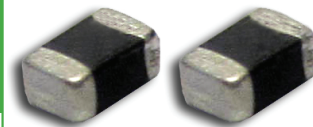


# MULTILAYER FERRITE CHIP INDUCTOR

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.  $\Delta L/L$  (initial)  $\geq -5\%$

### Unless otherwise specified

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

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

ABRACON IS  
ISO 9001:2008  
CERTIFIED



**ABRACON**  
CORPORATION

Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale

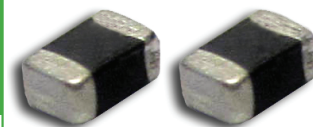
30332 Esperanza, Rancho Santa Margarita, California 92688  
tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)

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

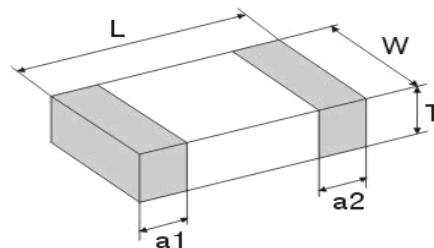
J:  $\pm 5\%$

K:  $\pm 10\%$

### Packaging

T: Tape and Reel (4kpcs / reel)

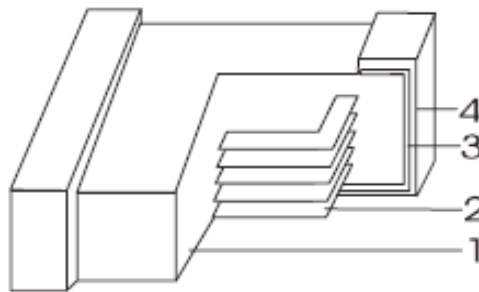
## OUTLINE DRAWING:



Dimension: mm [inch]

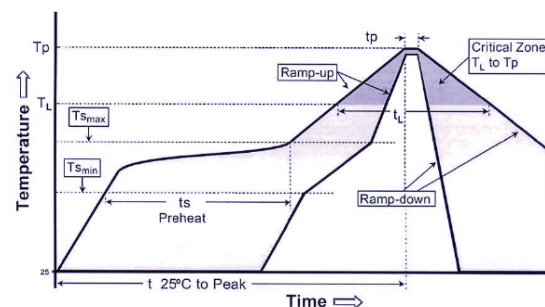
| Series    | L                                      | W                                      | T                                      | a1,a2                                  |
|-----------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| 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 (Tsmax to Tp)                                                                            | 3°C /second max.                   |
| Preheat<br>- Temperature Min (Tlmin)<br>- Temperature Max (Tsmax)<br>- Time (tsmin to tsmax)<br>min to tsmax) | 150 °C<br>200 °C<br>60-180 seconds |
| Time maintained above:<br>- Temperature (Tl)<br>- Time (tl)                                                   | 217 °C<br>60-150 seconds           |
| Peak/Classification Temperature (Tp)<br>Peak/Classification Time (tp)                                         | 260 °C<br>3-4 seconds              |
| Time within 5 °C of actual Peak Temperature (tp)                                                              | 20-40 seconds                      |
| Ramp-Down Rate                                                                                                | 6°C/second max.                    |
| Time 25 °C to Peak Temperature                                                                                | 8 minutes max.                     |

ABRACON IS  
ISO 9001:2008  
CERTIFIED



**ABRACON**  
CORPORATION

Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale

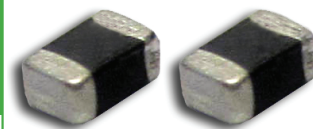
30332 Esperanza, Rancho Santa Margarita, California 92688  
tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)

Revised: 01.26.12

# MULTILAYER FERRITE CHIP INDUCTOR

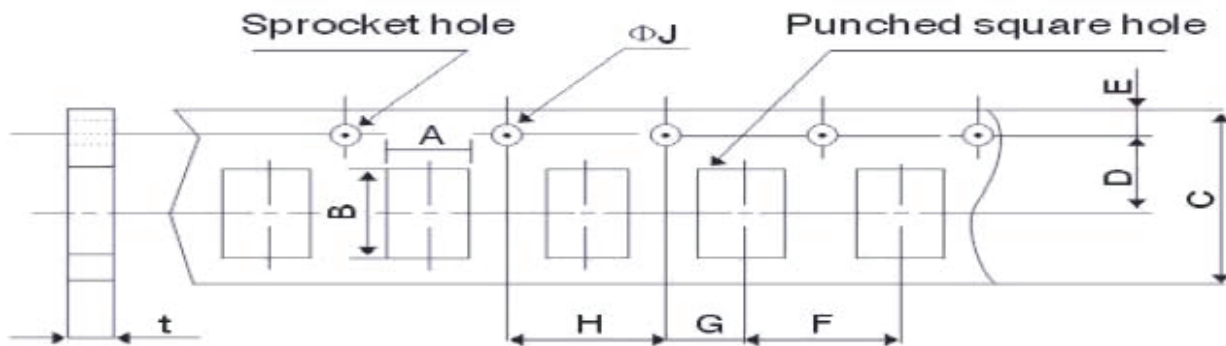
AIML-0603

RoHS  
Compliant

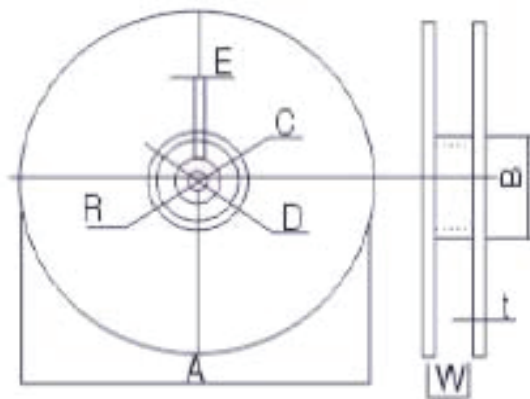


1.6 x 0.8 x 0.8mm

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 |



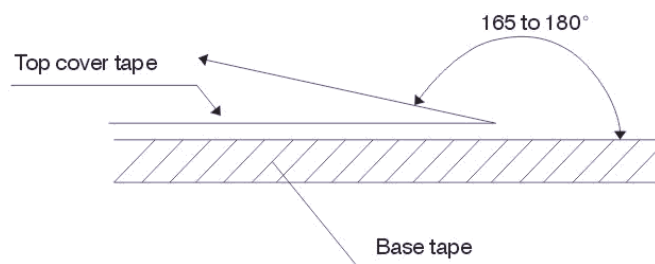
|   |           |
|---|-----------|
| A | 178±2     |
| B | 60±2      |
| C | 13.0±0.5  |
| D | 21.0±0.8  |
| E | 2.0±0.5   |
| W | 10.0±1.15 |
| t | 1.2±0.2   |
| R | 1.0±0.25  |

## 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

**ATTENTION:** Abracon Corporation's products are COTS – Commercial-Off-The-Shelf products; suitable for Commercial, Industrial and, where designated, Automotive Applications. Abracon's products are not specifically designed for Military, Aviation, Aerospace, Life-dependant Medical applications or any application requiring high reliability where component failure could result in loss of life and/or property. For applications requiring high reliability and/or presenting an extreme operating environment, written consent and authorization from Abracon Corporation is required. Please contact Abracon Corporation for more information.

ABRACON IS  
ISO 9001:2008  
CERTIFIED



Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale

30332 Esperanza, Rancho Santa Margarita, California 92688  
tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)

Revised: 01.26.12

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## ABRACON:

[AIML-0603-100K-T](#) [AIML-0603-120K-T](#) [AIML-0603-150K-T](#) [AIML-0603-180K-T](#) [AIML-0603-1R0K-T](#) [AIML-0603-1R2K-T](#) [AIML-0603-1R5K-T](#) [AIML-0603-1R8K-T](#) [AIML-0603-220K-T](#) [AIML-0603-270K-T](#) [AIML-0603-2R2K-T](#) [AIML-0603-2R7K-T](#) [AIML-0603-3R3K-T](#) [AIML-0603-3R9K-T](#) [AIML-0603-47NK-T](#) [AIML-0603-4R7K-T](#) [AIML-0603-56NK-T](#) [AIML-0603-5R6K-T](#) [AIML-0603-68NK-T](#) [AIML-0603-6R8K-T](#) [AIML-0603-82NK-T](#) [AIML-0603-8R2K-T](#) [AIML-0603-R10K-T](#) [AIML-0603-R12K-T](#) [AIML-0603-R15K-T](#) [AIML-0603-R18K-T](#) [AIML-0603-R22K-T](#) [AIML-0603-R27K-T](#) [AIML-0603-R33K-T](#) [AIML-0603-R39K-T](#) [AIML-0603-R47K-T](#) [AIML-0603-R56K-T](#) [AIML-0603-R68K-T](#) [AIML-0603-R82K-T](#)