

# SMD Multilayer Chip Power Inductor

ASMPH-0603



RoHS/RoHS II Compliant



1.6 x 0.8 x 0.8mm

## FEATURES:

- High DC bias current due to trench technology
- Much lower profile than any other series
- Monolithic structure for high reliability
- Excellent solderability and heat resistance
- Magnetically shielded structure to eliminate cross coupling

## APPLICATIONS:

ASMPH family is a miniature type of multilayer power inductors constructed using low loss ferrite material to support high-speed switching frequencies. The compact size and high efficiency is ideal for DC/DC converter applications in space limited boards.

- Switching mode regulators for smart phones and cameras.
- Buck converters for RFIC, RFPA and Audio Codec modules.
- Boost converters for flash drivers.
- Wireless cards, DVD players and other electronic devices.

## ELECTRICAL SPECIFICATIONS:

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

**Storage Temperature:** -10°C to +40°C, RH 70% (Max.)

Part Number ASMPH-0603- Inductance Code	Inductance	Tolerance	DCR	SRF Min.	Temperature Rise Current (max)	Saturation Current (Typ)
Units	μH	%	Ω ± 25%	MHz	mA	mA
Symbol	L	M=±20% N=±30%	DCR	SRF	I <sub>rms</sub>	I <sub>sat</sub>
ASMPH-0603-R22	0.22	M, N	0.10	200	1250	1600
ASMPH-0603-R33	0.33	M, N	0.13	190	1200	1500
ASMPH-0603-R47	0.47	M, N	0.15	180	1100	1200
ASMPH-0603-R68	0.68	M, N	0.18	160	1150	1100
ASMPH-0603-1R0	1.0	M, N	0.20	125	1000	800
ASMPH-0603-1R5	1.5	M, N	0.23	100	900	500
ASMPH-0603-2R2	2.2	M, N	0.30	80	850	300

Unless otherwise specified, the standard atmospheric conditions for measurement/test as:

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

**Inductance (L):** HP4291B+HP16192A or Equivalent, tested at 1MHz, -20dBm or 50mV.

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

**Self-Resonant Frequency (SRF):** HP4291B+HP16192A or Equivalent, -20dBm or 50mV.

**Temperature Rise current (I<sub>rms</sub>):** Electric Power, Electric current meter, Thermometer.

I<sub>rms</sub> is the value of DC current as chip surface temperature rose just 40°C against chip initial surface temperature.

**Saturation Current (I<sub>sat</sub>):** HP6632B system DC power supply, HP4291B+HP16192A+HP16200 or equivalent.

I<sub>sat</sub> is the value of DC current inductance decreased just 30% against initial value.

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## PART IDENTIFICATIONS:

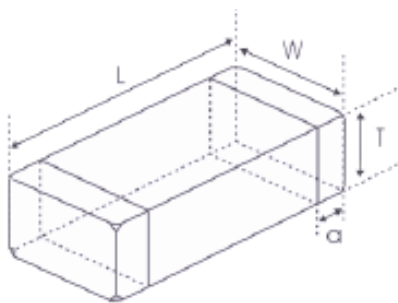
ASMPH-0603---

**Inductance Code**  
Please refer to the table above

**Tolerance**  
M=±20%  
N=±30%

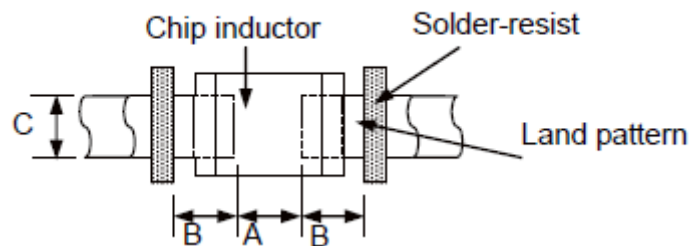
**Packaging**  
T: Tape and Reel (4kpcs / reel)

## OUTLINE DRAWING:



L	W	T	a
1.60±0.15	0.8±0.15	0.8±0.15	0.3±0.2

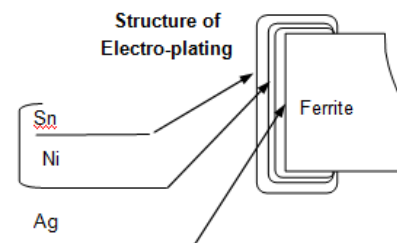
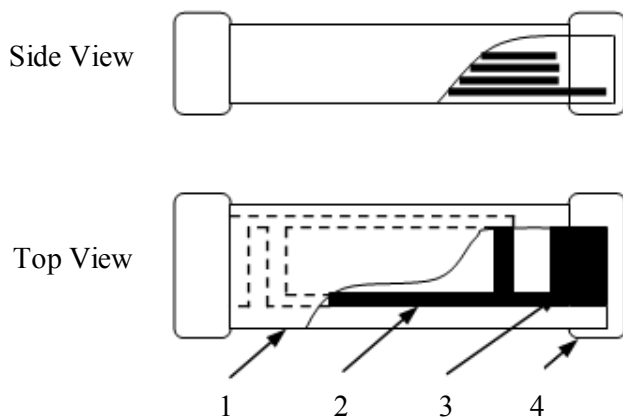
## Recommended Land Pattern



A	B	C
0.60~0.80	0.60~0.80	0.60~0.80

Dimension: mm

## MATERIALS:



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

# SMD Multilayer Chip Power Inductor



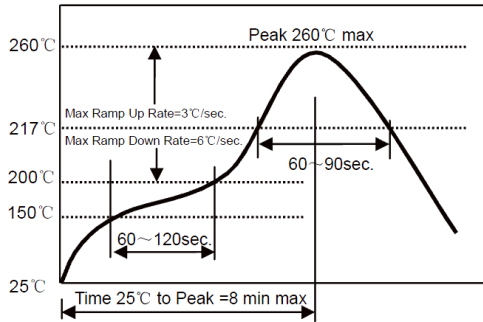
1.6 x 0.8 x 0.8mm

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## REFLOW PROFILE:

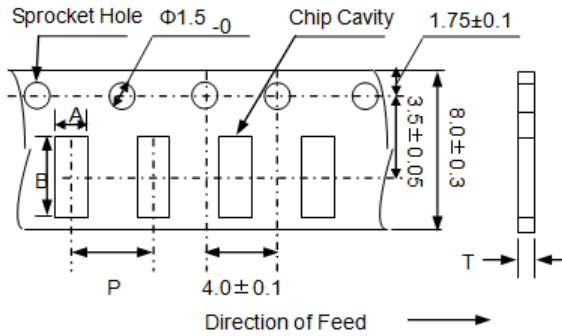


Preheat Condition	150 to 200 °C; 60 to 120 sec.
Allowed time above 217 °C	60 to 90 sec.
Max temperature	260 °C
Max time at max temperature	10 sec.
Solder paste	Sn/3.0Ag/0.5Cu
Allowed Reflow time	2x max.

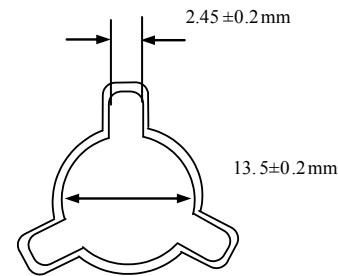
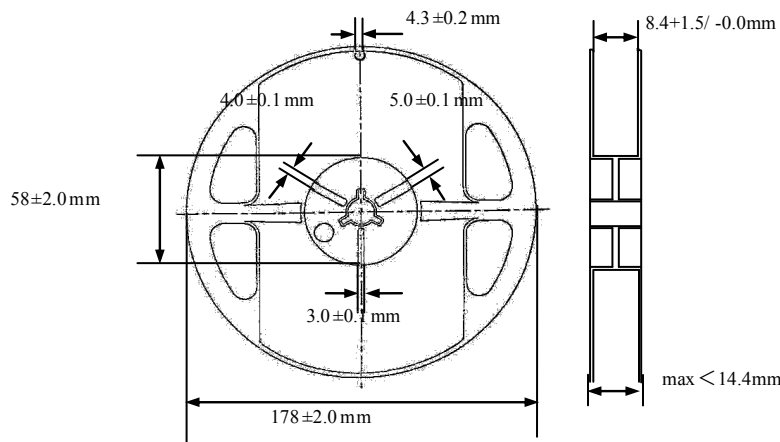
## TAPE & REEL:

### Packing

T: 4,000pcs / reel



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



Dimension: mm

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