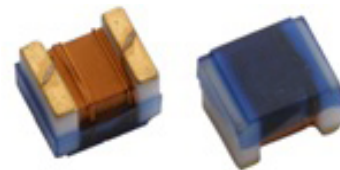


# HIGH CURRENT CERAMIC WIRE WOUND INDUCTORS

AISC-0603HP



RoHS/RoHS II Compliant



1.80 x 1.12 x 1.02mm

## FEATURES:

- Higher Q and lower DCR than other 0603 inductors
- Very high SRF – as high as 8.5 GHz
- Excellent current handling capability – up to 2100mA
- Wide range of Inductance values available for flexible needs
- Tight tolerance of 2% is available.

## APPLICATIONS:

- Widely used in communications applications such as cell phones, cable modems, ADSL, repeaters.
- Bluetooth, W-LAN, GPS, Broadband Network
- Video cameras, liquid crystal television, and other electronic devices
- Suitable for RF circuit

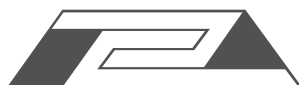
## ELECTRICAL SPECIFICATIONS:

### PARAMETERS

|                        |                                              |
|------------------------|----------------------------------------------|
| ABRACON P/N:           | AISC-0603HP Series                           |
| Operating temperature: | -40°C to +125°C                              |
| Storage temperature:   | -10°C to +40°C, 20% to 70% RH in Tape & Reel |

| Part Number<br>AISC-0603HP-<br>Inductance Code | Inductance | Tolerance | Min.<br>Quality<br>Factor | L/Q Test<br>Freq. | Typ.<br>Quality<br>Factor @<br>250MHz<br>/900MHz | Max. DC<br>Resistance | Max. Rated<br>Current | Min. Self-resonant<br>Frequency |
|------------------------------------------------|------------|-----------|---------------------------|-------------------|--------------------------------------------------|-----------------------|-----------------------|---------------------------------|
| Units                                          | nH         | -         | -                         | MHz               |                                                  | Ω                     | mA                    | MHz                             |
| Symbol                                         | L          | -         | Q                         | Freq.             |                                                  | DCR                   | Ir                    | S.R.F                           |
| AISC-0603HP-1N7                                | 1.7        | B, S      | 24                        | 250               | 31/50                                            | 0.033                 | 2100                  | 8500                            |
| AISC-0603HP-2N2                                | 2.2        | B, S      | 13                        | 250               | 15/27                                            | 0.150                 | 900                   | 7000                            |
| AISC-0603HP-3N3                                | 3.3        | B, S      | 35                        | 250               | 37/64                                            | 0.035                 | 1700                  | 6900                            |
| AISC-0603HP-3N6                                | 3.6        | B, S      | 35                        | 250               | 42/67                                            | 0.035                 | 1700                  | 6900                            |
| AISC-0603HP-3N9                                | 3.9        | B, S      | 30                        | 250               | 39/62                                            | 0.039                 | 1600                  | 6900                            |
| AISC-0603HP-4N3                                | 4.3        | B, S      | 30                        | 250               | 40/64                                            | 0.045                 | 1500                  | 6000                            |
| AISC-0603HP-4N7                                | 4.7        | B, S      | 22                        | 250               | 29/50                                            | 0.090                 | 1100                  | 5800                            |
| AISC-0603HP-5N1                                | 5.1        | B, J, K   | 20                        | 250               | 27/46                                            | 0.108                 | 1000                  | 5700                            |
| AISC-0603HP-6N2                                | 6.2        | B, J, K   | 35                        | 250               | 44/68                                            | 0.050                 | 1400                  | 5800                            |
| AISC-0603HP-6N8                                | 6.8        | B, J, K   | 35                        | 250               | 50/79                                            | 0.050                 | 1400                  | 5800                            |
| AISC-0603HP-7N2                                | 7.2        | B, J, K   | 35                        | 250               | 47/71                                            | 0.052                 | 1400                  | 4800                            |
| AISC-0603HP-7N5                                | 7.5        | B, J, K   | 35                        | 250               | 46/74                                            | 0.070                 | 1300                  | 4800                            |
| AISC-0603HP-8N2                                | 8.2        | B, J, K   | 35                        | 250               | 45/69                                            | 0.054                 | 1400                  | 4300                            |
| AISC-0603HP-8N7                                | 8.7        | B, J, K   | 30                        | 250               | 38/61                                            | 0.100                 | 1000                  | 4600                            |
| AISC-0603HP-9N1                                | 9.1        | J, K      | 28                        | 250               | 35/57                                            | 0.108                 | 1000                  | 4300                            |
| AISC-0603HP-9N5                                | 9.5        | J, K      | 35                        | 250               | 50/76                                            | 0.060                 | 1350                  | 5000                            |
| AISC-0603HP-10N                                | 10         | G, J, K   | 35                        | 250               | 50/82                                            | 0.060                 | 1350                  | 4800                            |
| AISC-0603HP-11N                                | 11         | G, J, K   | 35                        | 250               | 54/82                                            | 0.060                 | 1350                  | 4200                            |
| AISC-0603HP-12N                                | 12         | G, J, K   | 35                        | 250               | 52/80                                            | 0.078                 | 1200                  | 4000                            |
| AISC-0603HP-15N                                | 15         | G, J, K   | 38                        | 250               | 54/83                                            | 0.085                 | 1100                  | 4000                            |
| AISC-0603HP-16N                                | 16         | G, J, K   | 38                        | 250               | 53/78                                            | 0.085                 | 1100                  | 3300                            |
| AISC-0603HP-18N                                | 18         | G, J, K   | 38                        | 250               | 51/71                                            | 0.078                 | 1200                  | 3100                            |
| AISC-0603HP-22N                                | 22         | G, J, K   | 40                        | 250               | 55/75                                            | 0.120                 | 950                   | 3000                            |
| AISC-0603HP-23N                                | 23         | G, J, K   | 40                        | 250               | 55/75                                            | 0.120                 | 950                   | 2850                            |
| AISC-0603HP-24N                                | 24         | G, J, K   | 40                        | 250               | 50/66                                            | 0.080                 | 1100                  | 2650                            |
| AISC-0603HP-27N                                | 27         | J, K      | 40                        | 250               | 53/68                                            | 0.125                 | 950                   | 2800                            |
| AISC-0603HP-30N                                | 30         | G, J, K   | 40                        | 250               | 55/66                                            | 0.130                 | 920                   | 2400                            |
| AISC-0603HP-33N                                | 33         | G, J, K   | 40                        | 250               | 51/55                                            | 0.170                 | 680                   | 2300                            |
| AISC-0603HP-36N                                | 36         | G, J, K   | 40                        | 250               | 55/63                                            | 0.150                 | 750                   | 2300                            |
| AISC-0603HP-39N                                | 39         | G, J, K   | 40                        | 250               | 55/58                                            | 0.180                 | 680                   | 2200                            |
| AISC-0603HP-43N                                | 43         | G, J, K   | 40                        | 250               | 52/53                                            | 0.170                 | 810                   | 2100                            |
| AISC-0603HP-47N                                | 47         | G, J, K   | 38                        | 200               | 51/50                                            | 0.200                 | 680                   | 2000                            |
| AISC-0603HP-51N                                | 51         | G, J, K   | 38                        | 200               | 50/46                                            | 0.250                 | 660                   | 1900                            |
| AISC-0603HP-56N                                | 56         | G, J, K   | 38                        | 200               | 53/46                                            | 0.230                 | 700                   | 1900                            |
| AISC-0603HP-68N                                | 68         | G, J, K   | 38                        | 200               | 50/39                                            | 0.280                 | 650                   | 1700                            |
| AISC-0603HP-72N                                | 72         | G, J, K   | 34                        | 150               | 50/38                                            | 0.350                 | 580                   | 1700                            |

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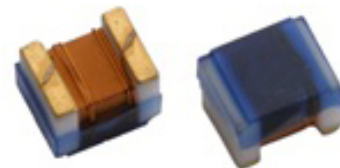
Revised: 04.06.13

# HIGH CURRENT CERAMIC WIRE WOUND INDUCTORS

AISC-0603HP



RoHS/RoHS II Compliant



1.80 x 1.12 x 1.02mm

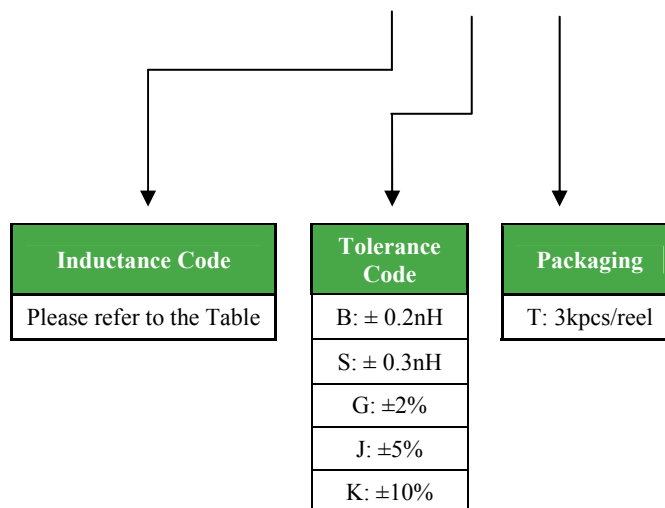
| Part Number<br>AISC-0603HP-<br>Inductance Code | Inductance | Tolerance | Min.<br>Quality<br>Factor | L/Q Test<br>Freq. | Typ.<br>Quality<br>Factor @<br>250MHz<br>/900MHz | Max. DC<br>Resistance | Max. Rated<br>Current | Min. Self-resonant<br>Frequency |
|------------------------------------------------|------------|-----------|---------------------------|-------------------|--------------------------------------------------|-----------------------|-----------------------|---------------------------------|
| Units                                          | nH         | -         | -                         | MHz               |                                                  | $\Omega$              | mA                    | MHz                             |
| Symbol                                         | L          | -         | Q                         | Freq.             |                                                  | DCR                   | Ir                    | S.R.F                           |
| AISC-0603HP-75N                                | 75         | G, J, K   | 34                        | 150               | 46/35                                            | 0.42                  | 550                   | 1700                            |
| AISC-0603HP-82N                                | 82         | G, J, K   | 34                        | 150               | 51/36                                            | 0.46                  | 510                   | 1600                            |
| AISC-0603HP-91N                                | 91         | G, J, K   | 34                        | 150               | 48/33                                            | 0.42                  | 550                   | 1500                            |
| AISC-0603HP-R10                                | 100        | G, J, K   | 34                        | 150               | 52/32                                            | 0.54                  | 470                   | 1400                            |
| AISC-0603HP-R11                                | 110        | G, J, K   | 33                        | 150               | 46/29                                            | 0.54                  | 470                   | 1350                            |
| AISC-0603HP-R12                                | 120        | G, J, K   | 33                        | 150               | 50/33                                            | 0.65                  | 420                   | 1300                            |
| AISC-0603HP-R15                                | 150        | G, J, K   | 30                        | 150               | 46/22                                            | 0.82                  | 390                   | 1150                            |
| AISC-0603HP-R18                                | 180        | G, J, K   | 28                        | 100               | 48/20                                            | 1.2                   | 320                   | 1050                            |
| AISC-0603HP-R20                                | 200        | G, J, K   | 28                        | 100               | 45/10                                            | 1.3                   | 310                   | 1000                            |
| AISC-0603HP-R21                                | 210        | G, J, K   | 28                        | 100               | 48/12                                            | 1.9                   | 280                   | 1000                            |
| AISC-0603HP-R22                                | 220        | G, J, K   | 28                        | 100               | 47/16                                            | 1.9                   | 280                   | 950                             |
| AISC-0603HP-R25                                | 250        | G, J, K   | 28                        | 100               | 46/-                                             | 2.0                   | 260                   | 900                             |
| AISC-0603HP-R27                                | 270        | G, J, K   | 28                        | 100               | 48/-                                             | 2.2                   | 260                   | 900                             |
| AISC-0603HP-R30                                | 300        | G, J, K   | 28                        | 100               | 44/-                                             | 2.7                   | 220                   | 780                             |
| AISC-0603HP-R33                                | 330        | G, J, K   | 28                        | 100               | 43/-                                             | 2.9                   | 200                   | 750                             |
| AISC-0603HP-R36                                | 360        | G, J, K   | 28                        | 100               | 45/-                                             | 3.8                   | 180                   | 720                             |
| AISC-0603HP-R39                                | 390        | G, J, K   | 28                        | 100               | 43/-                                             | 3.8                   | 180                   | 700                             |

## Test Conditions

1. Inductance is measured in HP-4287A RF LCR meter with HP-16193 fixture.
2. SRF is measured in ENA E5071B network analyzer
3. RDC is measured in HP-4338B milliohmeter.
4. Definition of Rated Current (Ir): Ir is direct electric current as chip surface temperature rose just 25oC against chip initial surface temperature (Ta)

## PART NUMBER IDENTIFICATION

AISC-0603HP-     -  

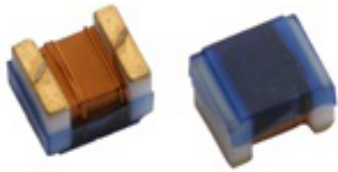


# HIGH CURRENT CERAMIC WIRE WOUND INDUCTORS

AISC-0603HP



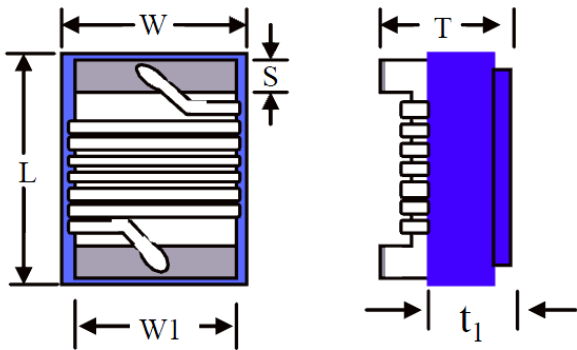
RoHS/RoHS II Compliant



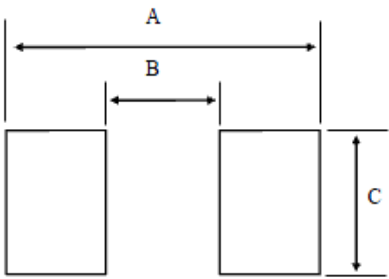
1.80 x 1.12 x 1.02mm



## OUTLINE DIMENSIONS



### Recommended Land Pattern



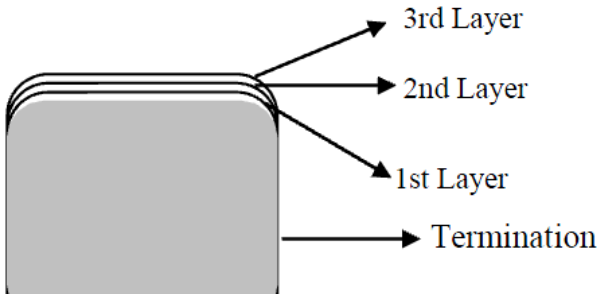
| L        | W        | T        | S           | W1       | t <sub>1</sub> |
|----------|----------|----------|-------------|----------|----------------|
| 1.80 max | 1.12 max | 1.02 max | 0.36 ± 0.10 | 0.76 ref | 0.50 ref       |

| A    | B    | C    |
|------|------|------|
| 1.92 | 0.64 | 1.27 |

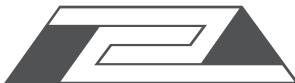
Dimension: mm



## ELECTRODE MATERIALS



| Components            | Material |
|-----------------------|----------|
| 1 <sup>st</sup> Layer | Ag/Pd    |
| 2 <sup>nd</sup> Layer | Nickel   |
| 3 <sup>rd</sup> Layer | Tin      |

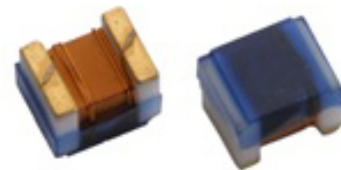


# HIGH CURRENT CERAMIC WIRE WOUND INDUCTORS

AISC-0603HP

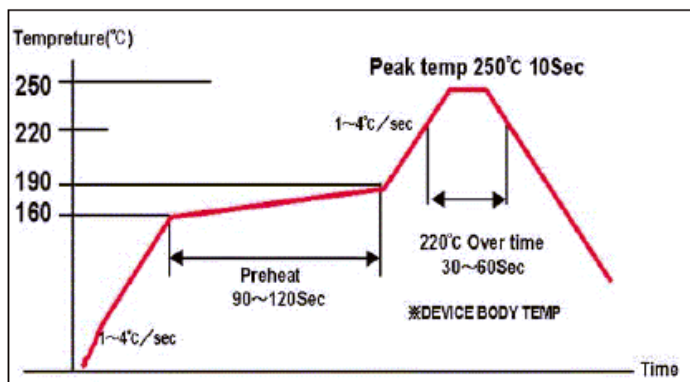


RoHS/RoHS II Compliant



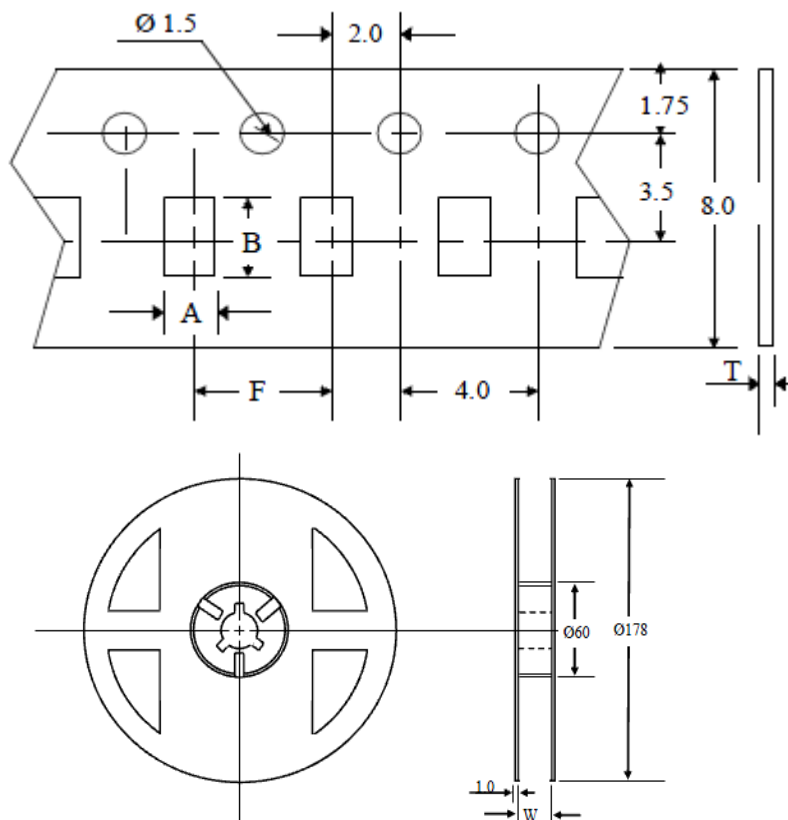
1.80 x 1.12 x 1.02mm

## REFLOW PROFILE



## TAPE & REEL:

T= tape and reel (3,000pcs/reel)



| A    | B    | F    | K    | T    | W    |
|------|------|------|------|------|------|
| 1.15 | 1.80 | 4.00 | 0.95 | 0.20 | 8.00 |

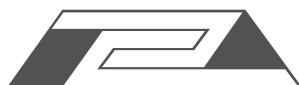
### Storage period

Use the product within 12 months after delivered. Solderability should be checked if this period is exceeded.

Dimension: mm

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