



**THE DATASHEET OF  
ASMPH-1008-3R3M-T**



# SMD Multilayer Chip Power Inductor

ASMPH-1008



RoHS/RoHS II Compliant



2.5 x 2.0 x 0.9mm

## 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:** -55°C to +125°C

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

Part Number ASMPH-1008- 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-1008-R47	0.47	M, N	0.04	105	1800	1500
ASMPH-1008-1R0	1.0	M, N	0.06	70	1600	1400
ASMPH-1008-1R5	1.5	M, N	0.07	65	1500	1200
ASMPH-1008-2R2	2.2	M, N	0.08	55	1300	850
ASMPH-1008-3R3	3.3	M, N	0.10	30	1200	450
ASMPH-1008-4R7	4.7	M, N	0.11	25	1100	320

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+HP16200A or equivalent.

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

# SMD Multilayer Chip Power Inductor

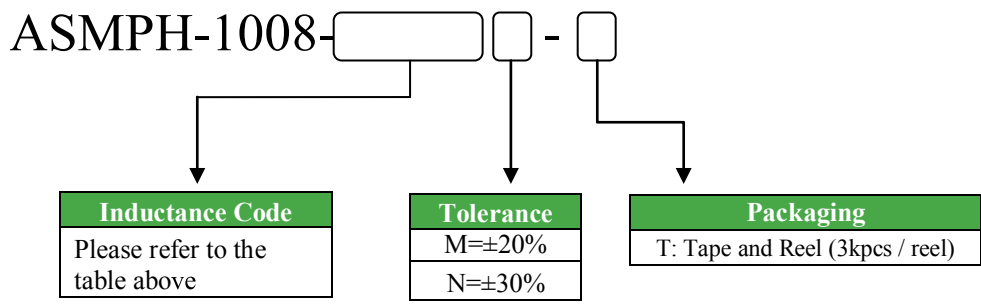


2.5 x 2.0 x 0.9mm

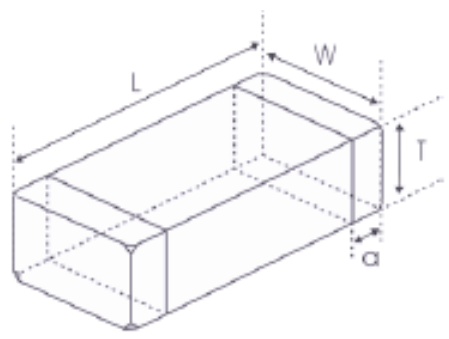
ASMPH-1008

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## PART IDENTIFICATIONS:

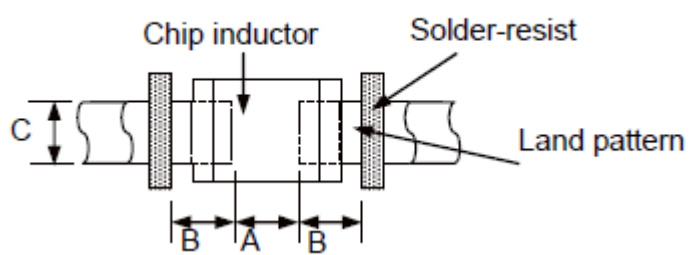


## OUTLINE DRAWING:



L	W	T	a
2.5±0.2	2.0(+0.3, -0.1)	0.9±0.1	0.5±0.3

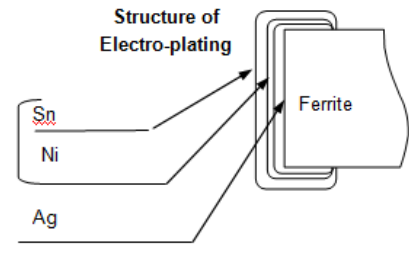
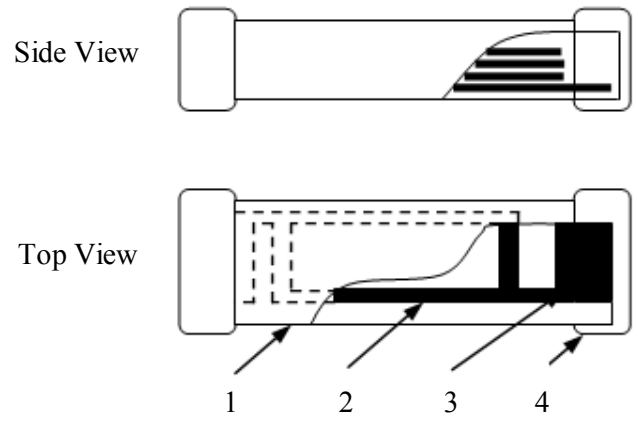
### Recommended Land Pattern



A	B	C
1.0~1.4	0.6~1.0	1.8~2.2

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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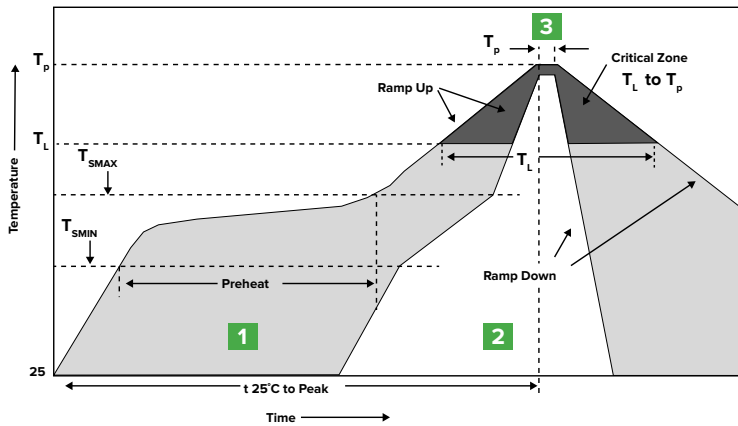


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## REFLOW PROFILE:

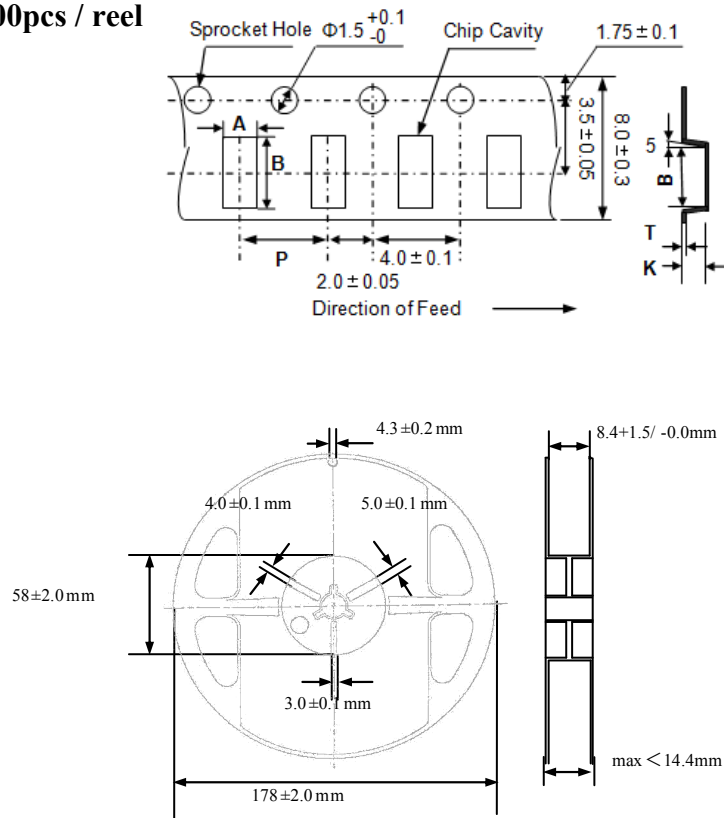


Zone	Description	Temperature	Times
1	Preheat	$T_{S_{MIN}} \sim T_{S_{MAX}}$ 150°C ~ 200°C	60 ~ 120 sec.
2	Reflow	$T_L$ 217°C	60 ~ 90 sec.
3	Peak heat	$T_P$ 260°C ± 5°C	10 sec. MAX

Solder Paste Sn/3.0Ag/0.5Cu  
Allowed Reflow time 2x Max.

## TAPE & REEL:

**Packing**  
T: 3,000pcs / reel



A	B	P	K max	T max
2.30±0.1	2.80±0.1	4.0±0.1	1.45	0.3

Dimension: mm

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