

MHC 1005-1608 P Series

Specification

Product Name	High Current Chip Bead
Series	MHC P Series
Size	EIAJ 1005-1608



Chip Ferrite Bead for High Current (MHC-P Series) Engineering Spec.

■ Features

- Combination of high frequency noise suppression with capability of handing high current
- The current rating up to 6 Amps with low DCR

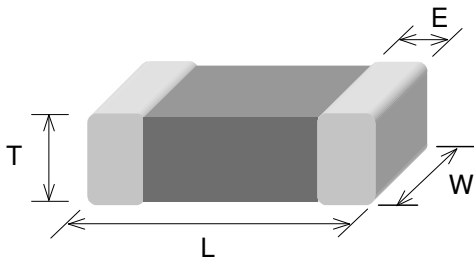
■ Applications

- High current DC power lines
- Circuits where a stable ground in unavailable

■ Part Number and Characteristics Table

Part No.	Impedance (Ω) +/-25%	Test Freq. (MHz)	DCR(Ω) (Max.)	Rated Current (mA)
MHC1005 Series				
MHC1005P330ZBP3A0	33	100	0.022	3000
MHC1005P600ZBP2A5	60	100	0.032	2500
MHC1005P800ZBP2A3	80	100	0.038	2300
MHC1005P331ZBP1A2	330	100	0.150	1200
MHC1005P601ZBPA90	600	100	0.230	900
MHC1608 Series				
MHC1608P260Z06BP6A0	26	100	0.007	6000
	•Test Level : 250 mV			
Test Instruments :	<ul style="list-style-type: none"> •HP4991A RF Impedance / Material Analyzer •HP4338A/B Milliohm meter •Agilent 5071C S-Parameter Network Analyzer •HP6632B System DC Power Supply 			

■ Shapes and Dimensions



TYPE	1005(0402)	1608(0603) T : 0.6
L	1.00±0.10	1.60±0.15
W	0.50±0.10	0.80±0.15
T	0.50±0.10	0.60±0.15
E	0.25±0.10	0.30±0.20
Unit : mm		

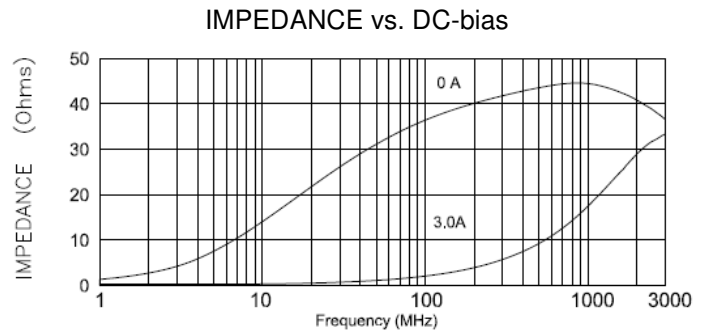
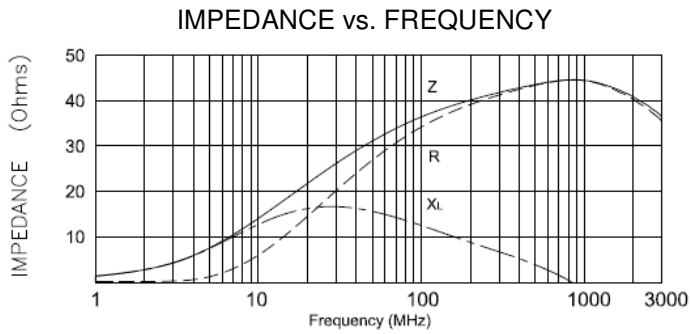
■ Part Number Code

MHC 1608 P 26 0 Z 06 B P 6A0
 1 2 3 4 5 6 7 8 9 10

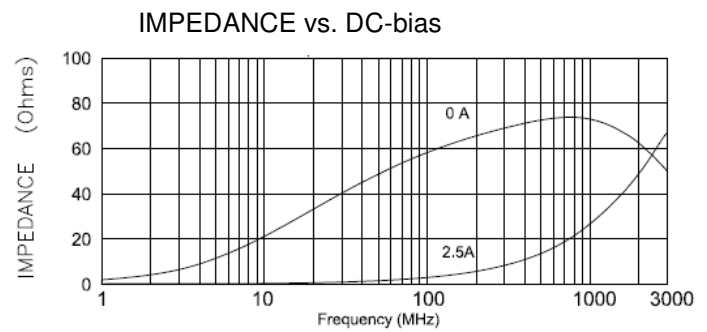
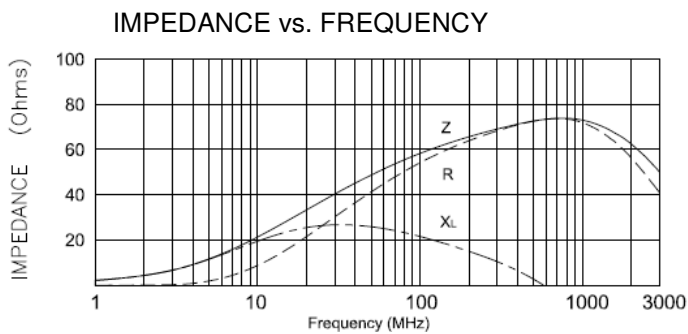
- 1 Series Name
- 2 Dimensions : L x W
- 3 Material Code
- 4 Impedance(Ω) $\pm 25\%$ } (Ex : 26 Ω →260 ; 120 Ω →121)
- 5 Fixed Decimal Point }
- 6 Rated Current Code
- 7 Dimensions Thickness (Null=standard ; 06=0.6mm)
- 8 Soldering : Green Parts , B=Lead-Free for whole chip
- 9 Packaging : P - Embossed paper tape , 7" reel.
- 10 Rated Current Value : A90=900mA ; 6A0=6000mA

■ Typical Characteristic

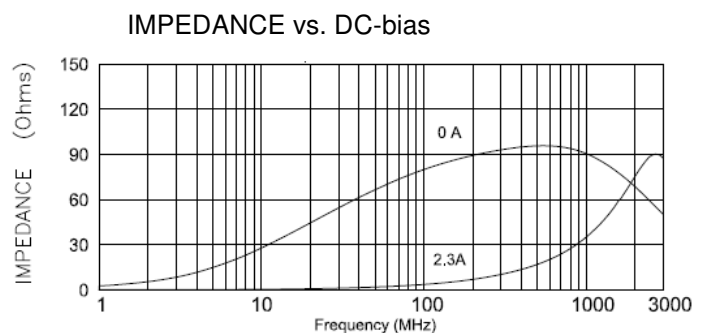
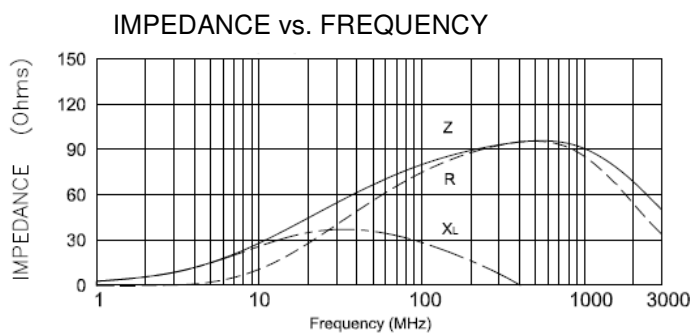
MHC1005P330ZBP3A0



MHC1005P600ZBP2A5

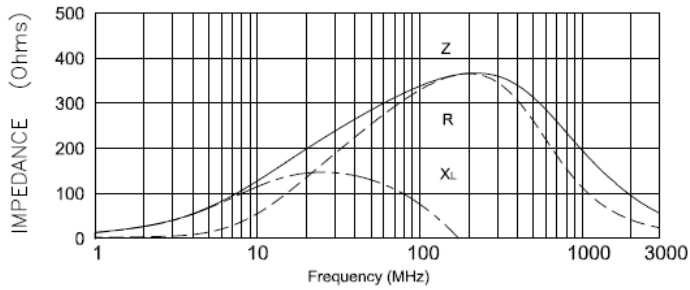


MHC1005P800ZBP2A3

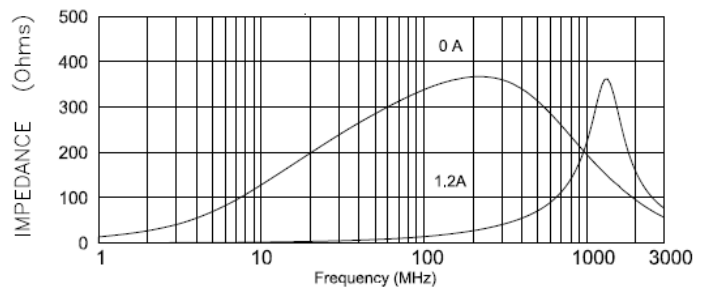


MHC1005P331ZBP1A2

IMPEDANCE vs. FREQUENCY

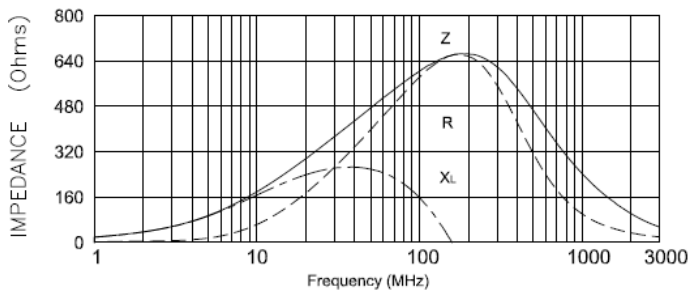


IMPEDANCE vs. DC-bias

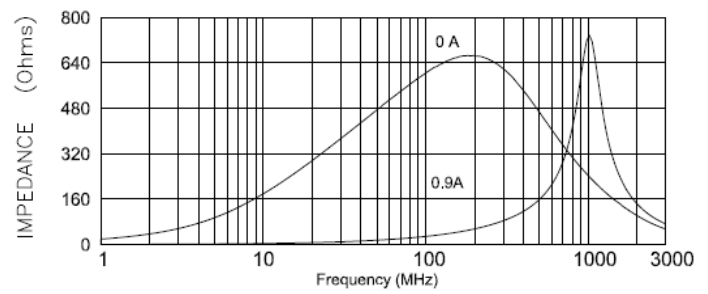


MHC1005P601ZBPA90

IMPEDANCE vs. FREQUENCY

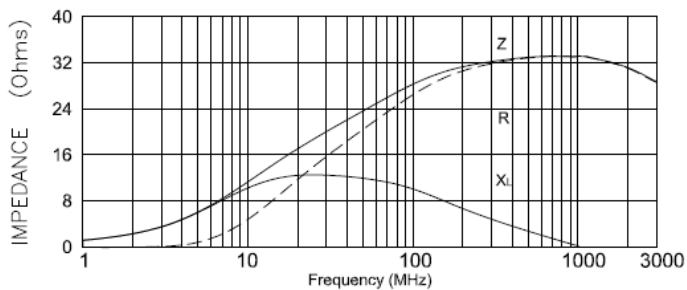


IMPEDANCE vs. DC-bias

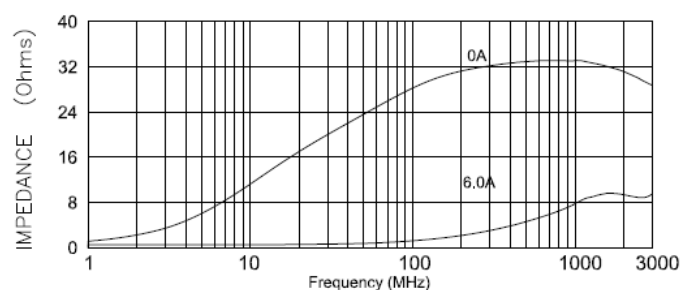


MHC1608P260Z06BP6A0

IMPEDANCE vs. FREQUENCY

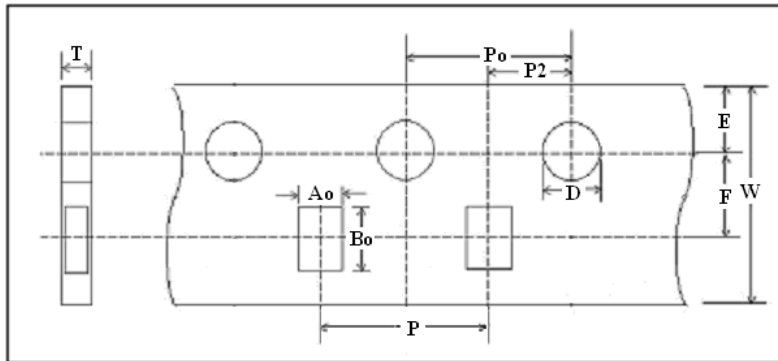


IMPEDANCE vs. DC-bias



■ Tape and Reel Specifications

Paper carrier

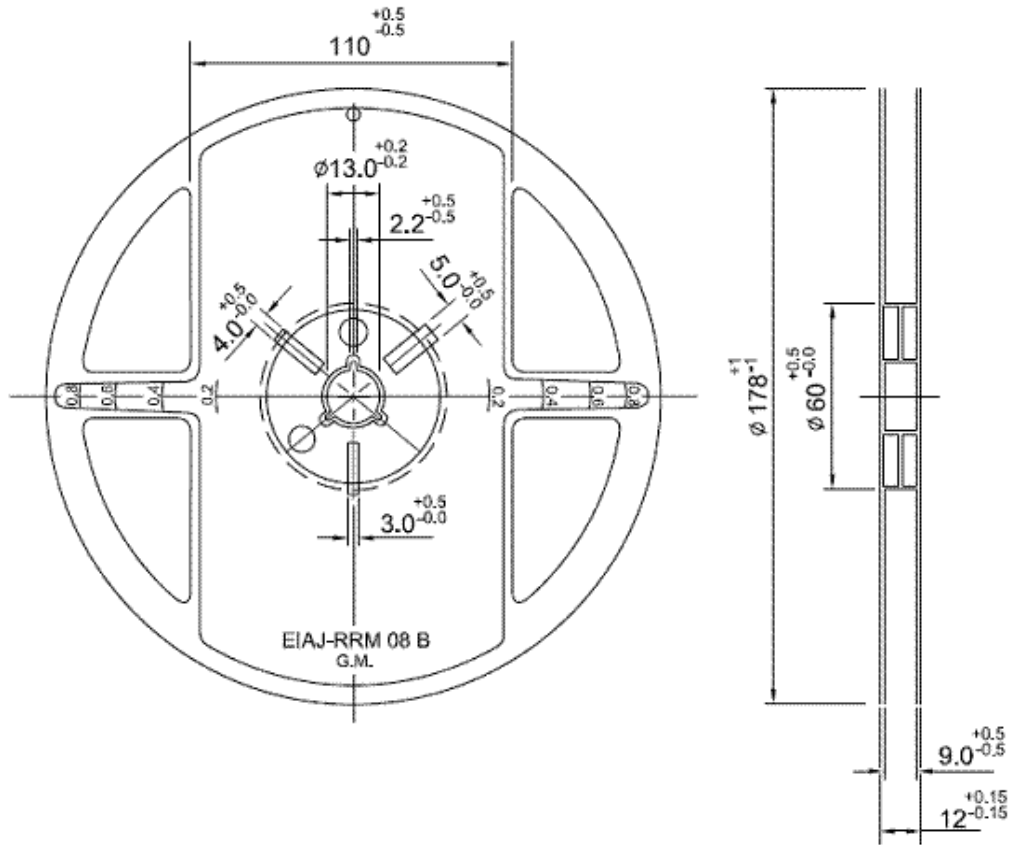


■ Taping Dimensions

Size (mm)	1005	1608(T:06)
Symbol	Paper	Paper
W	8.00±0.10	8.00±0.10
P	2.00±0.05	4.00±0.10
E	1.75±0.05	1.75±0.10
F	3.50±0.05	3.50±0.10
D	1.55±0.05	1.56±0.10
P ₀	4.00±0.10	4.00±0.10
P ₂	2.00±0.05	2.00±0.10
A _o	0.62±0.03	0.97±0.05
B _o	1.12±0.03	1.80±0.05
Ko(T)	0.60±0.03	0.75±0.05

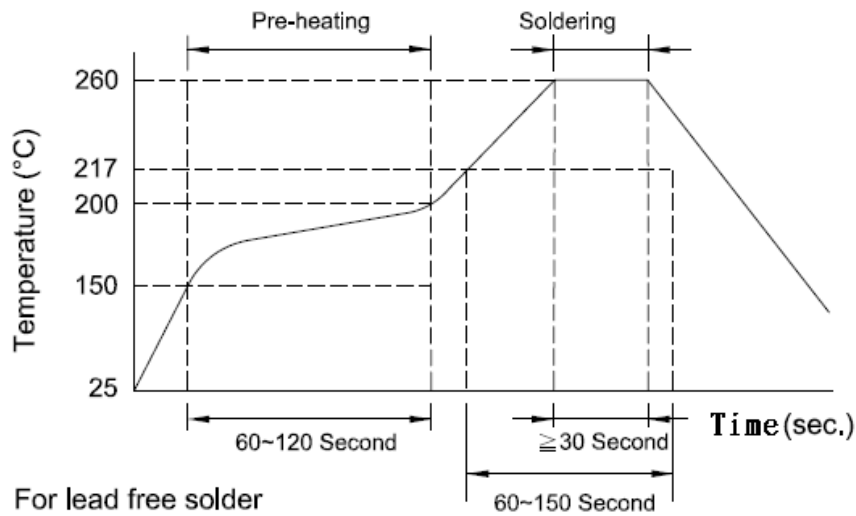
■ Reel Dimensions

Unit: mm

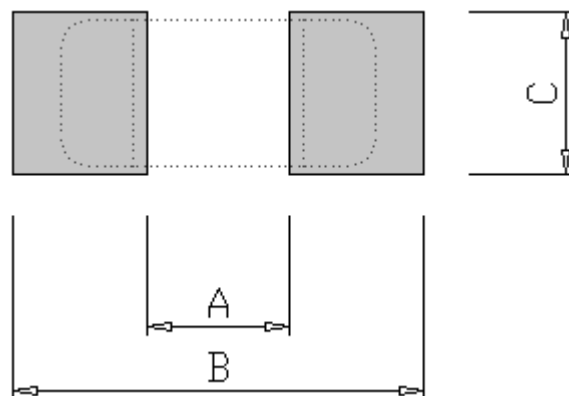


7" Reel Packaging Quantity		
Part Size (EIA Size)	1005 (0402)	1608 (0603)
Qty.(pcs)	10,000	4,000
BOX	5 reels / inner box	5 reels / inner box

■ Recommended Soldering Conditions



■ Land Patterns for Reflow Soldering



■ Solder Land Information

Size (mm)	A	B	C
1005	0.40 ~ 0.60	1.60 ~ 2.60	0.40 ~ 0.70
1608	0.50 ~ 0.70	1.80 ~ 2.00	0.65 ~ 0.95

Reliability and Test Conditions

Test item	Test condition	Criteria
Temperature Cycle	<ol style="list-style-type: none"> 1. Temperature:-40 ~ 85°C For 30 minutes each 2. Cycle: 100 cycles 3. Measurement: at ambient temperature 24 hours after test completion 	<ol style="list-style-type: none"> 1. No mechanical damage 2. Impedance should be within $\pm 20\%$ of the initial value
Operational Life	<ol style="list-style-type: none"> 1. Temperature: 85 \pm 5°C 2. Testing time: 1000 hrs 3. Applied current: Full rated current 4. Measurement: At ambient temperature 24 hours after test completion 	<ol style="list-style-type: none"> 1. No mechanical damage 2. Impedance should be within $\pm 20\%$ of the initial value
Biased Humidity	<ol style="list-style-type: none"> 1. Temperature: 40°C \pm 2°C 2. Humidity: 90-95 % RH 3. Applied current: Full rated current 4. Testing time: 1000 hrs 5. Measurement: at ambient temperature 24 hours after test completion 	<ol style="list-style-type: none"> 1. No mechanical damage 2. Impedance should be within $\pm 20\%$ of the initial value
Steam Aging Test	<ol style="list-style-type: none"> 1. Temperature : 93°C 2. Test time : 4 hrs(MHC1005) Others : 8 hrs 3. Solder temperature : 235 \pm 5°C 4. Flux : Rosin 5. DIP time : 5 \pm 1 sec 	<ol style="list-style-type: none"> 1. More than 95 % of terminal electrode should be covered with new solder
Resistance to Solder Heat	<ol style="list-style-type: none"> 1. Solder temperature : 260 \pm 5°C 2. Flux : Rosin 3. DIP time : 10 \pm 1 sec 	<ol style="list-style-type: none"> 1. More than 95 % of terminal electrode should be covered with new solder 2. No mechanical damage 3. Impedance should be within $\pm 20\%$ of the initial value
Rated Current	At ambient temperature & humidity Testing time:5 minutes (under full rated current)	Product surface temp : below room temperature plus 40°C

Test item	Test condition	Criteria
Adhesive Test	<ol style="list-style-type: none"> 1. Reflow temperature : 245°C It shall be soldered on the substrate applying direction parallel to the substrate 2. Apply force(F) : 5 N 3. Test time : 10 sec 	<ol style="list-style-type: none"> 1. No mechanical damage 2. Soldering the products on PCB after the pulling test force > 5 N

■ General Technical Data

Operating temperature range : - 55°C ~ +125°C

Storage Condition : Less than 40°C and 70% RH

Storage Time: 6 months(Size:1005)

12 months(Size:1608 above)

Soldering method: Reflow or Wave Soldering.

In operating temperature exceeding +85°C ,derating of current is set according to the operating temperature graph as follows.

