PSA 佳邦科技股份有限公司
INPAQ TECHNOLOGY CO., LTD.

MIP P Series
Data Sheet

Product Name	MIP P Series
Series	SMD Power Inductor
Size	EIAJ 1608
Version	A8

Multilayer Ferrite Power Inductor (MIP P Series)

This product belongs to the 3C and industrial grade standard, not for automotive application. If customer privately uses to automotive parts and results in any consequences, INPAQ is not responsible for after-sales service, thank you!

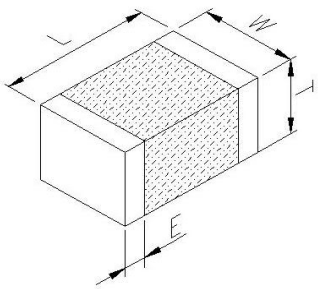
■ Features

- The monolithic construction performs high reliability and ensures a closed magnetic flux in a component avoids magnetic leakage and interference .
- Allow for higher mounting density.
- Low DC resistance.

■ Applications

Suitable for DVD , DSC , PND , PC , NB , Power Line

■ Shapes and Dimensions



Type	1608 (EIA0603)
L	1.60±0.15
W	0.80±0.15
T	0.80±0.15
E	0.30±0.20
Unit	mm

■ Part Number and Characteristics Table

Part Number.	Inductance ±20% (μH)	DCR ±25% (Ω)	Rated Current (mA)	SRF (MHz) Min.
MIP1608PR24MBP	0.24	0.100	1200	90
MIP1608PR47MBP	0.47	0.100	1200	70
MIP1608P1R0MBP	1.00	0.200	950	60
MIP1608P2R2MBP	2.20	0.300	750	50
Test Instruments and Conditions	• Agilent E4991A/B RF Impedance / Material Analyzer or Equivalent •HP4338A/B Milliohm meter Test Frequency : 1MHz / OSC Level : 100mV			

** For special part number which is not shown in the above table, please refer to appendix.

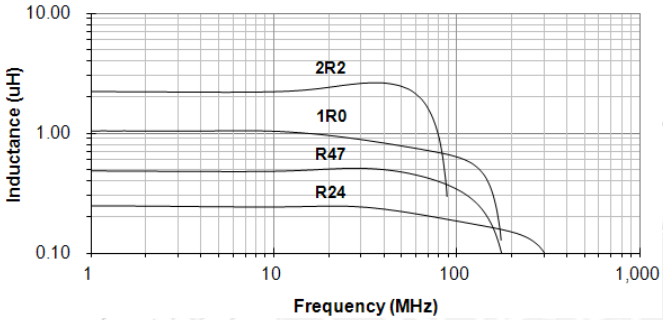
■ Part Number Code

MIP	1608	P	2R2	M	B	P
1	2	3	4	5	6	7

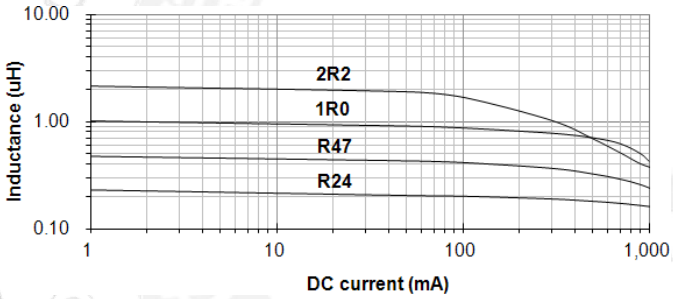
1 Series Name
2 Size Code : The first two digitals: length(mm)，the last two digitals: width(mm)
3 Material code
4 Inductance : R = Decimal point，Unit = μH
5 Tolerance : M = ±20%
6 Soldering : Green Parts，B= Lead-Free for whole chip
7 Packaging : P = Paper tape, 7" reel.

■ Typical Characteristic

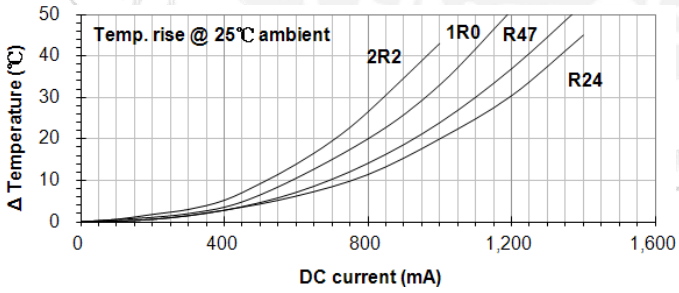
Inductance @ Frequency



Inductance vs. DC-bias

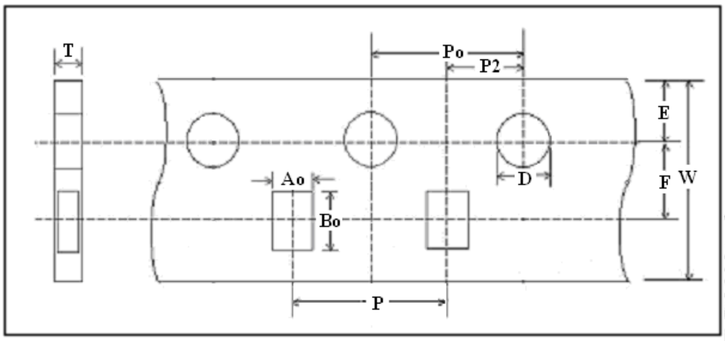


Temperature rise vs. DC-bias



■ Tape and Reel Specifications

Paper Carrier (P)

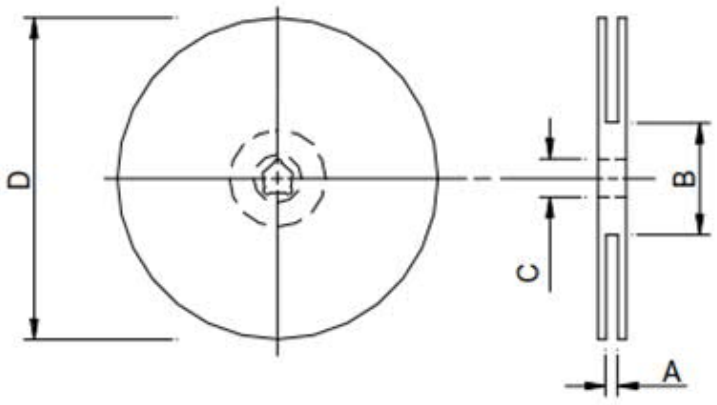


Taping Dimensions

Unit：mm

Type	**1608**
Symbol	**P**
W	8.00 ± 0.10
P	4.00 ± 0.10
E	1.75 ± 0.10
F	3.50 ± 0.10
D	1.56 ± 0.10
D1	NA
Po	4.00 ± 0.10
10Po	40.0 ± 0.20
P2	2.00 ± 0.10
Ao	0.97 ± 0.05
Bo	1.80 ± 0.05
Ko(T)	0.75± 0.05
t	NA

■ Reel Dimensions



Type	A(mm)	B(mm)	C(mm)	D(mm)
7”	10±1.5	50 or more	13.2±1.0	178±2.0

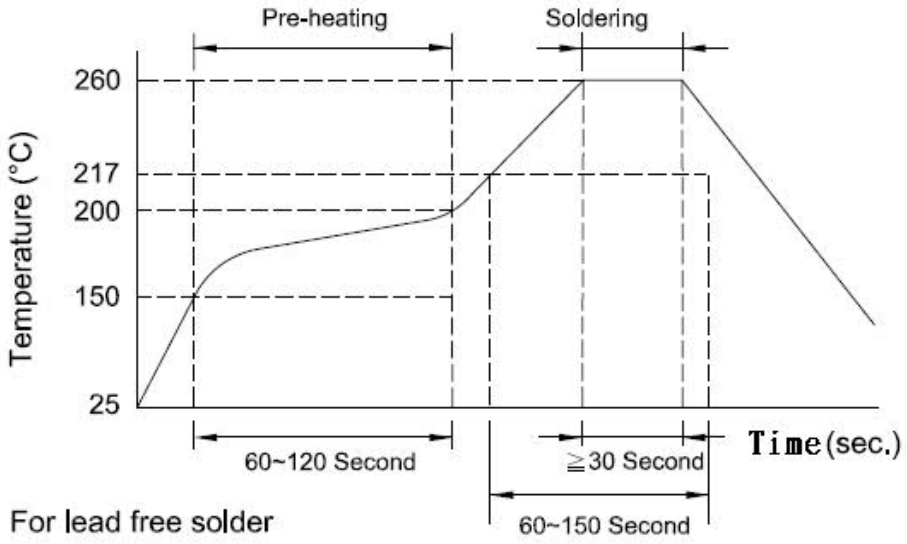
■ Standard Quantity For Packaging

Packaging style：Taping

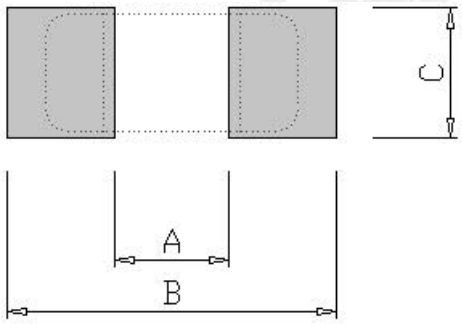
Reel packaging quantity：**4,000** pcs/reel

Per the box：5 Reels

■ Recommended Soldering Conditions



■ Land Patterns for Reflow Soldering



Solder land information :

Size (mm)	A	B	C
1608	0.5 ~ 0.7	1.8 ~ 2.0	0.65 ~ 0.95

■ Reliability and Test Conditions

Test item	Test condition	Criteria
Resistance to Solder Heat	1. Solder temperature : 260 ± 5℃ 2. Flux : Rosin 3. DIP time : 10 ± 1 sec	1. More than 95 % of terminal electrode should be covered with new solder 2. No mechanical damage 3. Inductance value should be within ± 20 % of the initial value
Solderability	1. Solder temperature : 235 ± 5℃ 2. Flux : Rosin 3. DIP time : 5 ± 1 sec	1. More than 95 % of terminal electrode should be covered with new solder 2. No mechanical damage
Adhesive Test	1. Reflow temperature : 245℃ It shall be soldered on the substrate applying direction parallel to the substrate 2. Apply force(F) : 5 N 3. Test time : 10 sec	1. No mechanical damage 2. Soldering the products on PCB after the pulling test force > 5 N
Thermal Shock	1. Temperature:-40 ~ +85℃ for 30 minutes each 2. Cycle: 100 cycles 3. Measurement: at ambient temperature 24 hours after test completion	1. No mechanical damage 2. Inductance should be within ±20% of the initial value (Inductance:≦0.47μH) Inductance should be within ±30% of the initial value (Inductance:＞0.47μH)

Test item	Test condition	Criteria
High Temperature Resistance	1. Temperature: 85 ± 5℃ 2. Testing time: 1000 hrs 3. Measurement: at ambient temperature 24 hours after test completion	1. No mechanical damage 2. Inductance should be within ±20% of the initial value (Inductance:≦0.47μH) Inductance should be within ±30% of the initial value (Inductance:＞0.47μH)
Humidity	1. Temperature: 40℃ ± 2℃ 2. Humidity: 90-95 % RH 3. Testing time: 1000 hrs 4. Measurement: at ambient temperature 24 hours after test completion	1. No mechanical damage 2. Inductance should be within ±20% of the initial value
Rated Current	At ambient temperature & humidity Testing time:5 minutes (under full rated current)	MIP product surface temp： below room temperature plus 40℃

■ General Technical Data

Operating temperature range : - 40℃ ~ +85℃

Storage Condition : Less than 40℃ and 70% RH

Storage time : 12 months Max.

Soldering method : Reflow