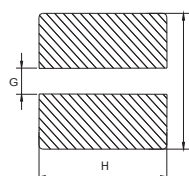
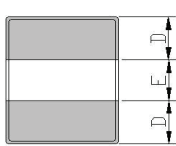
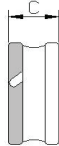
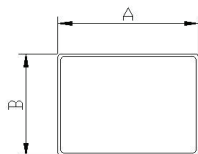




# SMD Shielded Power Inductor PAHP24

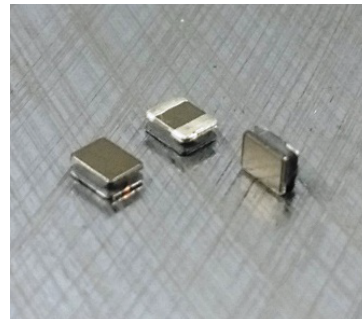
Dimensions:  $\frac{\text{inch}}{(\text{mm})}$



Recommended PCB Layout

| A                                    | B                                    | C                 | D                  | E                 |
|--------------------------------------|--------------------------------------|-------------------|--------------------|-------------------|
| .098 ~.004/+ .008<br>(2.5 ~0.1/+0.2) | .079 ~.004/+ .008<br>(2.0 ~0.1/+0.2) | .039 Max<br>(1.0) | .030 Ref<br>(0.75) | .039 Ref<br>(1.0) |

| L             | G             | H             |
|---------------|---------------|---------------|
| .114<br>(2.9) | .039<br>(1.0) | .095<br>(2.4) |



## Features

- Low Profile
- Magnetically Shielded Construction for power circuits using metallic magnetic material
- Compatible with high-density mounting
- RoHS Compliant and Halogen Free

## Electrical

**Inductance Range:** .24μH to 4.7μH

**Tolerance:** 20% over entire range

**Test Frequency:** 1MHz

**Operating Temp:** -40°C to +125°C

**MSL:** Level 1

**Isat:** The Current at which the Inductance will drop by 30% typically.

**Irms:** The Current at which the Coil temperature will rise by approximately 40°C without core loss.

## Resistance to Soldering Heat

**Pre-heating:** 150°C, 1min

**Solder:** Sn96.5% Ag3% Cu0.5%

**Temperature:** 245±5°C

**Flux for lead free:** Rosin. 9.5%

**Dip time:** 4±1sec

**Depth:** completely cover the termination

## Test Equipment

**Inductance:** HP4284A, CH11025, CH3302, CH1320, CH1320S LCR Meter

**DCR:** CH16502, Agilent 33420A Micro-Ohm Meter

## Physical

**Packaging:** 2000 pieces per 7 inch reel.

| Allied Part Number | Inductance (μH)<br>1MHz, 1.0V<br>±20% | DCR (Ω) Typ. | DCR (Ω) Max. | I sat (A) Typ. | I sat (A) Max. | I rms (A) Typ.  | I rms (A) Max.  |
|--------------------|---------------------------------------|--------------|--------------|----------------|----------------|-----------------|-----------------|
| PAHP24-R24M        | 0.24                                  | .018         | .022         | 9.50           | 8.00           | 5.50*<br>6.00** | 5.00*<br>5.50** |
| PAHP24-R33M        | 0.33                                  | .023         | .028         | 8.00           | 6.50           | 5.30*<br>5.60** | 4.80*<br>5.10** |
| PAHP24-R47M        | 0.47                                  | .027         | .035         | 7.00           | 5.90           | 4.60*<br>5.30** | 4.20*<br>4.80** |
| PAHP24-R68M        | 0.68                                  | .032         | .040         | 5.50           | 4.60           | 4.20*<br>4.40** | 3.80*<br>4.00** |
| PAHP24-1R0M        | 1.0                                   | .044         | .053         | 4.90           | 4.30           | 3.50*<br>3.70** | 3.10*<br>3.40** |
| PAHP24-1R5M        | 1.5                                   | .062         | .074         | 3.80           | 3.10           | 3.20*<br>3.40** | 2.80*<br>3.00** |
| PAHP24-2R2M        | 2.2                                   | .078         | .093         | 2.80           | 2.30           | 2.60*<br>2.80** | 2.30*<br>2.50** |
| PAHP24-4R7M        | 4.7                                   | .180         | .216         | 1.70           | 1.40           | 1.70*<br>1.80** | 1.50*<br>1.60** |

All specifications subject to change without notice.

## Test Measurement PCB Data:

### \*Irms

Material : FR4

Board Dimensions : 100 x 50 x 1.6t mm

Pattern dimensions : 45 x 30 mm (Double sided board)

Pattern thickness : 50μm

### \*\*Irms

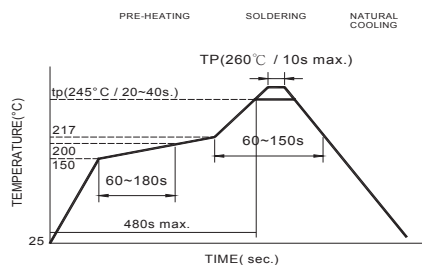
Material : FR4

Board Dimensions : 100 x 50 x 1.6t mm

Pattern dimensions : 45 x 45 mm (Double sided board)

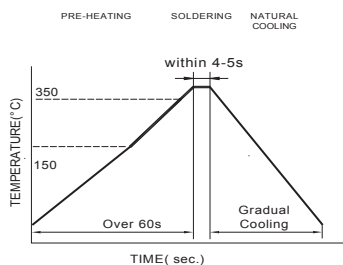
Pattern thickness : 70μm

## Reflow Soldering



Reflow times: 3 times max.

## Iron Soldering

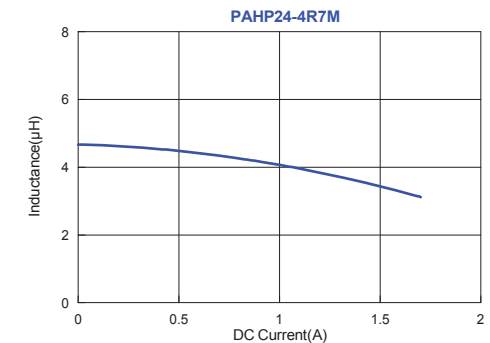
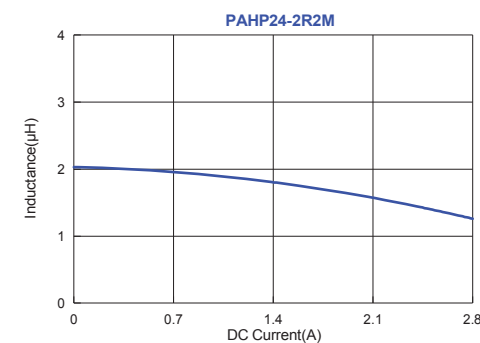
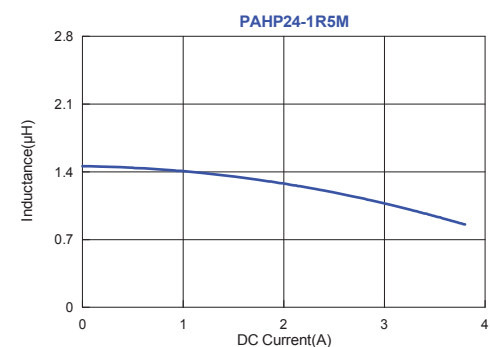
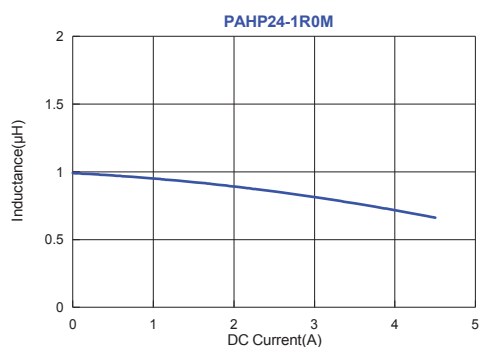
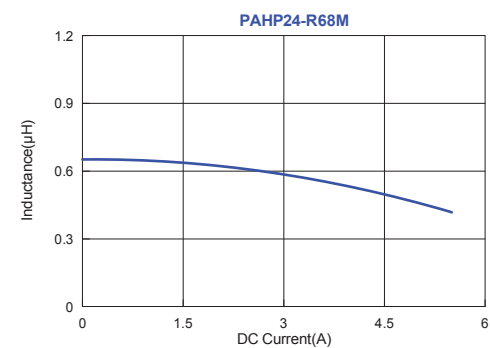
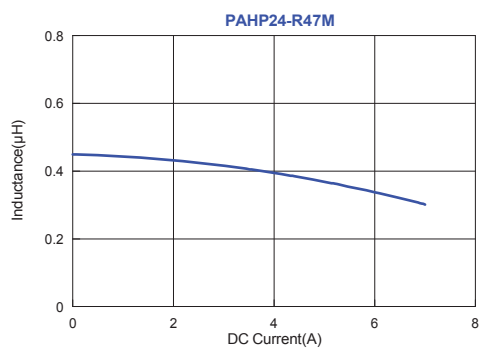
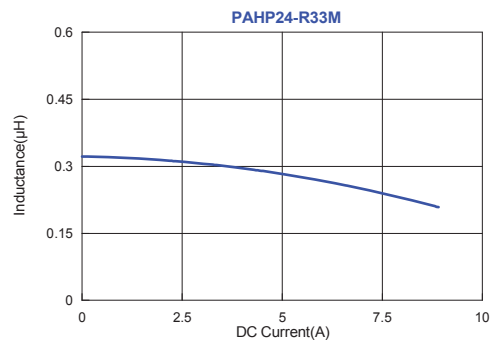
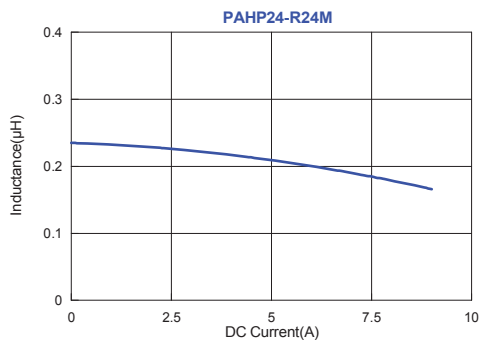


Reflow times: 1 time max.



# SMD Shielded Power Inductor PAHP24

## Typical Performance Curves

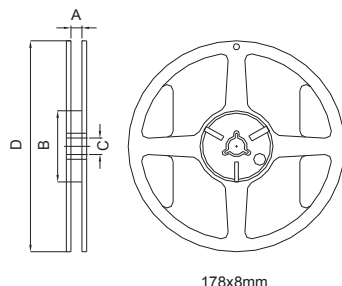




# SMD Shielded Power Inductor PAHP24

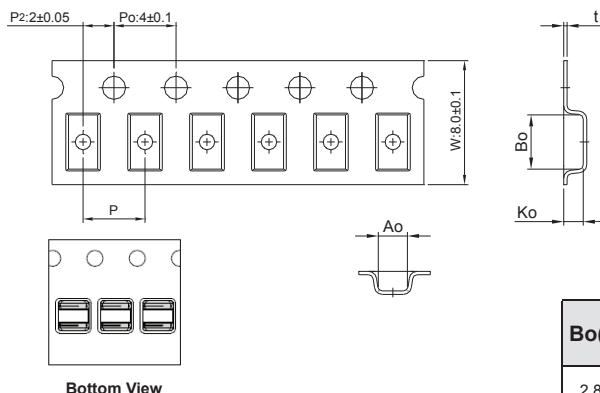
## Packaging Information

### Reel Dimension



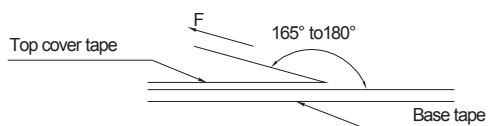
| Type     | A(mm)   | B(mm)  | C(mm)  | D(mm)   |
|----------|---------|--------|--------|---------|
| 178x12mm | 8.4±1.0 | 50 Min | 13±0.8 | 178±2.0 |

### Tape Dimension



| Bo(mm)   | Ao(mm)   | Ko(mm)  | P(mm)   | t(mm)   |
|----------|----------|---------|---------|---------|
| 2.85±0.1 | 2.45±0.1 | 1.4±0.1 | 4.0±0.1 | .23±.05 |

### Tearing Off Force



The force for tearing off cover tape is 15 to 80 grams in the arrow direction under the following conditions.

| Room Temp.<br>(°C) | Room Humidity<br>(%) | Room atm<br>(hPa) | Tearing Speed<br>mm/min |
|--------------------|----------------------|-------------------|-------------------------|
| 5~35               | 45~85                | 860~1060          | 300                     |

### Application Notice

#### • Storage Conditions

To maintain the solderability of terminal electrodes:

1. PAHP24 Series meets IPC/JEDEC J-STD-020D standard-MSL, level 1.
2. Temperature and humidity conditions: Less than 40°C and 60% RH.
3. Recommended products should be used within 12 months from the time of delivery.
4. The packaging material should be kept where no chlorine or sulfur exists in the air.

#### • Transportation

1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
3. Bulk handling should ensure that abrasion and mechanical shock are minimized.