佳邦科技股份有限公司
INPAQ TECHNOLOGY CO., LTD.

MCB 1005 B Series

Specification

Product Name	Chip Ferrite Bead
Series	MCB B Series
Size	EIAJ 1005

Chip Ferrite Bead (MCB-B Series) Engineering Spec.

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!

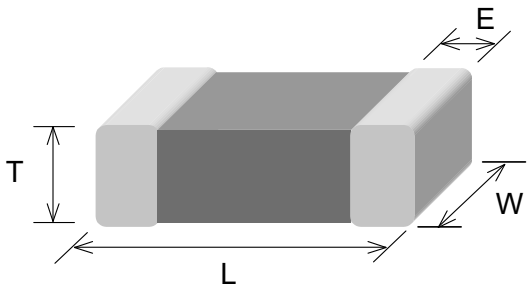
■ FEATURES

- Monolithic inorganic material construction
- Closed magnetic circuit avoids crosstalk
- SMD Type & suitable for reflow and wave soldering
- Available in various sizes
- Excellent solderability and heat resistance
- High reliability
- Effectively filtering capability over a wide range of frequency

■ APPLICATIONS

Filtering between analog and digital circuitry,clock generation circuitry,I/O interconnects, isolation between RF noisy circuits and logic devices susceptible to functional degradation, power supply filtering to prevent conducted RF energy from corrupting the power generation circuitry,high frequency EMI prevention of computer, printers, VCRs, TVs and portable telephones

■ SHAPES AND DIMENSIONS



TYPE	1005 (EIA 0402)
L	1.00 ± 0.10
W	0.50 ± 0.10
T	0.50 ± 0.10
E	0.25 ± 0.10
Unit	mm

■ PART NUMBER CODE

MCB	1005	B	60	1	F	B	P
1	2	3	4	5	6	7	8

1 **Series Name**
2 **Size Code: the first two digitals : length(mm), the last two digitals : width(mm)**
3 **Material Code**
4 **Impedance at 100MHz**
5 **Fixed Decimal Point** ┐ **(ex：600=60Ω ；121=120Ω)**
6 **Rated Current Code**

A=50mA	B=80mA	C=100mA	D=150mA	E=200mA	F=300mA
G=400mA	H=500mA	I =600mA	J =700mA	K=800mA	

7 **Soldering：Green Parts: A— Soldering Lead-Free B— Lead-Free for whole chip**
8 **Packaging：P – Paper tape, 7" reel.**

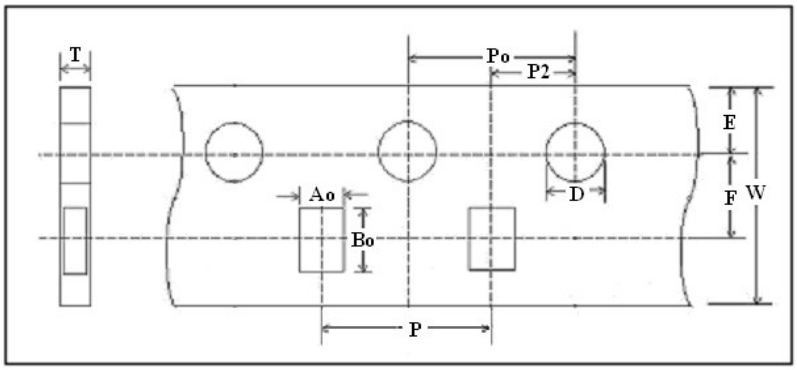
■ PART NUMBER AND CHARACTERISTICS TABLE

Part No.	Impedance(Ω) +/-25%	Test Freq. (MHz)	DCR(Ω) (Max.)	Rated Current (mA)
MCB1005B601FBP	600	100	0.60	300
MCB1005B102EBP	1000	100	1.00	200
MCB1005B152DBP	1500	100	1.50	150
MCB1005B182DBP	1800	100	1.50	150
	•Test Level：250 mV			
Test Instruments：	•HP4291B RF IMPEDANCE / MATERIAL ANALYZER or EQUIVALENT •HP4338A/B MILLIOHMMETER •Agilent E5071C S-PARAMETER NETWORK ANALYZER •HP6632B SYSTEM DC POWER SUPPLY			

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

■ TAPE AND REEL SPECIFICATIONS

PAPER CARRIER

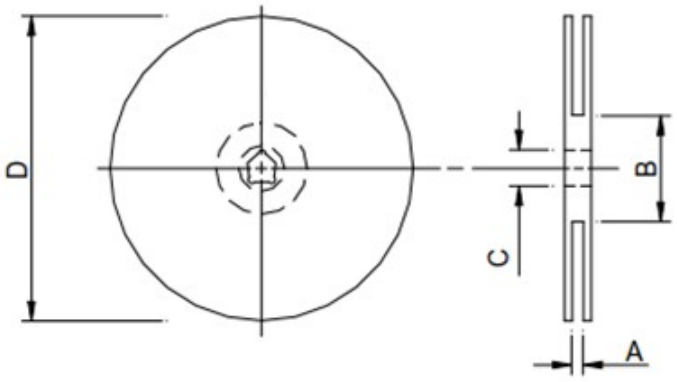


■ TAPING DIMENSIONS

Unit：mm

Size	**1005**
Symbol	PAPER
W	8.00±0.10
P	2.00±0.05
E	1.75±0.05
F	3.50±0.05
D	1.55±0.05
D1	NA
Po	4.00±0.10
Po10	NA
P2	2.00±0.05
Ao	0.62±0.03
Bo	1.12±0.03
Ko(T)	0.60±0.03
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

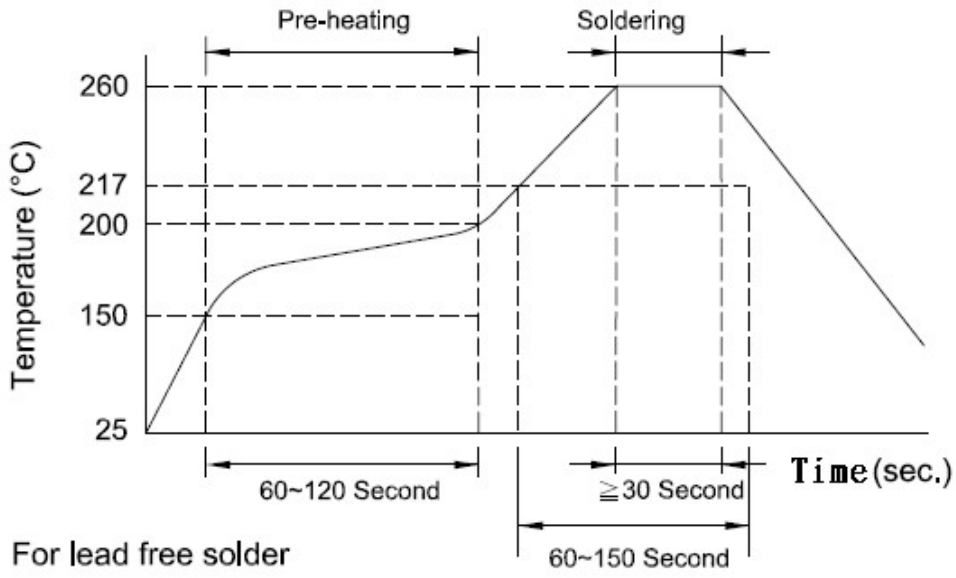
■ PACKAGING DIMENSION QUANTITY

Packaging style：Taping

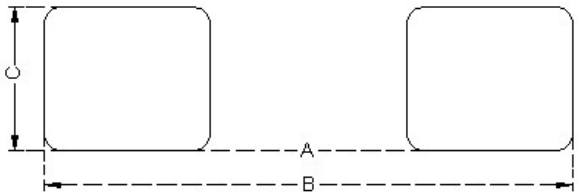
Reel packaging quantity：**10,000** pcs/reel

Per the box：5 Reels

■ RECOMMENDED SOLDERING CONDITIONS



■ LAND PATTERNS FOR REFLOW SOLDERING



■ SOLDER LAND INFORMATION

Unit: mm (inches)

Size(mm)	A	B	C
1005	0.4 (0.016)	1.2 ～ 1.4 (0.047 ～ 0.055)	0.5 (0.020)

■ GENERAL TECHNICAL DATA

Operating temperature range : - 55℃ ~ +125℃
Storage Condition : Less than 40℃ and 70% RH
Storage Time ： 6 months Max.
Soldering method ： Reflow

■ RELIABILITY AND TEST CONDITION

Test item	Test condition	Criteria
Thermal Shock	a. Temperature : - 55℃ ~ +125℃ b. Cycle : 100 cycles c. Dwell time : 30minutes d. Measurement : at ambient temperature 24 hrs after test completion	a. No mechanical damage b. Impedance value should be within ± 20 % of the initial value
Operational Life	a. Temperature : 125℃ ± 5℃ b. Test time : 1000 hrs c. Apply current : full rated current d. Measurement : at ambient temperature 24 hrs after test completion	a. No mechanical damage b. Impedance value should be within ± 20 % of the initial value
Biased Humidity	a. Temperature : 40℃ ± 2℃ b. Humidity : 90 ~ 95 % RH c. Test time : 1000 hrs d. Apply current : full rated current e. Measurement : at ambient temperature 24 hrs after test completion	a. No mechanical damage b. Impedance value should be within ± 20 % of the initial value
Resistance to Solder Heat	a. Solder temperature : 260 ± 5℃ b. Flux : Rosin c. DIP time : 10 ± 1 sec	a. More than 95 % of terminal electrode should be covered with new solder b. No mechanical damage c. Impedance value should be within ± 20 % of the initial value

Test item	Test condition	Criteria
Adhesive Test	a. Reflow temperature : 245℃ It shall be Soldered on the substrate applying direction parallel to the substrate b. Apply force(F) : 5 N c. Test time : 10 sec	a. No mechanical damage b. Soldering the products on PCB after the pulling test force > 5 N
Steam Aging Test	a. Temperature : 93℃ b. Test time : 4 hrs c. Solder temperature : 235 ± 5℃ d. Flux : Rosin e. DIP time : 5 ± 1 sec	More than 95 % of terminal electrode should be covered with new solder
Rated Current Test	a. Apply current : full rated current / 5min	Temperature rise should be less than 25℃