

# SMD Multilayer Chip Inductor for Choke

ASMCI-0603



RoHS  
Compliant



1.60 x 0.8 x 0.8mm

## FEATURES:

- Monolithic structure designed for high reliability
- Excellent solderability and heat resistance
- Magnetic shield designed to eliminate cross coupling
- High DC current and low DCR

## APPLICATIONS:

Choke circuits in DC power line for PC, mobile phones, digital cameras, camcorder, and music players.

## ELECTRICAL SPECIFICATIONS:

**Operating Temperature:** -40°C to +85°C

**Storage Temperature:** -10°C to +40°C, 70% RH max

| Part Number<br>ASMCI-0603-<br>Inductance Code | Inductance | Tolerance         | DCR     | SRF Min. | Max. Rated Current |
|-----------------------------------------------|------------|-------------------|---------|----------|--------------------|
| Units                                         | μH         | %                 | Ω ± 30% | MHz      | mA                 |
| Symbol                                        | L          | M=±20%,<br>N=±30% | DCR     | SRF      | Ir                 |
| ASMCI-0603-R10                                | 0.1        | M, N              | 0.14    | 240      | 700                |
| ASMCI-0603-R22                                | 0.22       | M, N              | 0.27    | 150      | 550                |
| ASMCI-0603-R47                                | 0.47       | M, N              | 0.42    | 105      | 400                |
| ASMCI-0603-1R0                                | 1.0        | M, N              | 0.20    | 75       | 190                |
| ASMCI-0603-2R2                                | 2.2        | M, N              | 0.40    | 50       | 140                |
| ASMCI-0603-4R7                                | 4.7        | M, N              | 0.60    | 35       | 100                |
| ASMCI-0603-100                                | 10         | M, N              | 0.90    | 20       | 50                 |

### Test Conditions

- Ambient Temperature: 20± 15°C
- Relative Humidity: 65%±20%
- Air Pressure: 86KPa to 106KPa

**Inductance (L):** High Accuracy RF Impedance/Material Analyzer-HP4291B+HP16192A or Equivalent, 1MHz, -20dBm or 50mV.

**Direct Current Resistance (DCR):** High Accuracy Milliohmeter-HP4338B or Equivalent

**Self-Resonant Frequency (SRF):** High Accuracy RF Impedance/Material Analyzer HP4291B+HP16192A or Equivalent, -20dBm or 50mV.

**Rated current (Ir):** HP6632B system DC power supply, HP4291B+HP16192A+HP16200A or equivalent.

Definition of Rated Current (Ir): Ir is the value of DC current as inductance L (μH) decreased just 50% against initial value.



# SMD Multilayer Chip Inductor for Choke

ASMCI-0603



RoHS  
Compliant



1.60 x 0.8 x 0.8mm

## PART IDENTIFICATIONS:

ASMCI-0603 -  -

### Inductance Code

Please refer to the table above

### Tolerance

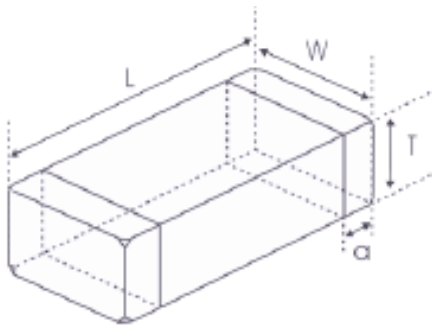
M:  $\pm 20\%$

N:  $\pm 30\%$

### Packaging

T: Tape and Reel  
(4kpcs / reel)

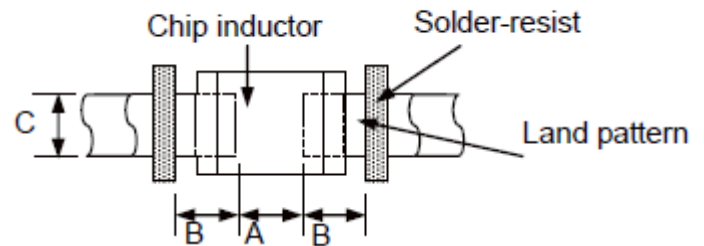
## OUTLINE DRAWING:



| L                                      | W                                     | T                                     | a                                    |
|----------------------------------------|---------------------------------------|---------------------------------------|--------------------------------------|
| 1.60 $\pm$ 0.15<br>[0.063 $\pm$ 0.006] | 0.8 $\pm$ 0.15<br>[0.031 $\pm$ 0.006] | 0.8 $\pm$ 0.15<br>[0.031 $\pm$ 0.006] | 0.3 $\pm$ 0.2<br>[0.012 $\pm$ 0.008] |

Dimension: mm [inch]

### Recommended Land Pattern

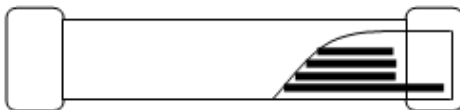


| A         | B         | C         |
|-----------|-----------|-----------|
| 0.60~0.80 | 0.60~0.80 | 0.60~0.80 |

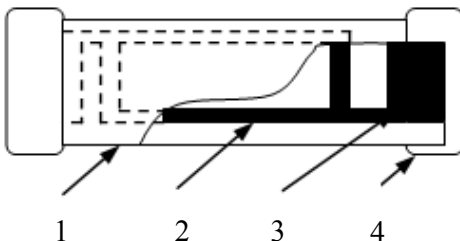
Dimension: mm

## MATERIALS:

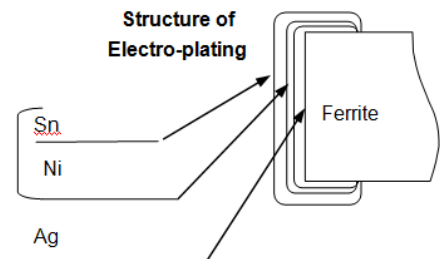
Side View



Top View



### Structure of Electro-plating



|   | Part Name          | Material                                |
|---|--------------------|-----------------------------------------|
| 1 | Base Material      | Ferrite                                 |
| 2 | Internal Conductor | Ag                                      |
| 3 | Pull out Electrode | Ag                                      |
| 4 | Terminal Electrode | Ag (Inner layer)<br>Ni-Sn (Outer layer) |



# SMD Multilayer Chip Inductor for Choke

ASMCI-0603

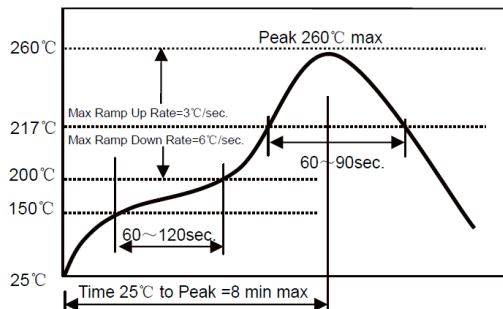


RoHS  
Compliant



1.60 x 0.8 x 0.8mm

## REFLOW PROFILE:



- Δ Preheat condition: 150 ~200°C /60~120sec.
- Δ Allowed time above 217°C: 60~90sec.
- Δ Max temp: 260°C
- Δ Max time at max temp: 10sec.
- Δ Solder paste: Sn/3.0Ag/0.5Cu
- Δ Allowed Reflow time: 2x max

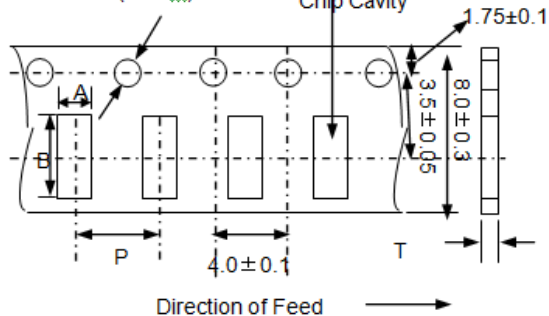
## TAPE & REEL:

### Packing

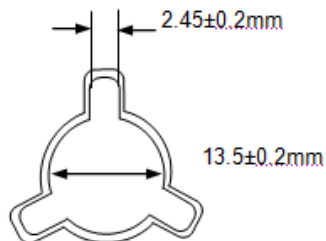
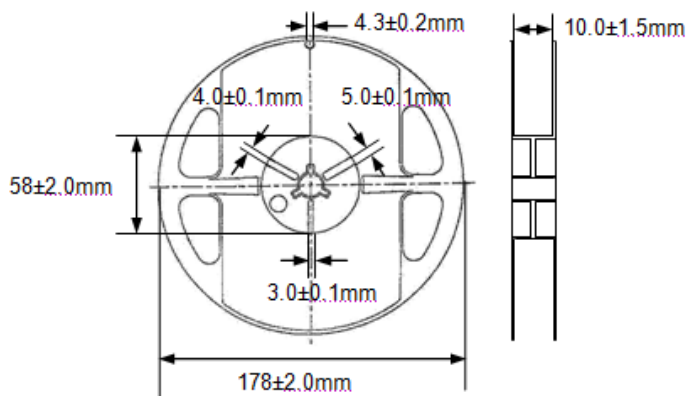
T: 4,000pcs / reel

Sprocket Hole  $\Phi 1.5 (+0.1, 0)$

Chip Cavity



| A       | B       | P       | T(max) |
|---------|---------|---------|--------|
| 1.0±0.2 | 1.8±0.2 | 4.0±0.1 | 1.1    |



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



ABRACON  
CORPORATION

Visit [www.abracon.com](http://www.abracon.com) for Terms & Conditions of Sale **Revised: 02.08.13**  
30332 Esperanza, Rancho Santa Margarita, California 9268  
tel 949-546-8000 | fax 949-546-8001 | [www.abracon.com](http://www.abracon.com)