

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 _{rms}	I _{sat}
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_{rms}): Electric Power, Electric current meter, Thermometer.

I_{rms} is the value of DC current as chip surface temperature rose just 40°C against chip initial surface temperature.

Saturation Current(I_{sat}): HP6632B system DC power supply, HP4291B+HP16192A+HP16200 or equivalent.

I_{sat} 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

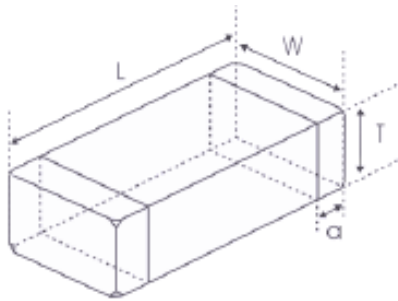
Tolerance

M=±20%
N=±30%

Packaging

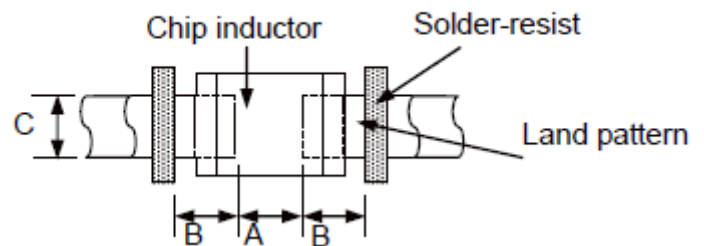
T: Tape and Reel (4kpcs / reel)

OUTLINE DRAWING:



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

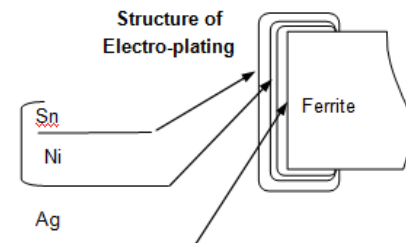
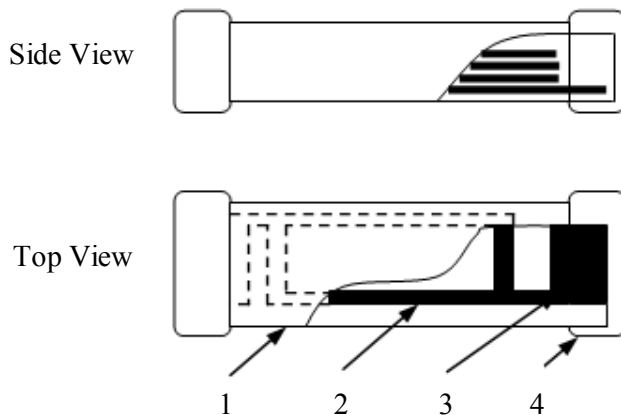
Recommended Land Pattern



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)



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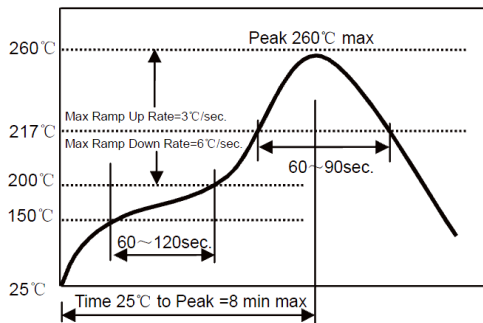


RoHS/RoHS II Compliant



1.6 x 0.8 x 0.8mm

REFLOW PROFILE:

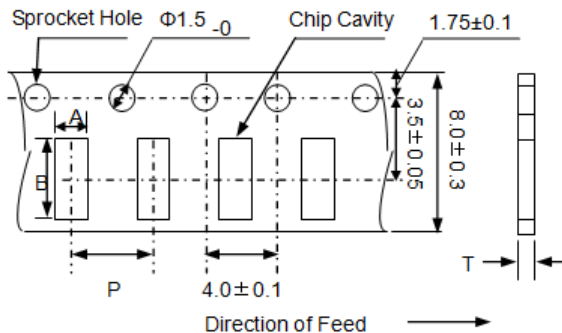


Preheat Condition	150 to 200 °C; 60 to 120 sec.
Allowed time above 217 °C	60 to 90 sec.
Max temperature	260 °C
Max time at max temperature	10 sec.
Solder paste	Sn/3.0Ag/0.5Cu
Allowed Reflow time	2x max.

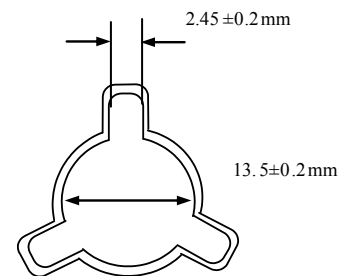
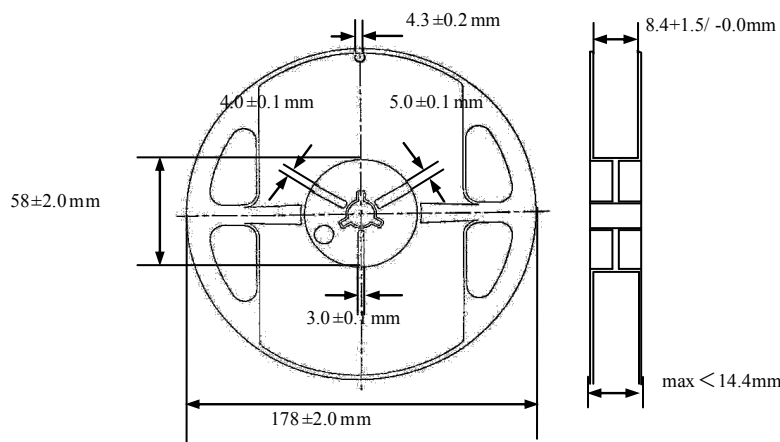
TAPE & REEL:

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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30332 Esperanza, Rancho Santa Margarita, California 9268
tel 949-546-8000 | fax 949-546-8001 | www.abracon.com

AMEYA360

Components Supply Platform

Authorized Distribution Brand :



Website :

Welcome to visit www.ameya360.com

Contact Us :

➤ Address :

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd
Minhang District, Shanghai , China

➤ Sales :

Direct +86 (21) 6401-6692

Email amall@ameya360.com

QQ 800077892

Skype ameyasales1 ameyasales2

➤ Customer Service :

Email service@ameya360.com

➤ Partnership :

Tel +86 (21) 64016692-8333

Email mkt@ameya360.com