

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 _{rms} | I _{sat} |
| 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_{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+HP16200A or equivalent.

I_{sat} 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

RoHS/RoHS II Compliant

PART IDENTIFICATIONS:

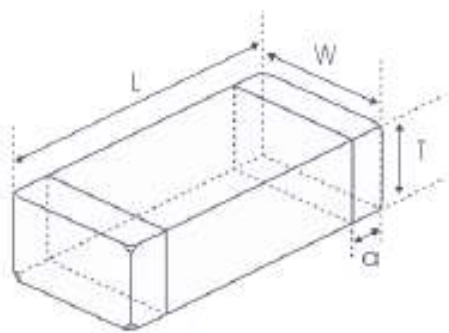
ASMPH-1008- - -

Inductance Code
Please refer to the table above

Tolerance
M=±20%
N=±30%

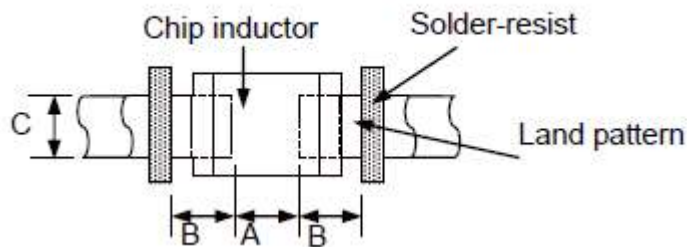
Packaging
T: Tape and Reel (3kpcs / reel)

OUTLINE DRAWING:



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

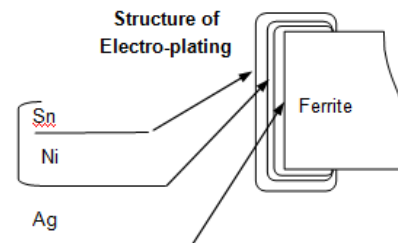
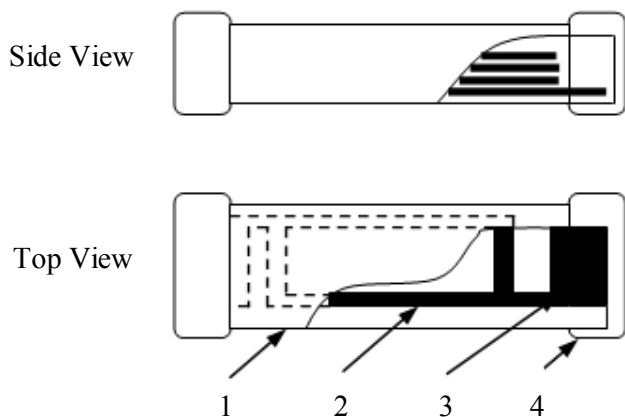
Recommended Land Pattern



| 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) |

SMD Multilayer Chip Power Inductor

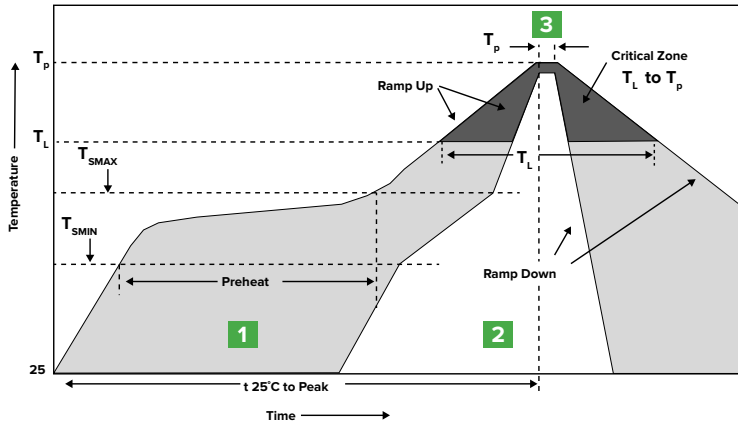


2.5 x 2.0 x 0.9mm

ASMPH-1008

RoHS/RoHS II Compliant

REFLOW PROFILE:

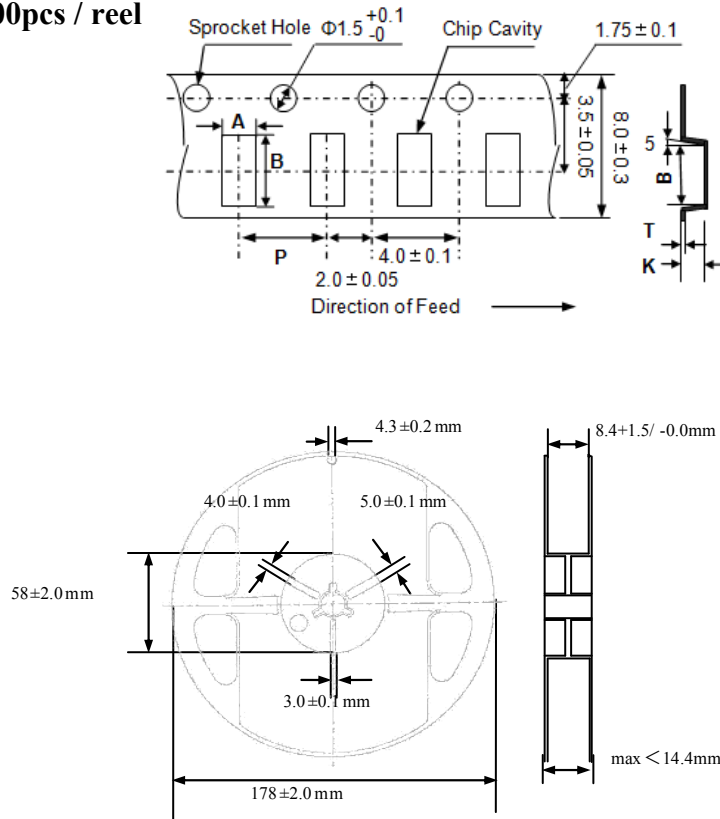


| Zone | Description | Temperature | Times |
|------|-------------|---|---------------|
| 1 | Preheat | $T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C | 60 ~ 120 sec. |
| 2 | Reflow | T_L 217°C | 60 ~ 90 sec. |
| 3 | Peak heat | T_P 260°C ± 5°C | 10 sec. MAX |

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

ATTENTION: Abracon LLC'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-dependent 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 LLC is required. Please contact Abracon LLC for more information.