

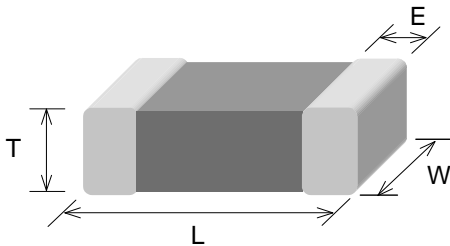


Chip Ferrite Bead for GHz Range (MGB Series)

Engineering Specification

SHAPES AND DIMENSIONS

Unit: mm



TYPE	100505 (EIA 0402)
L	1.00±0.10
W	0.50±0.10
T	0.50±0.10
E	0.25±0.10

PART NUMBER CODE

MGB 1005 G 60 1 E 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(Ω) $\pm 25\%$ } (ex : 600=60 Ω ; 121=120 Ω)
- 5 Fixed Decimal Point
- 6 Rated Current Code

C=100mA	D=150mA	E=200mA	F=300mA	G=400mA
H=500mA	L=1000mA	M=1500mA	N=2000mA	Y=250mA

- 7 Soldering : Green Parts: B— Lead-Free for whole chip
- 8 Packaging: P - Embossed paper tape, 7" reel.

GENERAL TECHNICAL DATA

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

■ PART NUMBER AND CHARACTERISTICS TABLE

MGB-G Series

Part No.	Impedance(Ω) \pm 25% @100MHz	Impedance(Ω) \pm 40% @1GHz	DCR(Ω) (Max.)	Rated Current (mA)
MGB1005-G Series				
MGB1005G601FB_	600	1400	0.85	300
MGB1005G102YB_	1000	2000	1.25	250
MGB1005G182EB_	1800	2700	2.20	200

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

Test Instrument : Agilent 4291B RF Impedance / Material Analyzer
 HP4338A/B Milliohmeter
 TOPWARD 33010D DC Power Supply

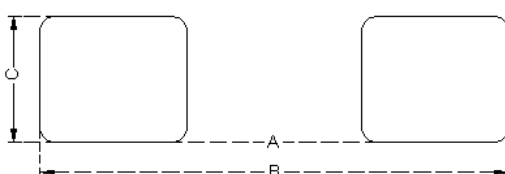
Test Level : 250 mV

■ RELIABILITY AND TEST CONDITION

Test item	Test condition	Criteria
Temperature Cycle	a. Temperature : -40 ~ +85°C 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 \pm 20 % of the initial value
Operational Life	a. Temperature : 125°C \pm 5°C 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 \pm 20 % of the initial value
Biased Humidity	a. Temperature : 40°C \pm 2°C 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 \pm 20 % of the initial value

Test item	Test condition	Criteria
Resistance to Solder Heat	a. Solder temperature : $260 \pm 5^{\circ}\text{C}$ 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
Adhesive Test	a. Reflow temperature : 245°C 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°C b. Test time : 4 hrs c. Solder temperature : $235 \pm 5^{\circ}\text{C}$ 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°C

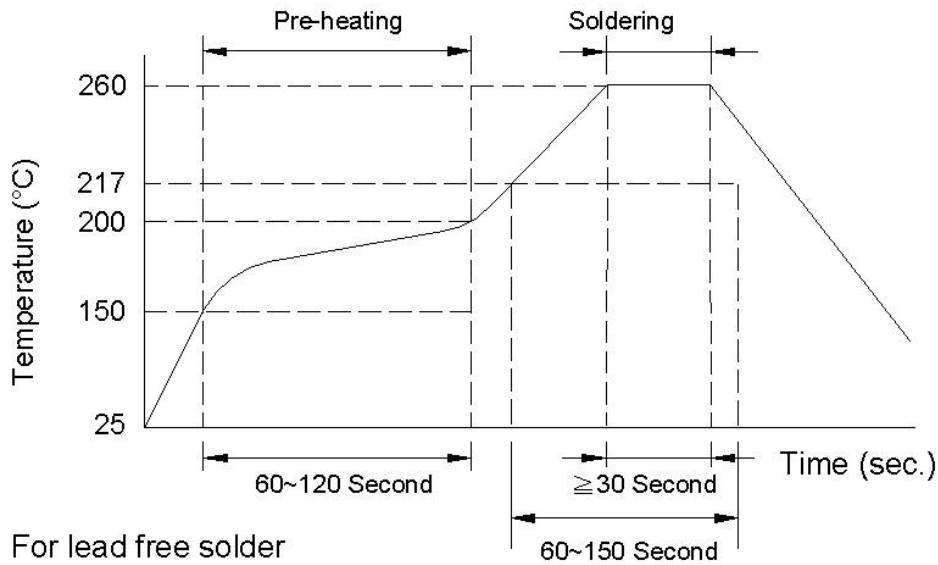
■ LAND PATTERNS FOR REFLOW SOLDERING



Unit : mm (inches)

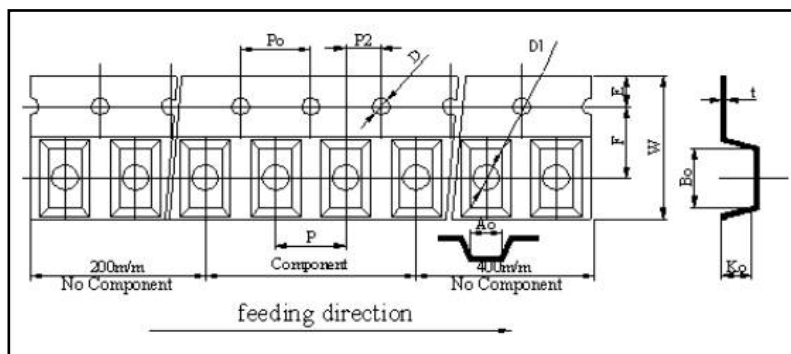
Size	A	B	C
1005	0.4 ~ 0.6 (0.015 ~ 0.023)	1.6 ~ 2.6 (0.063 ~ 0.102)	0.4 ~ 0.7 (0.016 ~ 0.027)

■ RECOMMENDED SOLDERING CONDITIONS

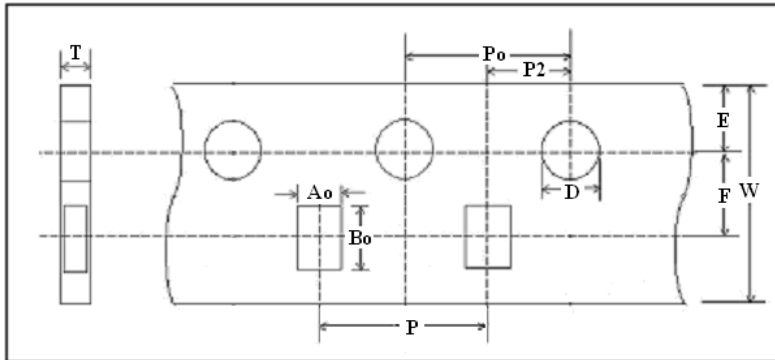


■ TAPE AND REEL SPECIFICATIONS

PLASTIC CARRIER



PAPER CARRIER



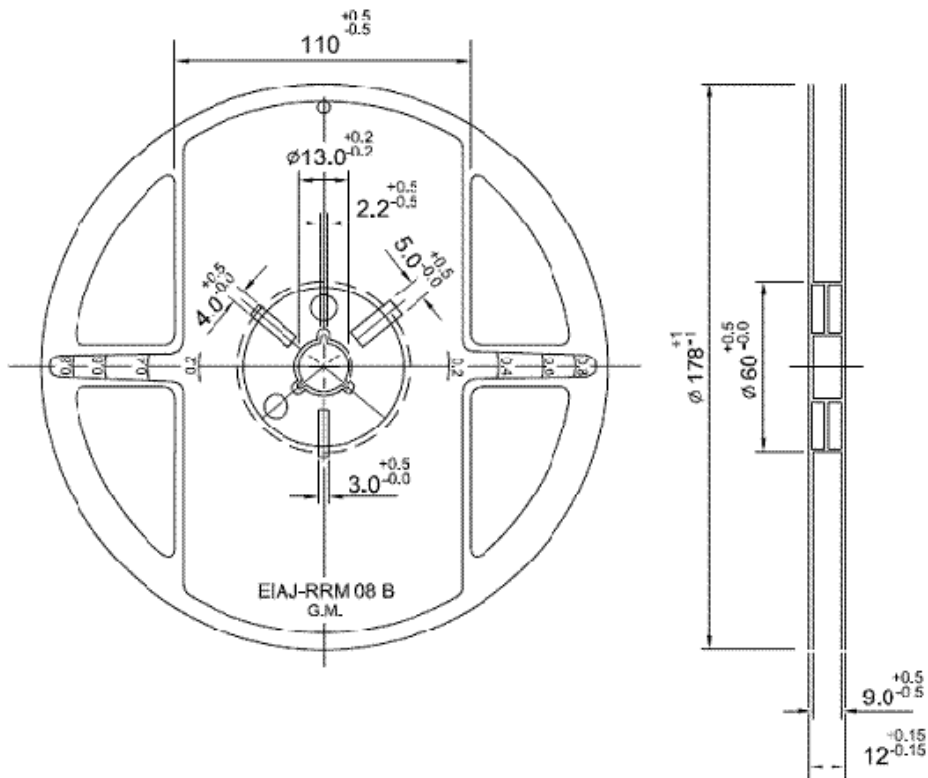
■ TAPING DIMENSIONS

Unit: mm

	100505
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
P ₀	4.00±0.10
P ₀₁₀	NA
P ₂	2.00±0.05
A ₀	0.62±0.03
B ₀	1.12±0.03
K ₀ (T)	0.60±0.03
t	NA

■ REEL DIMENSIONS

Unit: mm



Reel Packaging Quantity		
PART SIZE (EIA SIZE)		1005 (0402)
7" REEL	Qty. (pcs)	10,000

The Contents of a box :

1005 (0402): 5 reels / inner box;

■ PART COMPOSITION DECLARATION

Composition part	Material Name.	Element name composition	CAS No.	Substance Mass(mg)	
				mass(mg)	%
Ceramic body	Ferrite Powder	FeO	1309-37-1	0.7115	46.6%
		CuO	1317-38-0	0.0255	1.7%
		NiO	7440-02-0	0.2010	13.2%
		ZnO	1314-13-2	0.2144	14.0%
	Silver Conductor	Ag	7440-22-4	0.2814	18.4%
	Internal Electrode	Ag	7440-22-4	0.0777	5.1%
Termination	Plating	Ni	7440-02-0	0.0027	0.2%
External electrode	Solder	Sn	7440-31-5	0.0134	0.9%
Total mass (mg)				1.5276	100%