SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Multilayer Chip Bead	ABC'S DWG NO.	M□2029□□□□L□-□□□		
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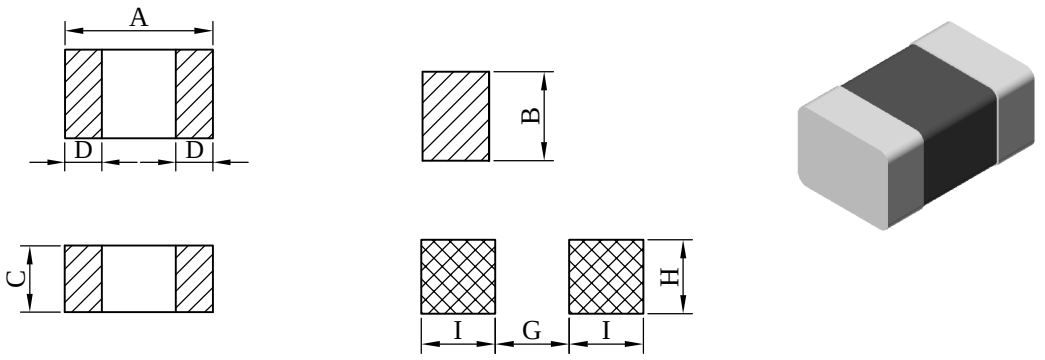
Ⅰ．Configuration and dimensions：



(PCB Pattern)

Unit：m/m

A	B	C	D	G	H	I
2.00 ±0.2	1.20 ±0.2	0.90 ±0.2	0.50 ±0.3	0.80	1.00	1.00

Ⅱ．Materials：

a．Body：Ferrite
b．Internal conductor：Silver
c．Terminal electrode：Ag / Ni / Sn
d．Product weight：10.0 mg（ref.）
e．Products comply with RoHS' requirements
f．Halogen free available.

Ⅲ．General specification：

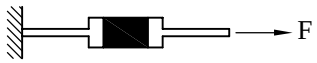
a．Storage Conditions：

Electrical Performance temp：-55℃ ---- +125℃

Terminal Solderability & Packages Material temp：-10℃ ---- +40℃ and RH 70% max.

b．Operating temp.：-55℃ ---- +125℃

c．Terminal strength：



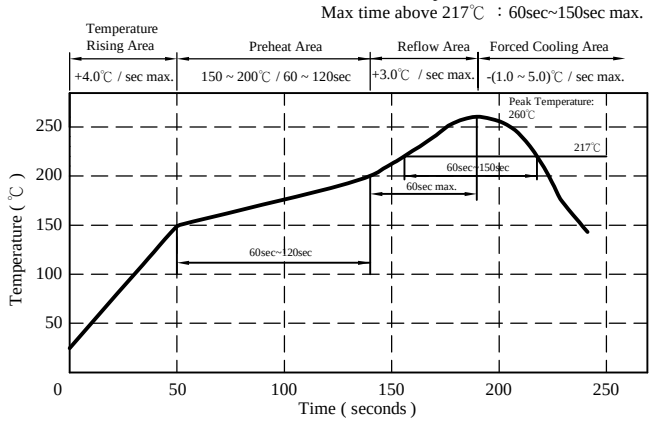
Type	F (kgf)	Time (sec)
M□2029	0.6	30±5

d．Resistance to soldering heat：

Solder temp. : 260℃

Dip time :10 sec max.

Peak Temp：260℃ max.
Max. Peak Temp - 5℃：30sec max.
Max time above 217℃ ：60sec~150sec max.



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Ⅳ . Electrical characteristics：

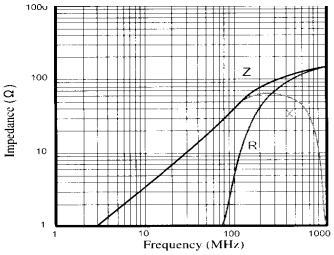
DWG No.	Impedance (Ω) at 100MHz	RDC (Ω) max.	IDC (mA) max.
MD2029400YL□-□□□	40±25%	0.20	300
MG2029800YL□-□□□	80±25%	0.15	300
MG2029121YL□-□□□	120±25%	0.25	300
MU2029221YL□-□□□	220±25%	0.30	200
MU2029301YL□-□□□	300±25%	0.30	200
MZ2029601YL□-□□□	600±25%	0.35	200
MZ2029102YL□-□□□	1000±25%	0.45	200
MG2029152YL□-□□□	1500±25%	0.45	200
MG2029202YL□-□□□	2000±25%	0.60	200

1). □：Packaging information：□ Code

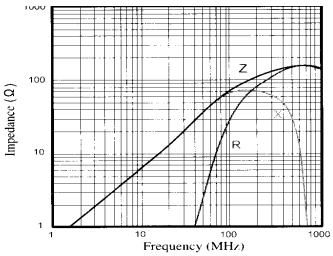
2). "-□□□"：Reference code

3). Electrical specifications at 25℃

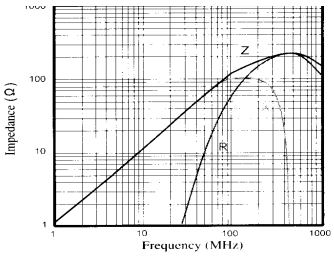
MD2029400YL□



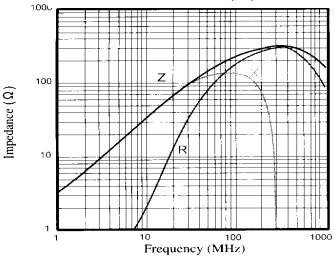
MG2029800YL□



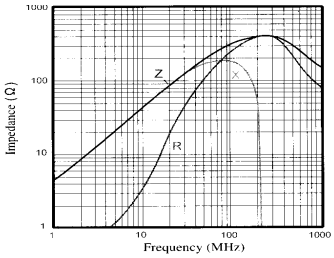
MG2029121YL□



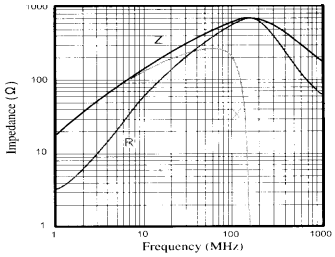
MU2029221YL□



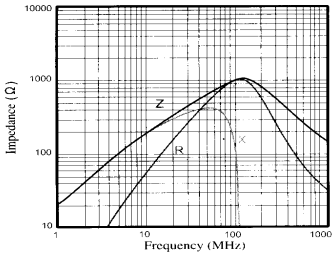
MU2029301YL□



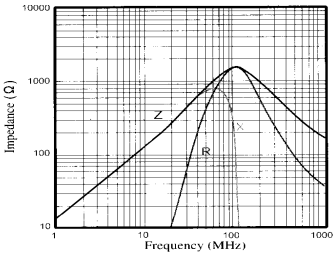
MZ2029601YL□



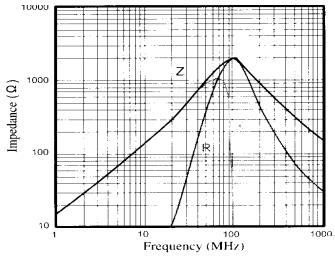
MZ2029102YL□



MG2029152YL□



MG2029202YL□



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PROD. NAME	Multilayer Chip Bead	ABC'S DWG NO.	M□2029□□□□L□-□□□		
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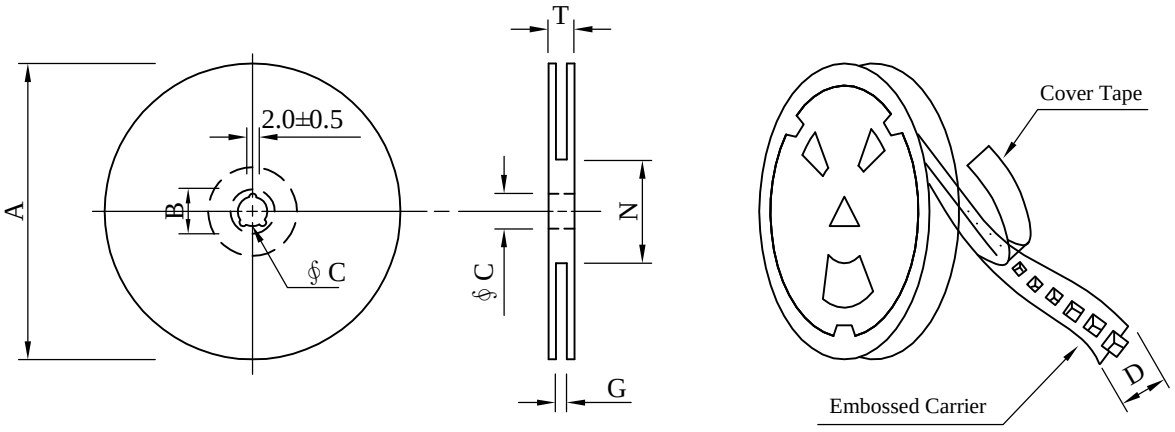
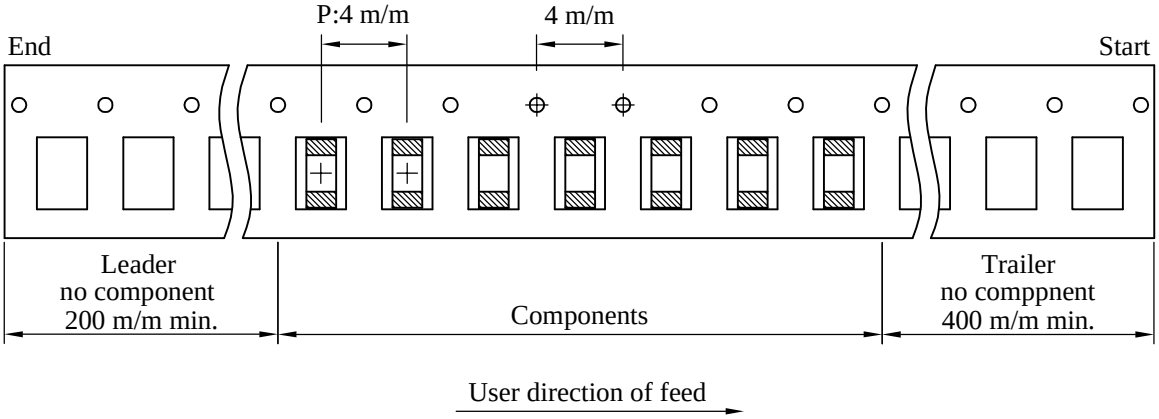
Ⅴ . Packaging information：

(1) Configuration



※Carrier tape width : D



(2) Dimensions Unit:m/m

Style	A	B	C	D	G	N	T
07 - 08	178	21±0.8	13	8	10^{+0}	50^{-0}	12.5

(3) Q'TY & G.W. Per package

Code	Inner : Reel			Outer : Carton		
	Q'TY (pcs)	G.W. (gw)	Style	Q'TY(kpcs)	G.W. (Kg)	Size (cm)
B	4,000	120	07 - 08	200	8.5	41 x 39 x 22

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REF. :

Ⅵ．Reliability test：

Item	Reference documents	Test Condition	Test Specification
1.High Temperature Exposure	MIL-STD-202 Method 108	1.Temperature: 125℃ 2.Time:1008 hours. 3.Measurement：After placing for 24 hours min.	1.Body: No damage 2.Impedance shall not change more than ±30%.
2.Low Temperature Exposure	JESD22-A119	1.Temperature: -55℃ 2.Time:1008 hours. 3.Measurement：After placing for 24 hours min.	1.Body: No damage 2.Impedance shall not change more than ±30%.
3.Temperature Cycling	JESD22-A 104	1.Temperature: -55℃ ~ 125℃ 2.Number of cycle:100 cycle 3.Dwell time:30 minutes 4.Measurement：After placing for 24 hours min.	1.Body: No damage 2.Impedance shall not change more than ±30%.
4.Biased Humidity Test	MIL-STD-202 Method 103	1.Temperature:40±5 ℃ 2.Time:1008 Hours 3.Humidity: 95% RH. 4.Measurement：After placing for 24 hours min.	1.Body: No damage 2.Impedance shall not change more than ±30%.
5.Vibration Test	MIL-STD-202 Method 204	1.Frequency and Amplitued : 10-55-10 Hz, 1.5 mm. 2.Direction:X, Y, Z 3.Test duration:2 hours for each direction, 6 hours in total.	Appearance: No damage
6.Resistance To Soldering Heat Test	MIL-STD-202 Method 210	1.Solder Temp. : 265±3℃ 2.Immersion time : 6±1 sec 3.Preheating : 100℃ to 150℃, 1 minute. 4.Measurement：After placing for 24 hours min.	1.Appearance: No damage 2.Impedance shall not change more than ±30%.
7.Solderability Test	J-STD-002	1.Preheat：150℃,60 seconds 2.Solder temperature：245±5℃ 3.Flux 4.Dip time：4±1 seconds	The terminal shall be at least 90% covered with fresh solder.
8.Terminal Strength Test	IEC 60068-2-21	1.Apply push force to samples mounted on PCB. 2.Force: Refer to product specification. 3.Dwell time : >25 seconds.	The terminal electrode and the body shall not be damaged by the forces applied on the right conditions.
9.Board Flex	JIS-C-6429	1.Deflection speed：1 mm/ sec 2.Amount of deflection：2 mm 3.Span：90 mm 4.Direction for test：Bottom of PCB 5.Holding time : 60 seconds.	1.Appearance: No damage 2.The terminal electrode and the body shall not be damaged by the forces applied on the right conditions.