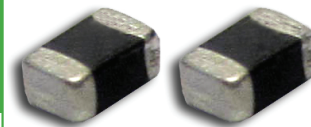


# MULTILAYER FERRITE CHIP INDUCTOR

AIML-0603

**RoHS**  
Compliant



1.6 x 0.8 x 0.8mm

## FEATURES:

- Monolithic structure for higher reliability, compact size, & lightweight
- Magnetically shielded design to eliminate cross coupling
- Excellent solderability and heat resistance for reflow soldering
- Perfect shape for PCB mounting with no polarity

## APPLICATIONS:

- Resonance circuit, traps and filter circuits
- RF choke for cordless phones and radio equipment
- Communications, video and audio equipment, computer and remote Control.

## STANDARD SPECIFICATIONS:

### PARAMETERS

|                        |                  |
|------------------------|------------------|
| ABRACON P/N:           | AIML-0603-xxx    |
| Operating temperature: | -55°C to + 125°C |
| Storage temperature:   | -55°C to + 125°C |

| Part No.      | L(μH)  | Tolerance | Q<br>(min) | Test Freq. | SRF(MHz) | DCR(Ω) | Ir(mA) |
|---------------|--------|-----------|------------|------------|----------|--------|--------|
|               |        | (%)       |            | (MHz)      | (min)    | (max)  | (max)  |
| AIML-0603-47N | 0.047  | J, K      | 15         | 50         | 600      | 0.20   | 50     |
| AIML-0603-56N | 0.056  | J, K      | 15         | 50         | 550      | 0.30   | 50     |
| AIML-0603-68N | 0.068  | J, K      | 15         | 50         | 500      | 0.30   | 50     |
| AIML-0603-82N | 0.082  | J, K      | 15         | 50         | 450      | 0.30   | 50     |
| AIML-0603-R10 | 0.100  | J, K      | 15         | 25         | 400      | 0.50   | 50     |
| AIML-0603-R12 | 0.120  | J, K      | 15         | 25         | 350      | 0.50   | 50     |
| AIML-0603-R15 | 0.150  | J, K      | 15         | 25         | 300      | 0.60   | 50     |
| AIML-0603-R18 | 0.180  | J, K      | 15         | 25         | 280      | 0.60   | 50     |
| AIML-0603-R22 | 0.220  | J, K      | 15         | 25         | 260      | 0.80   | 50     |
| AIML-0603-R27 | 0.270  | J, K      | 15         | 25         | 255      | 0.80   | 50     |
| AIML-0603-R33 | 0.330  | J, K      | 15         | 25         | 250      | 0.85   | 35     |
| AIML-0603-R39 | 0.390  | J, K      | 15         | 25         | 245      | 1.00   | 35     |
| AIML-0603-R47 | 0.470  | J, K      | 15         | 25         | 240      | 1.35   | 35     |
| AIML-0603-R56 | 0.560  | J, K      | 15         | 25         | 205      | 1.55   | 35     |
| AIML-0603-R68 | 0.680  | J, K      | 15         | 25         | 180      | 1.70   | 35     |
| AIML-0603-R82 | 0.820  | J, K      | 15         | 25         | 165      | 2.10   | 35     |
| AIML-0603-1R0 | 1.000  | J, K      | 35         | 10         | 125      | 0.60   | 25     |
| AIML-0603-1R2 | 1.200  | J, K      | 35         | 10         | 110      | 0.80   | 25     |
| AIML-0603-1R5 | 1.500  | J, K      | 35         | 10         | 105      | 0.80   | 25     |
| AIML-0603-1R8 | 1.800  | J, K      | 35         | 10         | 95       | 0.95   | 25     |
| AIML-0603-2R2 | 2.200  | J, K      | 35         | 10         | 90       | 1.15   | 15     |
| AIML-0603-2R7 | 2.700  | J, K      | 35         | 10         | 80       | 1.35   | 15     |
| AIML-0603-3R3 | 3.300  | J, K      | 35         | 10         | 70       | 1.55   | 15     |
| AIML-0603-3R9 | 3.900  | J, K      | 35         | 10         | 60       | 1.70   | 15     |
| AIML-0603-4R7 | 4.700  | J, K      | 35         | 10         | 50       | 2.10   | 15     |
| AIML-0603-5R6 | 5.600  | J, K      | 35         | 4          | 45       | 1.55   | 5      |
| AIML-0603-6R8 | 6.800  | J, K      | 35         | 4          | 40       | 1.70   | 5      |
| AIML-0603-8R2 | 8.200  | J, K      | 35         | 4          | 35       | 2.10   | 4      |
| AIML-0603-100 | 10.000 | J, K      | 35         | 2          | 33       | 2.55   | 3      |
| AIML-0603-120 | 12.000 | J, K      | 35         | 2          | 22       | 2.75   | 3      |
| AIML-0603-150 | 15.000 | J, K      | 20         | 1          | 20       | 1.70   | 1      |
| AIML-0603-180 | 18.000 | J, K      | 20         | 1          | 18       | 1.85   | 1      |
| AIML-0603-220 | 22.000 | J, K      | 20         | 1          | 15       | 2.10   | 1      |
| AIML-0603-270 | 27.000 | J, K      | 20         | 1          | 12       | 2.75   | 1      |

### Test Conditions and equipments

**L, Q:** HP4291 Impedance Analyzer

**DCR:** HP4263A LCR meter

**SRF:** HP4291 Impedance analyzer

**Ir:** HP4291 Impedance Analyzer, DC power HP6632 and Adapter HP16200. ΔL/L (initial) ≥ -5%

### Unless otherwise specified

**Temperature :** Ordinary Temperature (5 to 35°C)

**Humidity :** Ordinary Humidity (25 to 85% RH)

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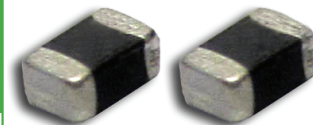
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**Revised: 01.26.12**

# MULTILAYER FERRITE CHIP INDUCTOR

AIML-0603

RoHS  
Compliant



1.6 x 0.8 x 0.8mm

## OPTIONS AND PART IDENTIFICATION:

AIML-0603-  - 

### Inductance Code

Please refer to the table above

### Tolerance

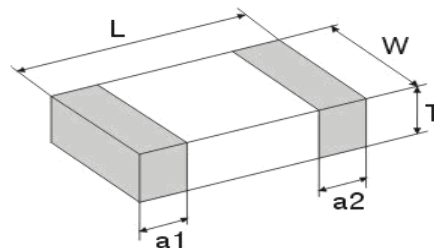
J:  $\pm 5\%$

K:  $\pm 10\%$

### Packaging

T: Tape and Reel (4kpcs / reel)

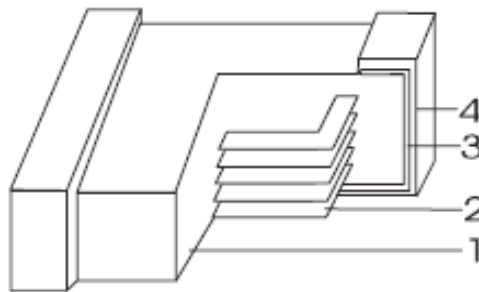
## OUTLINE DRAWING:



Dimension: mm [inch]

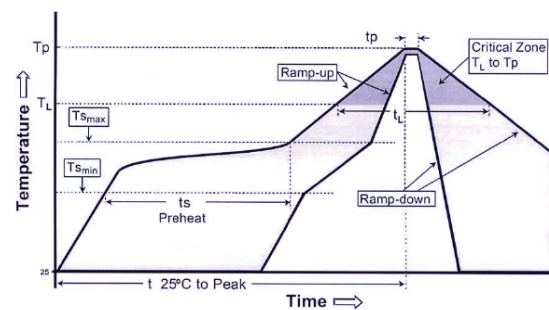
| Series    | L                                      | W                                      | T                                      | a1,a2                                  |
|-----------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| AIML-0603 | 1.60 $\pm$ 0.15<br>[0.063 $\pm$ 0.006] | 0.80 $\pm$ 0.15<br>[0.031 $\pm$ 0.006] | 0.80 $\pm$ 0.15<br>[0.031 $\pm$ 0.006] | 0.30 $\pm$ 0.20<br>[0.012 $\pm$ 0.008] |

## MATERIAL:



|   | Part Name          | Material                  |
|---|--------------------|---------------------------|
| 1 | Base Material      | Ferrite (Ni-Cu-Zn series) |
| 2 | Internal Conductor | Ag                        |
| 3 | Terminal Electrode | Ag                        |
| 4 | Terminal Electrode | Ni-Sn                     |

## REFLOW PROFILE:



| Profile Feature                                                                                                                                                          | Lead-Free Assembly                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Average Ramp-Up Rate (T <sub>lmax</sub> to T <sub>p</sub> )                                                                                                              | 3°C / second max.                  |
| Preheat<br>- Temperature Min (T <sub>lmin</sub> )<br>- Temperature Max (T <sub>lmax</sub> )<br>- Time (t <sub>lmin</sub> to t <sub>lmax</sub> ) min to t <sub>lmax</sub> | 150 °C<br>200 °C<br>60-180 seconds |
| Time maintained above:<br>- Temperature (T <sub>l</sub> )<br>- Time (t <sub>l</sub> )                                                                                    | 217 °C<br>60-150 seconds           |
| Peak/Classification Temperature (T <sub>p</sub> )<br>Peak/Classification Time (T <sub>p</sub> )                                                                          | 260 °C<br>3-4 seconds              |
| Time within 5 °C of actual Peak Temperature (t <sub>p</sub> )                                                                                                            | 20-40 seconds                      |
| Ramp-Down Rate                                                                                                                                                           | 6°C/second max.                    |
| Time 25 °C to Peak Temperature                                                                                                                                           | 8 minutes max.                     |

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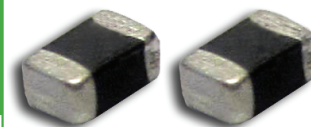
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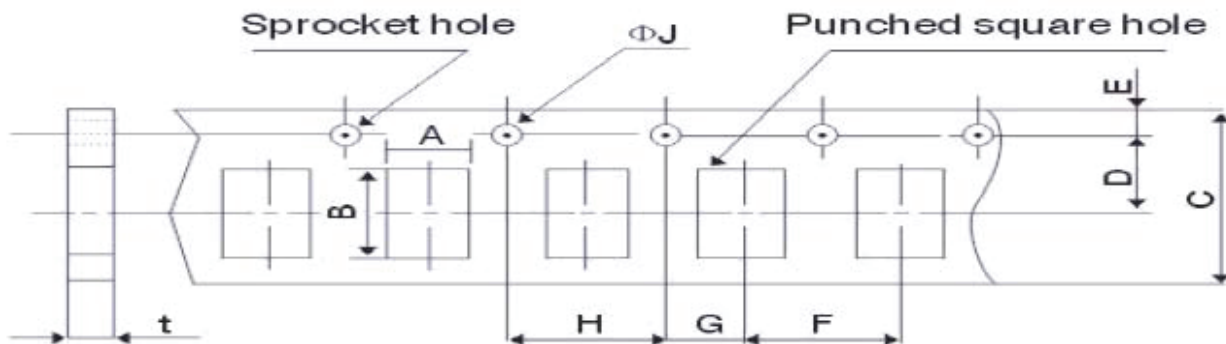
AIML-0603

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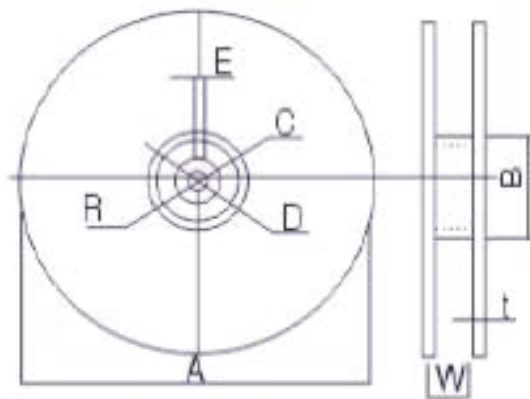


1.6 x 0.8 x 0.8mm

TAPE & REEL: T: 4,000pcs / reel



| Codes     | A         | B        | C       | D        | E        | F        | G        | H       | ΦJ         | t(max)   |
|-----------|-----------|----------|---------|----------|----------|----------|----------|---------|------------|----------|
| AIML-0603 | 1.05±0.10 | 1.9±0.10 | 8.0±0.3 | 3.5±0.05 | 1.75±0.1 | 4.0±0.05 | 2.0±0.05 | 4.0±0.1 | 1.5±0.1/-0 | 1.0±0.05 |



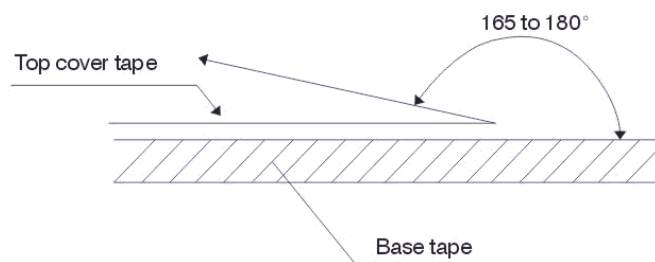
|   |           |
|---|-----------|
| A | 178±2     |
| B | 60±2      |
| C | 13.0±0.5  |
| D | 21.0±0.8  |
| E | 2.0±0.5   |
| W | 10.0±1.15 |
| t | 1.2±0.2   |
| R | 1.0±0.25  |

## Peeling strength of cover tape

0.3~0.7N (30gf~70gf)

Test condition:

- 1) peel angle: 165°~180° vs. carrier tape.
- 2) peel speed: 300 mm/min±10%.



Dimension: mm

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