 × 15   | 10 × 20     | 12.5 × 15    |
| 390       | 391                           | 8 × 11.5    |           | 8 × 15      | 10 × 12.5 | 8 × 20      | 10 × 15   | 10 × 20     | 12.5 × 15 | 10 × 25     | 12.5 × 15    |
| 470       | 471                           | 8 × 15      | 10 × 12.5 | 8 × 15      | 10 × 12.5 | 8 × 20      | 10 × 15   | 10 × 20     | 12.5 × 15 | 10 × 31.5   | 16 × 15      |
| 560       | 561                           | 8 × 15      | 10 × 12.5 | 8 × 20      | 10 × 15   | 10 × 20     | 12.5 × 15 | 10 × 25     | 12.5 × 15 | 12.5 × 20   | 16 × 15      |
| 680       | 681                           | 8 × 20      | 10 × 15   | 8 × 20      | 10 × 15   | 10 × 20     | 12.5 × 15 | 10 × 31.5   | 16 × 15   | 12.5 × 25   | 18 × 15      |
| 820       | 821                           | 8 × 20      | 10 × 15   | 10 × 20     | 12.5 × 15 | 10 × 25     | 12.5 × 15 | 12.5 × 20   | 16 × 15   | 12.5 × 25   | 18 × 15      |
| 1000      | 102                           | 10 × 20     | 12.5 × 15 | 10 × 20     | 12.5 × 15 | 10 × 31.5   | 16 × 15   | 12.5 × 25   | 18 × 15   | 12.5 × 31.5 | 16 × 20      |
| 1200      | 122                           | 10 × 20     | 12.5 × 15 | 10 × 25     | 12.5 × 15 | 12.5 × 20   | 16 × 15   | 12.5 × 25   | 18 × 15   | 12.5 × 35.5 | 16 × 25      |
| 1500      | 152                           | 10 × 25     | 12.5 × 15 | 10 × 31.5   | 16 × 15   | 12.5 × 25   | 18 × 15   | 12.5 × 31.5 | 16 × 20   | 12.5 × 40   | 18 × 20      |
| 1800      | 182                           | 10 × 31.5   | 16 × 15   | 12.5 × 20   | 16 × 15   | 12.5 × 31.5 | 16 × 20   | 12.5 × 35.5 | 16 × 25   | 16 × 31.5   | 18 × 25      |
| 2200      | 222                           | 10 × 31.5   | 16 × 15   | 12.5 × 25   | 18 × 15   | 12.5 × 31.5 | 16 × 20   | 12.5 × 40   | 18 × 20   | 16 × 35.5   | 18 × 31.5    |
| 2700      | 272                           | 12.5 × 25   | 18 × 15   | 12.5 × 31.5 | 16 × 20   | 12.5 × 35.5 | 16 × 25   | 16 × 31.5   | 18 × 25   | 16 × 40     | 18 × 35.5    |
| 3300      | 332                           | 12.5 × 25   | 18 × 15   | 12.5 × 35.5 | 16 × 20   | 12.5 × 40   | 18 × 20   | 16 × 35.5   | 18 × 31.5 | 18 × 40     |              |
| 3900      | 392                           | 12.5 × 31.5 | 16 × 20   | 12.5 × 40   | 18 × 20   | 16 × 31.5   | 18 × 25   | 16 × 40     | 18 × 35.5 |             |              |
| 4700      | 472                           | 12.5 × 35.5 | 18 × 20   | 16 × 31.5   | 18 × 25   | 16 × 35.5   | 18 × 31.5 | 18 × 40     |           |             |              |
| 5600      | 562                           | 12.5 × 40   | 18 × 20   | 16 × 35.5   | 18 × 25   | 16 × 40     | 18 × 35.5 |             |           |             |              |
| 6800      | 682                           | 16 × 31.5   | 18 × 25   | 16 × 35.5   | 18 × 31.5 | 18 × 35.5   |           |             |           |             |              |
| 8200      | 822                           | 16 × 35.5   | 18 × 31.5 | 16 × 40     | 18 × 35.5 | 18 × 40     |           |             |           |             |              |
| 10000     | 103                           | 16 × 40     | 18 × 31.5 | 18 × 40     |           |             |           |             |           |             |              |
| 12000     | 123                           | 18 × 35.5   |           |             |           |             |           |             |           |             |              |
| 15000     | 153                           | 18 × 40     |           |             |           |             |           |             |           |             | φ D × L (mm) |

| Cap. (μF) | V (Code)<br>Size code<br>Code | 50 (1H)     |           | 63 (1J)     |           | 80 (1K)     |           | 100 (2A)    |              |
|-----------|-------------------------------|-------------|-----------|-------------|-----------|-------------|-----------|-------------|--------------|
|           |                               | —           | 6         | —           | 6         | —           | 6         | —           | 6            |
| 0.47      | R47                           | 5 × 11      |           |             |           |             |           | 5 × 11      |              |
| 0.68      | R68                           | 5 × 11      |           |             |           |             |           | 5 × 11      |              |
| 1         | 010                           | 5 × 11      |           |             |           |             |           | 5 × 11      |              |
| 1.5       | 1R5                           | 5 × 11      |           |             |           |             |           | 5 × 11      |              |
| 2.2       | 2R2                           | 5 × 11      |           |             |           |             |           | 5 × 11      |              |
| 3.3       | 3R3                           | 5 × 11      |           |             |           |             |           | 5 × 11      |              |
| 4.7       | 4R7                           | 5 × 11      |           |             |           | 5 × 11      |           | 6.3 × 11    |              |
| 6.8       | 6R8                           | 5 × 11      |           |             |           | 5 × 11      |           | 6.3 × 11    |              |
| 10        | 100                           | 5 × 11      |           | 5 × 11      |           | 6.3 × 11    |           | 6.3 × 11    |              |
| 12        | 120                           | 5 × 11      |           | 5 × 11      |           | 6.3 × 11    |           | 6.3 × 11    |              |
| 15        | 150                           | 5 × 11      |           | 6.3 × 11    |           | 6.3 × 11    |           | 6.3 × 15    |              |
| 18        | 180                           | 5 × 11      |           | 6.3 × 11    |           | 6.3 × 11    |           | 6.3 × 15    |              |
| 22        | 220                           | 6.3 × 11    |           | 6.3 × 11    |           | 6.3 × 15    |           | 8 × 11.5    |              |
| 27        | 270                           | 6.3 × 11    |           | 6.3 × 11    |           | 6.3 × 15    |           | 8 × 15      | 10 × 12.5    |
| 33        | 330                           | 6.3 × 11    |           | 6.3 × 15    |           | 8 × 11.5    |           | 8 × 15      | 10 × 12.5    |
| 39        | 390                           | 6.3 × 11    |           | 6.3 × 15    |           | 8 × 15      | 10 × 12.5 | 8 × 20      | 10 × 15      |
| 47        | 470                           | 6.3 × 15    |           | 8 × 11.5    |           | 8 × 15      | 10 × 12.5 | 10 × 20     | 12.5 × 15    |
| 56        | 560                           | 6.3 × 15    |           | 8 × 15      | 10 × 12.5 | 8 × 20      | 10 × 15   | 10 × 20     | 12.5 × 15    |
| 68        | 680                           | 8 × 11.5    |           | 8 × 15      | 10 × 12.5 | 10 × 20     | 12.5 × 15 | 10 × 25     | 12.5 × 15    |
| 82        | 820                           | 8 × 15      | 10 × 12.5 | 8 × 20      | 10 × 15   | 10 × 20     | 12.5 × 15 | 10 × 31.5   | 16 × 15      |
| 100       | 101                           | 8 × 20      | 10 × 15   | 10 × 20     | 12.5 × 15 | 10 × 25     | 12.5 × 15 | 10 × 31.5   | 16 × 15      |
| 120       | 121                           | 8 × 20      | 10 × 15   | 10 × 20     | 12.5 × 15 | 10 × 31.5   | 16 × 15   | 12.5 × 25   | 16 × 15      |
| 150       | 151                           | 10 × 20     | 12.5 × 15 | 10 × 25     | 12.5 × 15 | 10 × 31.5   | 16 × 15   | 12.5 × 25   | 18 × 15      |
| 180       | 181                           | 10 × 20     | 12.5 × 15 | 10 × 31.5   | 16 × 15   | 12.5 × 25   | 16 × 15   | 12.5 × 31.5 | 16 × 20      |
| 220       | 221                           | 10 × 25     | 12.5 × 15 | 12.5 × 20   | 16 × 15   | 12.5 × 31.5 | 18 × 15   | 12.5 × 35.5 | 16 × 25      |
| 270       | 271                           | 10 × 31.5   | 16 × 15   | 12.5 × 25   | 18 × 15   | 12.5 × 31.5 | 16 × 20   | 12.5 × 40   | 18 × 20      |
| 330       | 331                           | 10 × 31.5   | 16 × 15   | 12.5 × 25   | 18 × 15   | 12.5 × 35.5 | 16 × 25   | 16 × 31.5   | 18 × 25      |
| 390       | 391                           | 12.5 × 25   | 16 × 15   | 12.5 × 31.5 | 16 × 20   | 12.5 × 40   | 18 × 20   | 16 × 35.5   | 18 × 31.5    |
| 470       | 471                           | 12.5 × 25   | 18 × 15   | 12.5 × 35.5 | 16 × 25   | 16 × 31.5   | 18 × 25   | 16 × 40     | 18 × 35.5    |
| 560       | 561                           | 12.5 × 31.5 | 16 × 20   | 12.5 × 40   | 18 × 20   | 16 × 35.5   | 18 × 31.5 | 18 × 35.5   |              |
| 680       | 681                           | 12.5 × 35.5 | 16 × 20   | 16 × 31.5   | 18 × 25   | 16 × 40     | 18 × 31.5 | 18 × 40     |              |
| 820       | 821                           | 12.5 × 40   | 18 × 20   | 16 × 35.5   | 18 × 31.5 | 18 × 35.5   |           |             |              |
| 1000      | 102                           | 16 × 31.5   | 18 × 25   | 16 × 40     | 18 × 35.5 | 18 × 40     |           |             |              |
| 1200      | 122                           | 16 × 35.5   | 18 × 31.5 | 18 × 40     |           |             |           |             |              |
| 1500      | 152                           | 16 × 40     | 18 × 31.5 |             |           |             |           |             |              |
| 1800      | 182                           | 18 × 35.5   |           |             |           |             |           |             |              |
| 2200      | 222                           | 18 × 40     |           |             |           |             |           |             | φ D × L (mm) |

※ In case of low profile type, [6] will be put at 12th digit of type numbering system.

Dimension table for 160 to 450V products are shown in 233 page.

CAT.8100D

## ■ Standard Ratings

| Cap. (μF) | V (Code) | Size code   | Item  | 6.3 (0J)                    |                      |                |                            |               |                             |                      |                |                            |               |
|-----------|----------|-------------|-------|-----------------------------|----------------------|----------------|----------------------------|---------------|-----------------------------|----------------------|----------------|----------------------------|---------------|
|           |          |             |       | —                           |                      |                |                            | 6             |                             |                      |                |                            |               |
|           |          |             |       | Case size<br>φD × L<br>(mm) | Impedance ( Ω ) MAX. |                | Rated ripple (mArms)       |               | Case size<br>φD × L<br>(mm) | Impedance ( Ω ) MAX. |                | Rated ripple (mArms)       |               |
|           |          |             |       |                             | 20°C / 100kHz        | −10°C / 100kHz | 105°C / 10kHz to<br>200kHz | 105°C / 120Hz |                             | 20°C / 100kHz        | −10°C / 100kHz | 105°C / 10kHz to<br>200kHz | 105°C / 120Hz |
| 100       | 101      | 5 × 11      | 1.40  | 3.50                        | 150                  | 99             |                            |               |                             |                      |                |                            |               |
| 120       | 121      | 5 × 11      | 1.10  | 2.80                        | 175                  | 115            |                            |               |                             |                      |                |                            |               |
| 150       | 151      | 6.3 × 11    | 0.78  | 2.10                        | 225                  | 155            |                            |               |                             |                      |                |                            |               |
| 180       | 181      | 6.3 × 11    | 0.60  | 1.50                        | 250                  | 175            |                            |               |                             |                      |                |                            |               |
| 220       | 221      | 6.3 × 11    | 0.48  | 1.20                        | 285                  | 205            |                            |               |                             |                      |                |                            |               |
| 270       | 271      | 6.3 × 15    | 0.39  | 1.00                        | 370                  | 275            |                            |               |                             |                      |                |                            |               |
| 330       | 331      | 6.3 × 15    | 0.32  | 0.80                        | 405                  | 310            |                            |               |                             |                      |                |                            |               |
| 390       | 391      | 8 × 11.5    | 0.27  | 0.68                        | 445                  | 345            |                            |               |                             |                      |                |                            |               |
| 470       | 471      | 8 × 15      | 0.22  | 0.55                        | 550                  | 435            | 10 × 12.5                  | 0.23          | 0.58                        | 575                  | 455            |                            |               |
| 560       | 561      | 8 × 15      | 0.19  | 0.48                        | 595                  | 480            | 10 × 12.5                  | 0.21          | 0.53                        | 600                  | 485            |                            |               |
| 680       | 681      | 8 × 20      | 0.16  | 0.40                        | 730                  | 605            | 10 × 15                    | 0.18          | 0.45                        | 700                  | 580            |                            |               |
| 820       | 821      | 8 × 20      | 0.13  | 0.33                        | 795                  | 670            | 10 × 15                    | 0.15          | 0.38                        | 750                  | 635            |                            |               |
| 1000      | 102      | 10 × 20     | 0.12  | 0.30                        | 950                  | 820            | 12.5 × 15                  | 0.13          | 0.33                        | 890                  | 765            |                            |               |
| 1200      | 122      | 10 × 20     | 0.10  | 0.25                        | 1020                 | 895            | 12.5 × 15                  | 0.12          | 0.30                        | 950                  | 835            |                            |               |
| 1500      | 152      | 10 × 25     | 0.084 | 0.21                        | 1220                 | 1090           | 12.5 × 15                  | 0.10          | 0.25                        | 1020                 | 915            |                            |               |
| 1800      | 182      | 10 × 31.5   | 0.078 | 0.20                        | 1370                 | 1230           | 16 × 15                    | 0.084         | 0.21                        | 1270                 | 1140           |                            |               |
| 2200      | 222      | 10 × 31.5   | 0.066 | 0.17                        | 1470                 | 1320           | 16 × 15                    | 0.078         | 0.20                        | 1340                 | 1200           |                            |               |
| 2700      | 272      | 12.5 × 25   | 0.051 | 0.14                        | 1590                 | 1430           | 18 × 15                    | 0.072         | 0.18                        | 1500                 | 1350           |                            |               |
| 3300      | 332      | 12.5 × 25   | 0.045 | 0.11                        | 1710                 | 1530           | 18 × 15                    | 0.065         | 0.16                        | 1600                 | 1440           |                            |               |
| 3900      | 392      | 12.5 × 31.5 | 0.037 | 0.093                       | 1910                 | 1710           | 16 × 20                    | 0.056         | 0.14                        | 1720                 | 1540           |                            |               |
| 4700      | 472      | 12.5 × 35.5 | 0.034 | 0.085                       | 2100                 | 1890           | 18 × 20                    | 0.050         | 0.13                        | 1920                 | 1720           |                            |               |
| 5600      | 562      | 12.5 × 40   | 0.031 | 0.078                       | 2270                 | 2040           | 18 × 20                    | 0.047         | 0.12                        | 1980                 | 1780           |                            |               |
| 6800      | 682      | 16 × 31.5   | 0.029 | 0.073                       | 2370                 | 2130           | 18 × 25                    | 0.039         | 0.098                       | 2210                 | 1980           |                            |               |
| 8200      | 822      | 16 × 35.5   | 0.027 | 0.068                       | 2550                 | 2290           | 18 × 31.5                  | 0.031         | 0.078                       | 2390                 | 2150           |                            |               |
| 10000     | 103      | 16 × 40     | 0.025 | 0.063                       | 2750                 | 2470           | 18 × 31.5                  | 0.028         | 0.070                       | 2490                 | 2240           |                            |               |
| 12000     | 123      | 18 × 35.5   | 0.023 | 0.058                       | 2820                 | 2530           |                            |               |                             |                      |                |                            |               |
| 15000     | 153      | 18 × 40     | 0.022 | 0.055                       | 2960                 | 2660           |                            |               |                             |                      |                |                            |               |

| Cap.(μF) | V (Code) | Size code   | Item  | 10 (1A)                     |                      |                |                         |               |                             |                      |                |                         |               |
|----------|----------|-------------|-------|-----------------------------|----------------------|----------------|-------------------------|---------------|-----------------------------|----------------------|----------------|-------------------------|---------------|
|          |          |             |       | —                           |                      |                |                         | 6             |                             |                      |                |                         |               |
|          |          |             |       | Case size<br>φD × L<br>(mm) | Impedance ( Ω ) MAX. |                | Rated ripple (mArms)    |               | Case size<br>φD × L<br>(mm) | Impedance ( Ω ) MAX. |                | Rated ripple (mArms)    |               |
|          |          |             |       |                             | 20°C / 100kHz        | −10°C / 100kHz | 105°C / 10kHz to 200kHz | 105°C / 120Hz |                             | 20°C / 100kHz        | −10°C / 100kHz | 105°C / 10kHz to 200kHz | 105°C / 120Hz |
| 68       | 680      | 5 × 11      | 1.30  | 3.30                        | 155                  | 97             |                         |               |                             |                      |                |                         |               |
| 82       | 820      | 5 × 11      | 1.10  | 2.80                        | 175                  | 110            |                         |               |                             |                      |                |                         |               |
| 100      | 101      | 6.3 × 11    | 0.84  | 2.10                        | 210                  | 135            |                         |               |                             |                      |                |                         |               |
| 120      | 121      | 6.3 × 11    | 0.72  | 1.80                        | 235                  | 160            |                         |               |                             |                      |                |                         |               |
| 150      | 151      | 6.3 × 11    | 0.55  | 1.40                        | 265                  | 185            |                         |               |                             |                      |                |                         |               |
| 180      | 181      | 6.3 × 11    | 0.46  | 1.20                        | 290                  | 205            |                         |               |                             |                      |                |                         |               |
| 220      | 221      | 6.3 × 15    | 0.38  | 0.95                        | 370                  | 270            |                         |               |                             |                      |                |                         |               |
| 270      | 271      | 6.3 × 15    | 0.31  | 0.78                        | 405                  | 300            |                         |               |                             |                      |                |                         |               |
| 330      | 331      | 8 × 11.5    | 0.26  | 0.65                        | 460                  | 350            |                         |               |                             |                      |                |                         |               |
| 390      | 391      | 8 × 15      | 0.22  | 0.55                        | 550                  | 430            | 10 × 12.5               | 0.24          | 0.60                        | 555                  | 430            |                         |               |
| 470      | 471      | 8 × 15      | 0.19  | 0.48                        | 595                  | 475            | 10 × 12.5               | 0.21          | 0.53                        | 600                  | 475            |                         |               |
| 560      | 561      | 8 × 20      | 0.16  | 0.40                        | 730                  | 590            | 10 × 15                 | 0.18          | 0.45                        | 700                  | 565            |                         |               |
| 680      | 681      | 8 × 20      | 0.13  | 0.33                        | 795                  | 660            | 10 × 15                 | 0.14          | 0.35                        | 770                  | 635            |                         |               |
| 820      | 821      | 10 × 20     | 0.11  | 0.28                        | 985                  | 835            | 12.5 × 15               | 0.13          | 0.33                        | 920                  | 780            |                         |               |
| 1000     | 102      | 10 × 20     | 0.096 | 0.24                        | 1060                 | 915            | 12.5 × 15               | 0.10          | 0.25                        | 1040                 | 895            |                         |               |
| 1200     | 122      | 10 × 25     | 0.078 | 0.20                        | 1280                 | 1120           | 12.5 × 15               | 0.096         | 0.24                        | 1060                 | 930            |                         |               |
| 1500     | 152      | 10 × 31.5   | 0.072 | 0.18                        | 1440                 | 1290           | 16 × 15                 | 0.078         | 0.20                        | 1330                 | 1190           |                         |               |
| 1800     | 182      | 12.5 × 20   | 0.057 | 0.14                        | 1470                 | 1320           | 16 × 15                 | 0.072         | 0.18                        | 1420                 | 1270           |                         |               |
| 2200     | 222      | 12.5 × 25   | 0.045 | 0.11                        | 1710                 | 1530           | 18 × 15                 | 0.060         | 0.15                        | 1600                 | 1440           |                         |               |
| 2700     | 272      | 12.5 × 31.5 | 0.036 | 0.090                       | 1940                 | 1740           | 16 × 20                 | 0.051         | 0.13                        | 1740                 | 1560           |                         |               |
| 3300     | 332      | 12.5 × 35.5 | 0.032 | 0.080                       | 2180                 | 1960           | 16 × 20                 | 0.045         | 0.11                        | 1850                 | 1660           |                         |               |
| 3900     | 392      | 12.5 × 40   | 0.030 | 0.075                       | 2360                 | 2120           | 18 × 20                 | 0.041         | 0.10                        | 2050                 | 1840           |                         |               |
| 4700     | 472      | 16 × 31.5   | 0.028 | 0.070                       | 2420                 | 2170           | 18 × 25                 | 0.035         | 0.088                       | 2250                 | 2020           |                         |               |
| 5600     | 562      | 16 × 35.5   | 0.026 | 0.065                       | 2610                 | 2340           | 18 × 25                 | 0.033         | 0.083                       | 2340                 | 2100           |                         |               |
| 6800     | 682      | 16 × 35.5   | 0.024 | 0.060                       | 2680                 | 2410           | 18 × 31.5               | 0.027         | 0.068                       | 2540                 | 2280           |                         |               |
| 8200     | 822      | 16 × 40     | 0.023 | 0.058                       | 2820                 | 2530           | 18 × 35.5               | 0.025         | 0.063                       | 2690                 | 2420           |                         |               |
| 10000    | 103      | 18 × 40     | 0.021 | 0.053                       | 3040                 | 2730           |                         |               |                             |                      |                |                         |               |

※ In case of low profile [6] type, will be put at 12th digit of type numbering system.

## ■ Standard Ratings

| Cap. (μF) |     | V (Code)    |       | 16 (1C)                     |      |                      |                |                            |               |                             |      |                      |                |                            |               |
|-----------|-----|-------------|-------|-----------------------------|------|----------------------|----------------|----------------------------|---------------|-----------------------------|------|----------------------|----------------|----------------------------|---------------|
|           |     | Size code   |       | —                           |      |                      |                | 6                          |               |                             |      |                      |                |                            |               |
|           |     | Item        |       | Case size<br>φD × L<br>(mm) |      | Impedance ( Ω ) MAX. |                | Rated ripple (mArms)       |               | Case size<br>φD × L<br>(mm) |      | Impedance ( Ω ) MAX. |                | Rated ripple (mArms)       |               |
|           |     |             |       |                             |      | 20°C / 100kHz        | −10°C / 100kHz | 105°C / 10kHz to<br>200kHz | 105°C / 120Hz |                             |      | 20°C / 100kHz        | −10°C / 100kHz | 105°C / 10kHz to<br>200kHz | 105°C / 120Hz |
| 47        | 470 | 5 × 11      | 1.30  | 3.30                        | 155  | 92                   |                |                            |               |                             |      |                      |                |                            |               |
| 56        | 560 | 5 × 11      | 1.10  | 2.80                        | 175  | 105                  |                |                            |               |                             |      |                      |                |                            |               |
| 68        | 680 | 6.3 × 11    | 0.78  | 2.00                        | 220  | 135                  |                |                            |               |                             |      |                      |                |                            |               |
| 82        | 820 | 6.3 × 11    | 0.66  | 1.70                        | 240  | 155                  |                |                            |               |                             |      |                      |                |                            |               |
| 100       | 101 | 6.3 × 11    | 0.55  | 1.40                        | 265  | 175                  |                |                            |               |                             |      |                      |                |                            |               |
| 120       | 121 | 6.3 × 11    | 0.45  | 1.10                        | 290  | 195                  |                |                            |               |                             |      |                      |                |                            |               |
| 150       | 151 | 6.3 × 15    | 0.37  | 0.93                        | 375  | 260                  |                |                            |               |                             |      |                      |                |                            |               |
| 180       | 181 | 6.3 × 15    | 0.31  | 0.78                        | 405  | 285                  |                |                            |               |                             |      |                      |                |                            |               |
| 220       | 221 | 8 × 11.5    | 0.26  | 0.65                        | 460  | 335                  |                |                            |               |                             |      |                      |                |                            |               |
| 270       | 271 | 8 × 15      | 0.22  | 0.55                        | 550  | 410                  | 10 × 12.5      | 0.22                       | 0.55          | 575                         | 430  |                      |                |                            |               |
| 330       | 331 | 8 × 15      | 0.18  | 0.45                        | 595  | 455                  | 10 × 12.5      | 0.18                       | 0.45          | 625                         | 480  |                      |                |                            |               |
| 390       | 391 | 8 × 20      | 0.16  | 0.40                        | 730  | 570                  | 10 × 15        | 0.16                       | 0.40          | 730                         | 570  |                      |                |                            |               |
| 470       | 471 | 8 × 20      | 0.14  | 0.35                        | 770  | 615                  | 10 × 15        | 0.14                       | 0.35          | 770                         | 615  |                      |                |                            |               |
| 560       | 561 | 10 × 20     | 0.12  | 0.30                        | 950  | 770                  | 12.5 × 15      | 0.13                       | 0.33          | 920                         | 745  |                      |                |                            |               |
| 680       | 681 | 10 × 20     | 0.10  | 0.25                        | 1020 | 845                  | 12.5 × 15      | 0.11                       | 0.28          | 985                         | 815  |                      |                |                            |               |
| 820       | 821 | 10 × 25     | 0.084 | 0.21                        | 1220 | 1030                 | 12.5 × 15      | 0.096                      | 0.24          | 1060                        | 895  |                      |                |                            |               |
| 1000      | 102 | 10 × 31.5   | 0.072 | 0.18                        | 1410 | 1210                 | 16 × 15        | 0.084                      | 0.21          | 1270                        | 1090 |                      |                |                            |               |
| 1200      | 122 | 12.5 × 20   | 0.060 | 0.15                        | 1430 | 1250                 | 16 × 15        | 0.072                      | 0.18          | 1390                        | 1220 |                      |                |                            |               |
| 1500      | 152 | 12.5 × 25   | 0.048 | 0.12                        | 1660 | 1490                 | 18 × 15        | 0.066                      | 0.17          | 1560                        | 1400 |                      |                |                            |               |
| 1800      | 182 | 12.5 × 31.5 | 0.039 | 0.10                        | 1880 | 1690                 | 16 × 20        | 0.054                      | 0.14          | 1700                        | 1530 |                      |                |                            |               |
| 2200      | 222 | 12.5 × 31.5 | 0.034 | 0.085                       | 2010 | 1800                 | 16 × 20        | 0.048                      | 0.12          | 1800                        | 1620 |                      |                |                            |               |
| 2700      | 272 | 12.5 × 35.5 | 0.031 | 0.078                       | 2220 | 1990                 | 16 × 25        | 0.040                      | 0.10          | 2010                        | 1800 |                      |                |                            |               |
| 3300      | 332 | 12.5 × 40   | 0.028 | 0.070                       | 2410 | 2160                 | 18 × 20        | 0.039                      | 0.10          | 2090                        | 1880 |                      |                |                            |               |
| 3900      | 392 | 16 × 31.5   | 0.027 | 0.068                       | 2470 | 2220                 | 18 × 25        | 0.034                      | 0.085         | 2290                        | 2060 |                      |                |                            |               |
| 4700      | 472 | 16 × 35.5   | 0.025 | 0.063                       | 2680 | 2410                 | 18 × 31.5      | 0.028                      | 0.070         | 2490                        | 2240 |                      |                |                            |               |
| 5600      | 562 | 16 × 40     | 0.024 | 0.060                       | 2820 | 2530                 | 18 × 35.5      | 0.027                      | 0.068         | 2620                        | 2350 |                      |                |                            |               |
| 6800      | 682 | 18 × 35.5   | 0.022 | 0.055                       | 2900 | 2610                 |                |                            |               |                             |      |                      |                |                            |               |
| 8200      | 822 | 18 × 40     | 0.021 | 0.053                       | 3040 | 2730                 |                |                            |               |                             |      |                      |                |                            |               |

| Cap. (μF) |     | V (Code)    |       | 25 (1E) |      |                             |           |                      |       |                         |      |                             |  |                      |  |                      |  |
|-----------|-----|-------------|-------|---------|------|-----------------------------|-----------|----------------------|-------|-------------------------|------|-----------------------------|--|----------------------|--|----------------------|--|
|           |     | Size code   |       | —       |      |                             |           | 6                    |       |                         |      |                             |  |                      |  |                      |  |
|           |     |             |       | Item    |      | Case size<br>φD × L<br>(mm) |           | Impedance ( Ω ) MAX. |       | Rated ripple (mArms)    |      | Case size<br>φD × L<br>(mm) |  | Impedance ( Ω ) MAX. |  | Rated ripple (mArms) |  |
|           |     | Code        |       |         |      |                             |           |                      |       |                         |      |                             |  |                      |  |                      |  |
|           |     |             |       |         |      | 20°C / 100kHz               |           | −10°C / 100kHz       |       | 105°C / 10kHz to 200kHz |      | 105°C / 120Hz               |  |                      |  |                      |  |
|           |     |             |       |         |      |                             |           |                      |       |                         |      |                             |  |                      |  |                      |  |
|           |     |             |       |         |      |                             |           |                      |       |                         |      |                             |  |                      |  |                      |  |
|           |     |             |       |         |      |                             |           |                      |       |                         |      |                             |  |                      |  |                      |  |
| 33        | 330 | 5 × 11      | 1.30  | 3.30    | 155  | 88                          |           |                      |       |                         |      |                             |  |                      |  |                      |  |
| 39        | 390 | 5 × 11      | 1.10  | 2.80    | 175  | 100                         |           |                      |       |                         |      |                             |  |                      |  |                      |  |
| 47        | 470 | 6.3 × 11    | 0.84  | 2.10    | 210  | 125                         |           |                      |       |                         |      |                             |  |                      |  |                      |  |
| 56        | 560 | 6.3 × 11    | 0.72  | 1.80    | 235  | 140                         |           |                      |       |                         |      |                             |  |                      |  |                      |  |
| 68        | 680 | 6.3 × 11    | 0.57  | 1.40    | 260  | 160                         |           |                      |       |                         |      |                             |  |                      |  |                      |  |
| 82        | 820 | 6.3 × 11    | 0.47  | 1.20    | 285  | 180                         |           |                      |       |                         |      |                             |  |                      |  |                      |  |
| 100       | 101 | 6.3 × 15    | 0.39  | 0.98    | 370  | 245                         |           |                      |       |                         |      |                             |  |                      |  |                      |  |
| 120       | 121 | 6.3 × 15    | 0.32  | 0.80    | 405  | 275                         |           |                      |       |                         |      |                             |  |                      |  |                      |  |
| 150       | 151 | 8 × 11.5    | 0.26  | 0.65    | 460  | 320                         |           |                      |       |                         |      |                             |  |                      |  |                      |  |
| 180       | 181 | 8 × 15      | 0.22  | 0.55    | 550  | 390                         | 10 × 12.5 | 0.24                 | 0.60  | 555                     | 395  |                             |  |                      |  |                      |  |
| 220       | 221 | 8 × 15      | 0.18  | 0.45    | 625  | 455                         | 10 × 12.5 | 0.21                 | 0.53  | 600                     | 435  |                             |  |                      |  |                      |  |
| 270       | 271 | 8 × 20      | 0.15  | 0.38    | 750  | 560                         | 10 × 15   | 0.18                 | 0.45  | 700                     | 525  |                             |  |                      |  |                      |  |
| 330       | 331 | 8 × 20      | 0.13  | 0.33    | 795  | 610                         | 10 × 15   | 0.15                 | 0.38  | 750                     | 575  |                             |  |                      |  |                      |  |
| 390       | 391 | 10 × 20     | 0.11  | 0.28    | 985  | 770                         | 12.5 × 15 | 0.13                 | 0.33  | 920                     | 720  |                             |  |                      |  |                      |  |
| 470       | 471 | 10 × 20     | 0.10  | 0.25    | 1020 | 810                         | 12.5 × 15 | 0.11                 | 0.28  | 985                     | 785  |                             |  |                      |  |                      |  |
| 560       | 561 | 10 × 25     | 0.084 | 0.21    | 1220 | 990                         | 12.5 × 15 | 0.10                 | 0.25  | 1060                    | 860  |                             |  |                      |  |                      |  |
| 680       | 681 | 10 × 31.5   | 0.072 | 0.18    | 1420 | 1180                        | 16 × 15   | 0.084                | 0.21  | 1270                    | 1050 |                             |  |                      |  |                      |  |
| 820       | 821 | 12.5 × 20   | 0.059 | 0.15    | 1430 | 1210                        | 16 × 15   | 0.079                | 0.20  | 1340                    | 1130 |                             |  |                      |  |                      |  |
| 1000      | 102 | 12.5 × 25   | 0.048 | 0.12    | 1660 | 1430                        | 18 × 15   | 0.066                | 0.17  | 1520                    | 1310 |                             |  |                      |  |                      |  |
| 1200      | 122 | 12.5 × 25   | 0.043 | 0.11    | 1760 | 1550                        | 18 × 15   | 0.061                | 0.15  | 1600                    | 1400 |                             |  |                      |  |                      |  |
| 1500      | 152 | 12.5 × 31.5 | 0.035 | 0.088   | 1980 | 1780                        | 16 × 20   | 0.050                | 0.13  | 1770                    | 1590 |                             |  |                      |  |                      |  |
| 1800      | 182 | 12.5 × 35.5 | 0.032 | 0.080   | 2180 | 1960                        | 16 × 25   | 0.041                | 0.10  | 1980                    | 1780 |                             |  |                      |  |                      |  |
| 2200      | 222 | 12.5 × 40   | 0.029 | 0.073   | 2360 | 2120                        | 18 × 20   | 0.040                | 0.10  | 2050                    | 1840 |                             |  |                      |  |                      |  |
| 2700      | 272 | 16 × 31.5   | 0.027 | 0.068   | 2470 | 2220                        | 18 × 25   | 0.034                | 0.085 | 2290                    | 2060 |                             |  |                      |  |                      |  |
| 3300      | 332 | 16 × 35.5   | 0.025 | 0.063   | 2680 | 2410                        | 18 × 31.5 | 0.029                | 0.073 | 2490                    | 2240 |                             |  |                      |  |                      |  |
| 3900      | 392 | 16 × 40     | 0.023 | 0.058   | 2820 | 2530                        | 18 × 35.5 | 0.026                | 0.065 | 2690                    | 2420 |                             |  |                      |  |                      |  |
| 4700      | 472 | 18 × 40     | 0.022 | 0.055   | 2960 | 2660                        |           |                      |       |                         |      |                             |  |                      |  |                      |  |

※ In case of low profile type, [6] will be put at 12th digit of type numbering system.



## ■ Standard Ratings

| Cap. (μF) | V (Code) | Size code   | Item  | 35 (1V)                     |                      |                |                            |               |                             |                      |                |                            |               |
|-----------|----------|-------------|-------|-----------------------------|----------------------|----------------|----------------------------|---------------|-----------------------------|----------------------|----------------|----------------------------|---------------|
|           |          |             |       | —                           |                      |                |                            | 6             |                             |                      |                |                            |               |
|           |          |             |       | Case size<br>φD × L<br>(mm) | Impedance ( Ω ) MAX. |                | Rated ripple (mArms)       |               | Case size<br>φD × L<br>(mm) | Impedance ( Ω ) MAX. |                | Rated ripple (mArms)       |               |
|           |          |             |       |                             | 20°C / 100kHz        | −10°C / 100kHz | 105°C / 10kHz to<br>200kHz | 105°C / 120Hz |                             | 20°C / 100kHz        | −10°C / 100kHz | 105°C / 10kHz to<br>200kHz | 105°C / 120Hz |
| 22        | 220      | 5 × 11      | 1.30  | 3.30                        | 160                  | 85             |                            |               |                             |                      |                |                            |               |
| 27        | 270      | 5 × 11      | 1.00  | 2.50                        | 180                  | 99             |                            |               |                             |                      |                |                            |               |
| 33        | 330      | 6.3 × 11    | 0.78  | 2.00                        | 225                  | 125            |                            |               |                             |                      |                |                            |               |
| 39        | 390      | 6.3 × 11    | 0.66  | 1.70                        | 245                  | 140            |                            |               |                             |                      |                |                            |               |
| 47        | 470      | 6.3 × 11    | 0.54  | 1.40                        | 270                  | 160            |                            |               |                             |                      |                |                            |               |
| 56        | 560      | 6.3 × 11    | 0.45  | 1.10                        | 295                  | 180            |                            |               |                             |                      |                |                            |               |
| 68        | 680      | 6.3 × 15    | 0.37  | 0.93                        | 370                  | 230            |                            |               |                             |                      |                |                            |               |
| 82        | 820      | 6.3 × 15    | 0.31  | 0.78                        | 415                  | 265            |                            |               |                             |                      |                |                            |               |
| 100       | 101      | 8 × 11.5    | 0.26  | 0.65                        | 460                  | 305            |                            |               |                             |                      |                |                            |               |
| 120       | 121      | 8 × 15      | 0.22  | 0.55                        | 550                  | 370            | 10 × 12.5                  | 0.24          | 0.60                        | 555                  | 375            |                            |               |
| 150       | 151      | 8 × 15      | 0.18  | 0.45                        | 595                  | 415            | 10 × 12.5                  | 0.20          | 0.50                        | 625                  | 435            |                            |               |
| 180       | 181      | 8 × 20      | 0.16  | 0.40                        | 730                  | 520            | 10 × 15                    | 0.18          | 0.45                        | 700                  | 500            |                            |               |
| 220       | 221      | 8 × 20      | 0.13  | 0.33                        | 795                  | 580            | 10 × 15                    | 0.14          | 0.35                        | 770                  | 560            |                            |               |
| 270       | 271      | 10 × 20     | 0.11  | 0.28                        | 985                  | 735            | 12.5 × 15                  | 0.13          | 0.33                        | 920                  | 690            |                            |               |
| 330       | 331      | 10 × 20     | 0.096 | 0.24                        | 1060                 | 810            | 12.5 × 15                  | 0.10          | 0.25                        | 1020                 | 780            |                            |               |
| 390       | 391      | 10 × 25     | 0.084 | 0.21                        | 1220                 | 955            | 12.5 × 15                  | 0.096         | 0.24                        | 1060                 | 825            |                            |               |
| 470       | 471      | 10 × 31.5   | 0.072 | 0.18                        | 1420                 | 1130           | 16 × 15                    | 0.084         | 0.21                        | 1270                 | 1010           |                            |               |
| 560       | 561      | 12.5 × 20   | 0.059 | 0.15                        | 1430                 | 1160           | 16 × 15                    | 0.075         | 0.19                        | 1360                 | 1100           |                            |               |
| 680       | 681      | 12.5 × 25   | 0.048 | 0.12                        | 1660                 | 1370           | 18 × 15                    | 0.066         | 0.17                        | 1540                 | 1270           |                            |               |
| 820       | 821      | 12.5 × 25   | 0.042 | 0.11                        | 1760                 | 1490           | 18 × 15                    | 0.060         | 0.15                        | 1620                 | 1370           |                            |               |
| 1000      | 102      | 12.5 × 31.5 | 0.035 | 0.088                       | 1980                 | 1710           | 16 × 20                    | 0.050         | 0.13                        | 1770                 | 1530           |                            |               |
| 1200      | 122      | 12.5 × 35.5 | 0.031 | 0.078                       | 2180                 | 1920           | 16 × 25                    | 0.041         | 0.10                        | 1980                 | 1740           |                            |               |
| 1500      | 152      | 12.5 × 40   | 0.029 | 0.073                       | 2360                 | 2120           | 18 × 20                    | 0.040         | 0.10                        | 2050                 | 1840           |                            |               |
| 1800      | 182      | 16 × 31.5   | 0.027 | 0.068                       | 2470                 | 2220           | 18 × 25                    | 0.034         | 0.085                       | 2290                 | 2060           |                            |               |
| 2200      | 222      | 16 × 35.5   | 0.024 | 0.060                       | 2680                 | 2410           | 18 × 31.5                  | 0.028         | 0.070                       | 2490                 | 2240           |                            |               |
| 2700      | 272      | 16 × 40     | 0.022 | 0.055                       | 2900                 | 2610           | 18 × 35.5                  | 0.026         | 0.065                       | 2690                 | 2420           |                            |               |
| 3300      | 332      | 18 × 40     | 0.021 | 0.053                       | 3040                 | 2730           |                            |               |                             |                      |                |                            |               |

| Cap. (μF) | V (Code) | Size code   | Item  | 50 (1H)                     |                      |                |                         |               |                             |                      |                |                         |               |
|-----------|----------|-------------|-------|-----------------------------|----------------------|----------------|-------------------------|---------------|-----------------------------|----------------------|----------------|-------------------------|---------------|
|           |          |             |       | —                           |                      |                |                         | 6             |                             |                      |                |                         |               |
|           |          |             |       | Case size<br>φD × L<br>(mm) | Impedance ( Ω ) MAX. |                | Rated ripple (mArms)    |               | Case size<br>φD × L<br>(mm) | Impedance ( Ω ) MAX. |                | Rated ripple (mArms)    |               |
|           |          |             |       |                             | 20°C / 100kHz        | −10°C / 100kHz | 105°C / 10kHz to 200kHz | 105°C / 120Hz |                             | 20°C / 100kHz        | −10°C / 100kHz | 105°C / 10kHz to 200kHz | 105°C / 120Hz |
| 0.47      | R47      | 5 × 11      | 31.0  | 80.0                        | 22                   | 11             |                         |               |                             |                      |                |                         |               |
| 0.68      | R68      | 5 × 11      | 21.0  | 55.0                        | 28                   | 14             |                         |               |                             |                      |                |                         |               |
| 1         | 010      | 5 × 11      | 14.0  | 38.0                        | 36                   | 18             |                         |               |                             |                      |                |                         |               |
| 1.5       | 1R5      | 5 × 11      | 9.80  | 28.0                        | 45                   | 22             |                         |               |                             |                      |                |                         |               |
| 2.2       | 2R2      | 5 × 11      | 6.50  | 18.0                        | 54                   | 27             |                         |               |                             |                      |                |                         |               |
| 3.3       | 3R3      | 5 × 11      | 4.60  | 12.0                        | 66                   | 33             |                         |               |                             |                      |                |                         |               |
| 4.7       | 4R7      | 5 × 11      | 3.10  | 7.80                        | 81                   | 40             |                         |               |                             |                      |                |                         |               |
| 6.8       | 6R8      | 5 × 11      | 2.50  | 6.30                        | 91                   | 45             |                         |               |                             |                      |                |                         |               |
| 10        | 100      | 5 × 11      | 2.00  | 5.00                        | 115                  | 57             |                         |               |                             |                      |                |                         |               |
| 12        | 120      | 5 × 11      | 1.70  | 4.30                        | 125                  | 62             |                         |               |                             |                      |                |                         |               |
| 15        | 150      | 5 × 11      | 1.30  | 3.30                        | 145                  | 72             |                         |               |                             |                      |                |                         |               |
| 18        | 180      | 5 × 11      | 1.10  | 2.80                        | 155                  | 79             |                         |               |                             |                      |                |                         |               |
| 22        | 220      | 6.3 × 11    | 0.91  | 2.30                        | 195                  | 100            |                         |               |                             |                      |                |                         |               |
| 27        | 270      | 6.3 × 11    | 0.74  | 1.90                        | 215                  | 115            |                         |               |                             |                      |                |                         |               |
| 33        | 330      | 6.3 × 11    | 0.60  | 1.50                        | 240                  | 135            |                         |               |                             |                      |                |                         |               |
| 39        | 390      | 6.3 × 11    | 0.50  | 1.30                        | 260                  | 150            |                         |               |                             |                      |                |                         |               |
| 47        | 470      | 6.3 × 15    | 0.42  | 1.10                        | 330                  | 195            |                         |               |                             |                      |                |                         |               |
| 56        | 560      | 6.3 × 15    | 0.35  | 0.88                        | 360                  | 220            |                         |               |                             |                      |                |                         |               |
| 68        | 680      | 8 × 11.5    | 0.28  | 0.70                        | 410                  | 255            |                         |               |                             |                      |                |                         |               |
| 82        | 820      | 8 × 15      | 0.22  | 0.55                        | 500                  | 320            | 10 × 12.5               | 0.23          | 0.58                        | 510                  | 330            |                         |               |
| 100       | 101      | 8 × 20      | 0.18  | 0.45                        | 620                  | 410            | 10 × 15                 | 0.21          | 0.53                        | 580                  | 385            |                         |               |
| 120       | 121      | 8 × 20      | 0.16  | 0.40                        | 670                  | 455            | 10 × 15                 | 0.17          | 0.43                        | 640                  | 435            |                         |               |
| 150       | 151      | 10 × 20     | 0.13  | 0.33                        | 820                  | 570            | 12.5 × 15               | 0.14          | 0.35                        | 785                  | 545            |                         |               |
| 180       | 181      | 10 × 20     | 0.11  | 0.28                        | 890                  | 635            | 12.5 × 15               | 0.12          | 0.31                        | 845                  | 605            |                         |               |
| 220       | 221      | 10 × 25     | 0.098 | 0.25                        | 1040                 | 760            | 12.5 × 15               | 0.10          | 0.25                        | 920                  | 670            |                         |               |
| 270       | 271      | 10 × 31.5   | 0.085 | 0.21                        | 1200                 | 900            | 16 × 15                 | 0.091         | 0.23                        | 1120                 | 840            |                         |               |
| 330       | 331      | 10 × 31.5   | 0.072 | 0.18                        | 1300                 | 995            | 16 × 15                 | 0.078         | 0.20                        | 1210                 | 925            |                         |               |
| 390       | 391      | 12.5 × 25   | 0.053 | 0.13                        | 1440                 | 1120           | 16 × 15                 | 0.072         | 0.18                        | 1270                 | 990            |                         |               |
| 470       | 471      | 12.5 × 25   | 0.048 | 0.12                        | 1500                 | 1190           | 18 × 15                 | 0.060         | 0.15                        | 1470                 | 1170           |                         |               |
| 560       | 561      | 12.5 × 31.5 | 0.040 | 0.10                        | 1680                 | 1360           | 16 × 20                 | 0.053         | 0.13                        | 1550                 | 1260           |                         |               |
| 680       | 681      | 12.5 × 35.5 | 0.036 | 0.090                       | 1850                 | 1530           | 16 × 20                 | 0.048         | 0.12                        | 1630                 | 1350           |                         |               |
| 820       | 821      | 12.5 × 40   | 0.033 | 0.083                       | 2010                 | 1700           | 18 × 20                 | 0.043         | 0.11                        | 1810                 | 1530           |                         |               |
| 1000      | 102      | 16 × 31.5   | 0.030 | 0.075                       | 2120                 | 1830           | 18 × 25                 | 0.036         | 0.090                       | 2000                 | 1730           |                         |               |
| 1200      | 122      | 16 × 35.5   | 0.028 | 0.070                       | 2260                 | 1990           | 18 × 31.5               | 0.031         | 0.078                       | 2140                 | 1880           |                         |               |
| 1500      | 152      | 16 × 40     | 0.026 | 0.065                       | 2410                 | 2170           | 18 × 31.5               | 0.029         | 0.073                       | 2220                 | 1990           |                         |               |
| 1800      | 182      | 18 × 35.5   | 0.025 | 0.063                       | 2460                 | 2210           |                         |               |                             |                      |                |                         |               |
| 2200      | 222      | 18 × 40     | 0.024 | 0.060                       | 2560                 | 2300           |                         |               |                             |                      |                |                         |               |

※ In case of low profile type, [6] will be put at 12th digit of type numbering system.

## ■ Standard Ratings

| Cap. (μF) | V (Code) | Size code | Item        | 63 (1J)                     |                    |                |                         |               |                             |                    |                |                         |               |
|-----------|----------|-----------|-------------|-----------------------------|--------------------|----------------|-------------------------|---------------|-----------------------------|--------------------|----------------|-------------------------|---------------|
|           |          |           |             | —                           |                    |                |                         | 6             |                             |                    |                |                         |               |
|           |          |           |             | Case size<br>φD × L<br>(mm) | Impedance (Ω) MAX. |                | Rated ripple (mAmps)    |               | Case size<br>φD × L<br>(mm) | Impedance (Ω) MAX. |                | Rated ripple (mAmps)    |               |
|           |          |           |             |                             | 20°C / 100kHz      | −10°C / 100kHz | 105°C / 10kHz to 200kHz | 105°C / 120Hz |                             | 20°C / 100kHz      | −10°C / 100kHz | 105°C / 10kHz to 200kHz | 105°C / 120Hz |
| 10        | 100      |           | 5 × 11      | 1.60                        | 4.00               |                | 135                     | 67            |                             |                    |                |                         |               |
| 12        | 120      |           | 5 × 11      | 1.40                        | 3.50               |                | 145                     | 72            |                             |                    |                |                         |               |
| 15        | 150      |           | 6.3 × 11    | 1.10                        | 2.80               |                | 185                     | 92            |                             |                    |                |                         |               |
| 18        | 180      |           | 6.3 × 11    | 0.95                        | 2.40               |                | 195                     | 100           |                             |                    |                |                         |               |
| 22        | 220      |           | 6.3 × 11    | 0.78                        | 2.00               |                | 215                     | 110           |                             |                    |                |                         |               |
| 27        | 270      |           | 6.3 × 11    | 0.64                        | 1.60               |                | 240                     | 130           |                             |                    |                |                         |               |
| 33        | 330      |           | 6.3 × 15    | 0.52                        | 1.30               |                | 305                     | 170           |                             |                    |                |                         |               |
| 39        | 390      |           | 6.3 × 15    | 0.45                        | 1.10               |                | 330                     | 190           |                             |                    |                |                         |               |
| 47        | 470      |           | 8 × 11.5    | 0.37                        | 0.93               |                | 365                     | 215           |                             |                    |                |                         |               |
| 56        | 560      |           | 8 × 15      | 0.31                        | 0.78               |                | 450                     | 275           | 10 × 12.5                   | 0.34               | 0.85           | 450                     | 275           |
| 68        | 680      |           | 8 × 15      | 0.26                        | 0.65               |                | 500                     | 315           | 10 × 12.5                   | 0.28               | 0.70           | 495                     | 310           |
| 82        | 820      |           | 8 × 20      | 0.22                        | 0.55               |                | 600                     | 385           | 10 × 15                     | 0.24               | 0.60           | 580                     | 375           |
| 100       | 101      |           | 10 × 20     | 0.18                        | 0.45               |                | 750                     | 495           | 12.5 × 15                   | 0.20               | 0.50           | 695                     | 460           |
| 120       | 121      |           | 10 × 20     | 0.15                        | 0.38               |                | 820                     | 555           | 12.5 × 15                   | 0.18               | 0.45           | 750                     | 510           |
| 150       | 151      |           | 10 × 25     | 0.13                        | 0.33               |                | 950                     | 665           | 12.5 × 15                   | 0.14               | 0.35           | 845                     | 590           |
| 180       | 181      |           | 10 × 31.5   | 0.11                        | 0.28               |                | 1110                    | 790           | 16 × 15                     | 0.12               | 0.30           | 1050                    | 750           |
| 220       | 221      |           | 12.5 × 20   | 0.094                       | 0.24               |                | 1140                    | 835           | 16 × 15                     | 0.10               | 0.25           | 1120                    | 820           |
| 270       | 271      |           | 12.5 × 25   | 0.081                       | 0.20               |                | 1340                    | 1000          | 18 × 15                     | 0.088              | 0.22           | 1290                    | 965           |
| 330       | 331      |           | 12.5 × 25   | 0.072                       | 0.18               |                | 1420                    | 1090          | 18 × 15                     | 0.078              | 0.20           | 1410                    | 1080          |
| 390       | 391      |           | 12.5 × 31.5 | 0.059                       | 0.15               |                | 1620                    | 1260          | 16 × 20                     | 0.070              | 0.18           | 1500                    | 1170          |
| 470       | 471      |           | 12.5 × 35.5 | 0.052                       | 0.13               |                | 1780                    | 1420          | 16 × 25                     | 0.063              | 0.16           | 1700                    | 1350          |
| 560       | 561      |           | 12.5 × 40   | 0.047                       | 0.12               |                | 1950                    | 1580          | 18 × 20                     | 0.058              | 0.15           | 1730                    | 1400          |
| 680       | 681      |           | 16 × 31.5   | 0.043                       | 0.11               |                | 2050                    | 1700          | 18 × 25                     | 0.051              | 0.13           | 1940                    | 1610          |
| 820       | 821      |           | 16 × 35.5   | 0.040                       | 0.10               |                | 2220                    | 1880          | 18 × 31.5                   | 0.043              | 0.12           | 2110                    | 1780          |
| 1000      | 102      |           | 16 × 40     | 0.037                       | 0.093              |                | 2370                    | 2050          | 18 × 35.5                   | 0.040              | 0.10           | 2280                    | 1970          |
| 1200      | 122      |           | 18 × 40     | 0.034                       | 0.085              |                | 2510                    | 2210          |                             |                    |                |                         |               |

| Cap. (μF) | V (Code) | Size code | Item        | 80 (1K)                     |                    |                |                         |               |                             |                    |                |                         |               |
|-----------|----------|-----------|-------------|-----------------------------|--------------------|----------------|-------------------------|---------------|-----------------------------|--------------------|----------------|-------------------------|---------------|
|           |          |           |             | —                           |                    |                |                         | 6             |                             |                    |                |                         |               |
|           |          |           |             | Case size<br>φD × L<br>(mm) | Impedance (Ω) MAX. |                | Rated ripple (mAmps)    |               | Case size<br>φD × L<br>(mm) | Impedance (Ω) MAX. |                | Rated ripple (mAmps)    |               |
|           |          |           |             |                             | 20°C / 100kHz      | −10°C / 100kHz | 105°C / 10kHz to 200kHz | 105°C / 120Hz |                             | 20°C / 100kHz      | −10°C / 100kHz | 105°C / 10kHz to 200kHz | 105°C / 120Hz |
| 4.7       | 4R7      |           | 5 × 11      | 4.20                        | 11.00              |                | 53                      | 26            |                             |                    |                |                         |               |
| 6.8       | 6R8      |           | 5 × 11      | 2.60                        | 7.00               |                | 68                      | 34            |                             |                    |                |                         |               |
| 10        | 100      |           | 6.3 × 11    | 1.70                        | 4.60               |                | 87                      | 43            |                             |                    |                |                         |               |
| 12        | 120      |           | 6.3 × 11    | 1.40                        | 3.80               |                | 96                      | 48            |                             |                    |                |                         |               |
| 15        | 150      |           | 6.3 × 11    | 1.20                        | 3.20               |                | 104                     | 52            |                             |                    |                |                         |               |
| 18        | 180      |           | 6.3 × 11    | 1.00                        | 2.70               |                | 114                     | 58            |                             |                    |                |                         |               |
| 22        | 220      |           | 6.3 × 15    | 0.77                        | 2.10               |                | 135                     | 71            |                             |                    |                |                         |               |
| 27        | 270      |           | 6.3 × 15    | 0.63                        | 1.70               |                | 149                     | 80            |                             |                    |                |                         |               |
| 33        | 330      |           | 8 × 11.5    | 0.53                        | 1.40               |                | 234                     | 132           |                             |                    |                |                         |               |
| 39        | 390      |           | 8 × 15      | 0.46                        | 1.20               |                | 272                     | 156           | 10 × 12.5                   | 0.49               | 1.30           | 271                     | 155           |
| 47        | 470      |           | 8 × 15      | 0.39                        | 1.10               |                | 295                     | 175           | 10 × 12.5                   | 0.42               | 1.10           | 293                     | 174           |
| 56        | 560      |           | 8 × 20      | 0.34                        | 0.92               |                | 347                     | 208           | 10 × 15                     | 0.36               | 0.97           | 337                     | 202           |
| 68        | 680      |           | 10 × 20     | 0.28                        | 0.76               |                | 426                     | 264           | 12.5 × 15                   | 0.31               | 0.84           | 402                     | 249           |
| 82        | 820      |           | 10 × 20     | 0.25                        | 0.68               |                | 447                     | 284           | 12.5 × 15                   | 0.27               | 0.73           | 430                     | 273           |
| 100       | 101      |           | 10 × 25     | 0.21                        | 0.57               |                | 526                     | 347           | 12.5 × 15                   | 0.23               | 0.62           | 466                     | 308           |
| 120       | 121      |           | 10 × 31.5   | 0.18                        | 0.49               |                | 606                     | 406           | 16 × 15                     | 0.20               | 0.54           | 663                     | 444           |
| 150       | 151      |           | 10 × 31.5   | 0.15                        | 0.41               |                | 663                     | 459           | 16 × 15                     | 0.18               | 0.47           | 699                     | 484           |
| 180       | 181      |           | 12.5 × 25   | 0.13                        | 0.35               |                | 734                     | 520           | 16 × 15                     | 0.15               | 0.41           | 766                     | 543           |
| 220       | 221      |           | 12.5 × 31.5 | 0.12                        | 0.32               |                | 816                     | 595           | 18 × 15                     | 0.13               | 0.35           | 881                     | 643           |
| 270       | 271      |           | 12.5 × 31.5 | 0.10                        | 0.27               |                | 894                     | 667           | 16 × 20                     | 0.11               | 0.30           | 995                     | 742           |
| 330       | 331      |           | 12.5 × 35.5 | 0.088                       | 0.24               |                | 1000                    | 767           | 16 × 25                     | 0.099              | 0.27           | 1140                    | 874           |
| 390       | 391      |           | 12.5 × 40   | 0.078                       | 0.21               |                | 1060                    | 822           | 18 × 20                     | 0.089              | 0.24           | 1170                    | 908           |
| 470       | 471      |           | 16 × 31.5   | 0.069                       | 0.19               |                | 1450                    | 1150          | 18 × 25                     | 0.080              | 0.22           | 1330                    | 1060          |
| 560       | 561      |           | 16 × 35.5   | 0.062                       | 0.17               |                | 1600                    | 1300          | 18 × 31.5                   | 0.072              | 0.19           | 1490                    | 1210          |
| 680       | 681      |           | 16 × 40     | 0.055                       | 0.15               |                | 1770                    | 1470          | 18 × 31.5                   | 0.065              | 0.18           | 1560                    | 1300          |
| 820       | 821      |           | 18 × 35.5   | 0.049                       | 0.13               |                | 1890                    | 1590          |                             |                    |                |                         |               |
| 1000      | 102      |           | 18 × 40     | 0.044                       | 0.12               |                | 2080                    | 1790          |                             |                    |                |                         |               |

※ In case of low profile type, [6] will be put at 12th digit of type numbering system.

## ■ Standard Ratings

| Cap. (μF) | Code | Item        | 100 (2A)                    |                    |                |                            |               |                             |                    |                |                            |               |
|-----------|------|-------------|-----------------------------|--------------------|----------------|----------------------------|---------------|-----------------------------|--------------------|----------------|----------------------------|---------------|
|           |      |             | —                           |                    |                |                            |               | 6                           |                    |                |                            |               |
|           |      |             | Case size<br>φD × L<br>(mm) | Impedance (Ω) MAX. |                | Rated ripple (mAmps)       |               | Case size<br>φD × L<br>(mm) | Impedance (Ω) MAX. |                | Rated ripple (mAmps)       |               |
|           |      |             |                             | 20°C / 100kHz      | −10°C / 100kHz | 105°C / 10kHz to<br>200kHz | 105°C / 120Hz |                             | 20°C / 100kHz      | −10°C / 100kHz | 105°C / 10kHz to<br>200kHz | 105°C / 120Hz |
| 0.47      | R47  | 5 × 11      | 5 × 11                      | 43.0               | 116.0          | 17                         | 8             |                             |                    |                |                            |               |
| 0.68      | R68  | 5 × 11      | 5 × 11                      | 23.0               | 62.0           | 23                         | 11            |                             |                    |                |                            |               |
| 1         | 010  | 5 × 11      | 5 × 11                      | 17.0               | 46.0           | 27                         | 13            |                             |                    |                |                            |               |
| 1.5       | 1R5  | 5 × 11      | 5 × 11                      | 10.0               | 27.0           | 35                         | 17            |                             |                    |                |                            |               |
| 2.2       | 2R2  | 5 × 11      | 5 × 11                      | 6.60               | 18.0           | 43                         | 21            |                             |                    |                |                            |               |
| 3.3       | 3R3  | 5 × 11      | 5 × 11                      | 4.10               | 11.0           | 54                         | 27            |                             |                    |                |                            |               |
| 4.7       | 4R7  | 6.3 × 11    | 6.3 × 11                    | 2.80               | 7.60           | 68                         | 34            |                             |                    |                |                            |               |
| 6.8       | 6R8  | 6.3 × 11    | 6.3 × 11                    | 1.90               | 5.10           | 83                         | 41            |                             |                    |                |                            |               |
| 10        | 100  | 6.3 × 11    | 6.3 × 11                    | 1.20               | 3.20           | 104                        | 52            |                             |                    |                |                            |               |
| 12        | 120  | 6.3 × 11    | 6.3 × 11                    | 1.00               | 2.70           | 114                        | 57            |                             |                    |                |                            |               |
| 15        | 150  | 6.3 × 15    | 6.3 × 15                    | 0.81               | 2.20           | 131                        | 65            |                             |                    |                |                            |               |
| 18        | 180  | 6.3 × 15    | 6.3 × 15                    | 0.67               | 1.80           | 155                        | 80            |                             |                    |                |                            |               |
| 22        | 220  | 8 × 11.5    | 8 × 11.5                    | 0.55               | 1.50           | 230                        | 122           |                             |                    |                |                            |               |
| 27        | 270  | 8 × 15      | 8 × 15                      | 0.47               | 1.30           | 269                        | 146           | 10 × 12.5                   | 0.50               | 1.40           | 268                        | 145           |
| 33        | 330  | 8 × 15      | 8 × 15                      | 0.38               | 1.00           | 299                        | 169           | 10 × 12.5                   | 0.42               | 1.10           | 293                        | 166           |
| 39        | 390  | 8 × 20      | 8 × 20                      | 0.33               | 0.89           | 352                        | 202           | 10 × 15                     | 0.36               | 0.97           | 337                        | 193           |
| 47        | 470  | 10 × 20     | 10 × 20                     | 0.28               | 0.76           | 423                        | 252           | 12.5 × 15                   | 0.31               | 0.84           | 402                        | 239           |
| 56        | 560  | 10 × 20     | 10 × 20                     | 0.24               | 0.65           | 456                        | 274           | 12.5 × 15                   | 0.27               | 0.73           | 430                        | 258           |
| 68        | 680  | 10 × 25     | 10 × 25                     | 0.21               | 0.57           | 526                        | 326           | 12.5 × 15                   | 0.23               | 0.62           | 466                        | 289           |
| 82        | 820  | 10 × 31.5   | 10 × 31.5                   | 0.18               | 0.49           | 606                        | 386           | 16 × 15                     | 0.19               | 0.51           | 681                        | 433           |
| 100       | 101  | 10 × 31.5   | 10 × 31.5                   | 0.15               | 0.41           | 663                        | 438           | 16 × 15                     | 0.17               | 0.46           | 719                        | 475           |
| 120       | 121  | 12.5 × 25   | 12.5 × 25                   | 0.13               | 0.35           | 774                        | 519           | 16 × 15                     | 0.14               | 0.38           | 793                        | 531           |
| 150       | 151  | 12.5 × 25   | 12.5 × 25                   | 0.11               | 0.30           | 798                        | 553           | 18 × 15                     | 0.12               | 0.32           | 917                        | 635           |
| 180       | 181  | 12.5 × 31.5 | 12.5 × 31.5                 | 0.098              | 0.26           | 904                        | 641           | 16 × 20                     | 0.11               | 0.30           | 995                        | 706           |
| 220       | 221  | 12.5 × 35.5 | 12.5 × 35.5                 | 0.087              | 0.23           | 1000                       | 730           | 16 × 25                     | 0.093              | 0.25           | 1170                       | 854           |
| 270       | 271  | 12.5 × 40   | 12.5 × 40                   | 0.072              | 0.19           | 1130                       | 843           | 18 × 20                     | 0.080              | 0.22           | 1230                       | 918           |
| 330       | 331  | 16 × 31.5   | 16 × 31.5                   | 0.062              | 0.17           | 1520                       | 1160          | 18 × 25                     | 0.070              | 0.19           | 1420                       | 1080          |
| 390       | 391  | 16 × 35.5   | 16 × 35.5                   | 0.053              | 0.14           | 1730                       | 1340          | 18 × 31.5                   | 0.062              | 0.17           | 1600                       | 1240          |
| 470       | 471  | 16 × 40     | 16 × 40                     | 0.047              | 0.13           | 1920                       | 1530          | 18 × 35.5                   | 0.056              | 0.15           | 1770                       | 1410          |
| 560       | 561  | 18 × 35.5   | 18 × 35.5                   | 0.041              | 0.11           | 2070                       | 1680          |                             |                    |                |                            |               |
| 680       | 681  | 18 × 40     | 18 × 40                     | 0.036              | 0.097          | 2300                       | 1910          |                             |                    |                |                            |               |

※ In case of low profile type, [6] will be put at 12th digit of type numbering system.

| Cap. (μF) | Code | 160       |     | 200       |     | 250       |     | 315       |     | 350       |     | 400       |     | 450       |     |
|-----------|------|-----------|-----|-----------|-----|-----------|-----|-----------|-----|-----------|-----|-----------|-----|-----------|-----|
|           |      | 2C        |     | 2D        |     | 2E        |     | 2F        |     | 2V        |     | 2G        |     | 2W        |     |
| 1         | 010  | 8 × 11.5  | 19  | 8 × 11.5  | 19  | 8 × 11.5  | 19  | 8 × 11.5  | 19  | 10 × 12.5 | 21  | 10 × 12.5 | 17  | 10 × 15   | 17  |
| 2.2       | 2R2  | 8 × 11.5  | 30  | 8 × 11.5  | 30  | 10 × 12.5 | 32  | 10 × 12.5 | 32  | 10 × 15   | 34  | 10 × 15   | 28  | 10 × 20   | 28  |
| 3.3       | 3R3  | 10 × 12.5 | 50  | 10 × 12.5 | 50  | 10 × 15   | 52  | 10 × 15   | 52  | 10 × 20   | 54  | 10 × 20   | 47  | 12.5 × 20 | 48  |
| 4.7       | 4R7  | 10 × 12.5 | 57  | 10 × 15   | 60  | 10 × 15   | 60  | 10 × 20   | 65  | 10 × 20   | 65  | 12.5 × 20 | 55  | 12.5 × 25 | 55  |
| 10        | 100  | 10 × 15   | 90  | 10 × 20   | 95  | 12.5 × 20 | 98  | 12.5 × 20 | 98  | 12.5 × 25 | 100 | 12.5 × 25 | 85  | 16 × 25   | 90  |
| 22        | 220  | 12.5 × 20 | 140 | 12.5 × 25 | 145 | 16 × 25   | 150 | 16 × 25   | 150 | 16 × 25   | 150 | 16 × 31.5 | 130 | 16 × 35.5 | 135 |
| 33        | 330  | 12.5 × 25 | 175 | 16 × 25   | 180 | 16 × 25   | 180 | 16 × 31.5 | 185 | 16 × 35.5 | 190 | 18 × 35.5 | 170 | 18 × 40   | 170 |
| 47        | 470  | 16 × 25   | 220 | 16 × 25   | 220 | 16 × 31.5 | 225 | 18 × 35.5 | 235 | 18 × 40   | 240 |           |     |           |     |
| 100       | 101  | 16 × 35.5 | 330 | 18 × 40   | 345 | 18 × 40   | 345 |           |     |           |     |           |     | Case size | ※ 1 |

※ 1 Rated ripple current (mAmps) at 105°C 120Hz