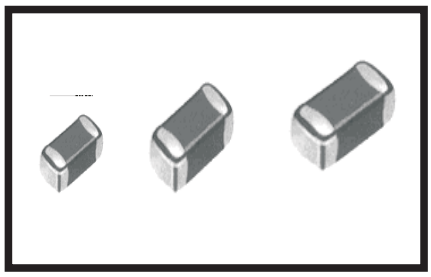
■ 鐵氧體疊層片式磁珠(普通型)
FERRITE CHIP BEADS



OPEARATING TEMP.	1005	:-40～85℃
	1608 2012	:-40～+85℃

• 特征 FEATURES

- 在同樣的尺寸下較插裝磁珠可產生較高的阻抗值
- 與傳統的磁珠不同，片式磁珠無引綫，只要簡單的安裝到PCB板上就可抑制EMI和RFI
- 磁珠的形狀和尺寸都符合EIA標准，可以利用SMT設備進行自動貼裝
- Under the same size，the multilayer chip beads produce higher impedance than plug-in beads.
- These CBG series have substantial EMI.RFI suppression by simply mounting them onto PCB
- Suitable EIA standard in shape and dimension of chip beads; Can be mounted automatically by SMT equipments.

• 應用 APPLICATIONS

- 用于數據傳輸綫、信號綫、電源部分及回路的抗干擾。
- Redialed noise suppression on digital product clock lines、signal lines and suppression noise on circuit.

• 産品規格型號的表示方法 ORDERING CODE

CBG ① 201209 ② U ③ 121 ④ T ⑤

① 産品代號 Product Code

CBG	疊層片式通用型磁珠 Multilayer ordinary chip beads

② 規格尺寸(L×W×T) (mm) Dimensions

100505	1.0×0.5×0.5
160808	1.6×0.8×0.8
201209	2.0×1.2×0.9
321609	3.2×1.6×0.9
322513	3.2×2.5×1.3
451616	4.5×1.6×1.6
453215	4.5×3.2×1.5

③ 材料代號 Material Code

U

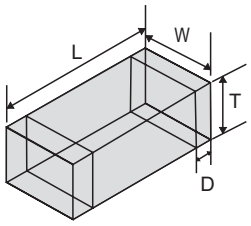
④ 阻抗(Ω) Impedance

實例 Example	
110	11
121	120
221	220
102	1000

⑤ 包裝方式 Packaging Style

T	卷帶盤裝 Tape & Reel
B	散裝 Bulk

• 外形尺寸 SHAPE AND DIMENSIONS



unit：mm(inch)

Part No.	L	W	T	D
100505 (0402)	1.0±0.15 (0.040±0.006)	0.5±0.15 (0.020±0.006)	0.5±0.15 (0.020±0.006)	0.25±0.10 (0.010±0.004)
160808 (0603)	1.6±0.2 (0.063±0.008)	0.8±0.2 (0.031±0.008)	0.8±0.2 (0.031±0.008)	0.3±0.2 (0.01±0.008)
201209 (0805)	2.0±0.2 (0.079±0.008)	1.2±0.2 (0.047±0.008)	0.9±0.2 (0.035±0.008)	0.5±0.3 (0.020±0.012)
321609 (1206)	3.2±0.2 (0.126±0.008)	1.6±0.2 (0.063±0.008)	0.9±0.2 (0.035±0.008)	0.5±0.3 (0.020±0.012)
322513 (1210)	3.2±0.2 (0.126±0.008)	2.5±0.2 (0.098±0.008)	1.3±0.2 (0.051±0.008)	0.5±0.3 (0.020±0.012)
451616 (1806)	4.5±0.2 (0.186±0.008)	1.6±0.2 (0.063±0.008)	1.6±0.2 (0.063±0.008)	0.5±0.3 (0.020±0.012)
453215 (1812)	4.5±0.2 (0.180±0.008)	3.2±0.2 (0.126±0.008)	1.5±0.2 (0.060±0.008)	0.5±0.3 (0.020±0.012)

• 電性能參數 ELECTRICAL CHARACTERISTICS

1005 TYPE

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (mA)Max
CBG100505U070	0~11	0.10	300
CBG100505U190	12~25	0.10	300
CBG100505U260	26±25%	0.15	300
CBG100505U310	31±25%	0.20	300
CBG100505U360	36±25%	0.20	300
CBG100505U600	60±25%	0.35	200
CBG100505U101	100±25%	0.50	150
CBG100505U121	120±25%	0.50	150
CBG100505U151	150±25%	0.55	150
CBG100505U201	200±25%	0.60	100
CBG100505U301	300±25%	0.80	100
CBG100505U501	500±25%	1.1	100
CBG100505U601	600±25%	1.3	100
CBG100505U801	800±25%	1.4	50
CBG100505U102	1000±25%	1.60	25
CBG100505U122	1200±25%	1.80	25

1608 TYPE

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (mA)Max
CBG160808U070	0~11	0.10	800
CBG160808U150	9~21	0.10	800
CBG160808U310	31±25%	0.10	500
CBG160808U700	70±25%	0.20	300
CBG160808U800	80±25%	0.20	300
CBG160808U101	100±25%	0.30	200
CBG160808U121	120±25%	0.30	200
CBG160808U151	150±25%	0.35	200
CBG160808U181	180±25%	0.45	200
CBG160808U221	220±25%	0.45	200
CBG160808U301	300±25%	0.50	150
CBG160808U501	500±25%	0.60	150
CBG160808U601	600±25%	0.60	100
CBG160808U801	800±25%	0.70	100
CBG160808U102	1000±25%	0.80	100
CBG160808U122	1200±25%	0.85	100
CBG160808U152	1500±25%	0.85	50
CBG160808U182	1800±25%	1.10	50
CBG160808U202	2000±25%	1.10	50

2012 TYPE

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (mA)Max
CBG201209U050	0~15	0.08	900
CBG201209U110	7~15	0.10	900
CBG201209U260	26±25%	0.10	900
CBG201209U310	31±25%	0.10	900
CBG201209U500	50±25%	0.15	900
CBG201209U600	60±25%	0.15	900
CBG201209U800	80±25%	0.18	500
CBG201209U101	100±25%	0.18	400
CBG201209U121	120±25%	0.20	400
CBG201209U151	150±25%	0.20	400
CBG201209U181	180±25%	0.20	300
CBG201209U221	220±25%	0.20	300
CBG201209U301	300±25%	0.35	300
CBG201209U501	500±25%	0.40	300
CBG201209U601	600±25%	0.40	300
CBG201209U801	800±25%	0.45	200
CBG201209U102	1000±25%	0.45	200
CBG201209U122	1200±25%	0.60	100
CBG201209U152	1500±25%	0.70	100
CBG201209U202	2000±25%	0.90	50
CBG201209U820	82± 25%	0.18	500
CBG201209U680	68± 25%	0.15	900

3216 TYPE

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (mA)Max
CBG321609U050	0~15	0.10	1000
CBG321609U110	7~15	0.10	1000
CBG321609U260	26±25%	0.10	1000
CBG321609U310	31±25%	0.10	1000
CBG321609U600	60±25%	0.15	1000
CBG321609U800	80±25%	0.15	1000
CBG321609U121	120±25%	0.25	1000
CBG321609U151	150±25%	0.30	400
CBG321609U181	180±25%	0.30	400
CBG321609U221	220±25%	0.35	400
CBG321609U301	300±25%	0.40	400
CBG321609U501	500±25%	0.45	300
CBG321609U601	600±25%	0.45	300
CBG321609U801	800±25%	0.55	300
CBG321609U102	1000±25%	0.55	300
CBG321609U122	1200±25%	0.60	100
CBG321609U820	82±25%	0.15	1000

3225 TYPE

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (mA)Max
CBG322513U190	12~25	0.10	1000
CBG322513U260	26±25%	0.10	1000
CBG322513U310	31±25%	0.10	1000
CBG322513U600	60±25%	0.15	1000
CBG322513U800	80±25%	0.20	400
CBG322513U101	100±25%	0.20	400
CBG322513U121	120±25%	0.20	400
CBG322513U151	150±25%	0.30	400
CBG322513U181	180±25%	0.40	400
CBG322513U221	220±25%	0.40	400
CBG322513U301	300±25%	0.40	400
CBG322515U501	500±25%	0.40	300
CBG322513U601	600±25%	0.40	300
CBG322513U801	800±25%	0.40	300
CBG322513U102	1000±25%	0.40	300

4516 TYPE

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (mA)Max
CBG451616U190	12~25	0.10	1000
CBG451616U260	26±25%	0.10	1000
CBG451616U310	31±25%	0.15	1000
CBG451616U600	60±25%	0.20	1000
CBG451616U700	70±25%	0.25	1000
CBG451616U800	80±25%	0.30	1000
CBG451616U900	90±25%	0.35	1000
CBG451616U121	120±25%	0.40	500
CBG451616U151	150±25%	0.40	500
CBG451616U221	220±25%	0.45	500
CBG451616U301	300±25%	0.45	500
CBG451616U501	500±25%	0.50	200
CBG451616U601	600±25%	0.50	200
CBG451616U801	800±25%	0.55	200

4532 TYPE

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (mA)Max
CBG453215U190	12~25	0.10	1000
CBG453215U380	38±25%	0.15	1000
CBG453215U700	70±25%	0.20	1000
CBG453215U800	80±25%	0.20	1000
CBG453215U101	100±25%	0.20	500
CBG453215U121	120±25%	0.25	500
CBG453215U151	150±25%	0.25	500
CBG453215U221	220±25%	0.30	300
CBG453215U301	300±25%	0.30	300
CBG453215U601	600±25%	0.40	200
CBG453215U801	800±25%	0.45	200
CBG453215U102	1000±25%	0.50	200

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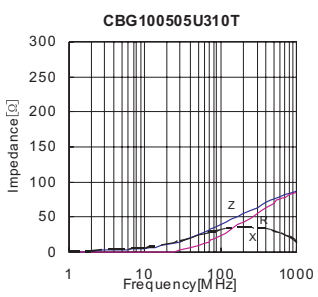
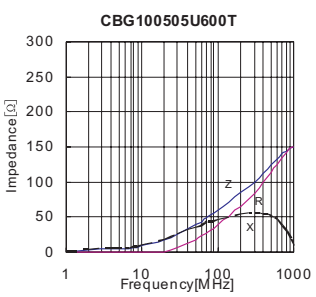
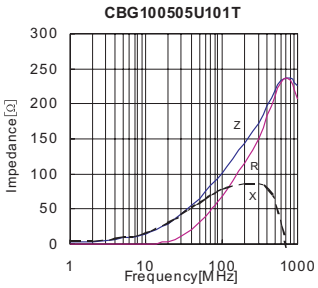
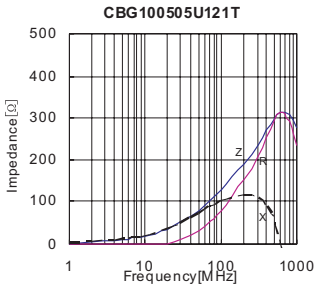
FERRITE CHIP BEADS

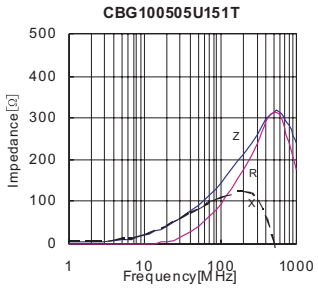
1005 SERIES

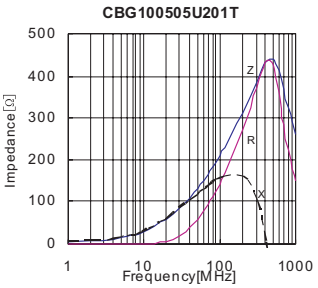


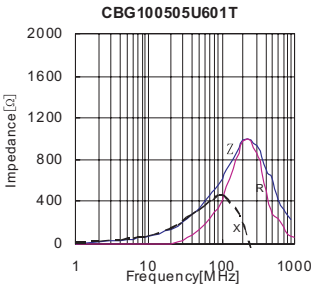


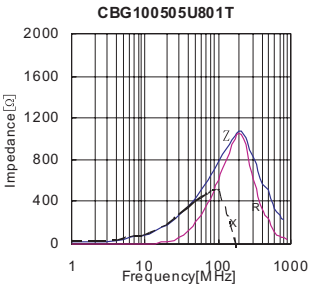




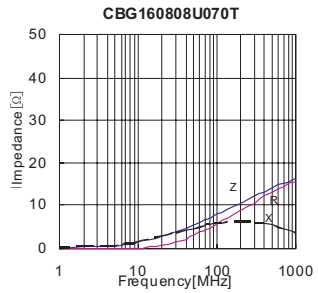


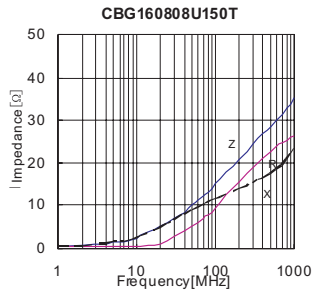


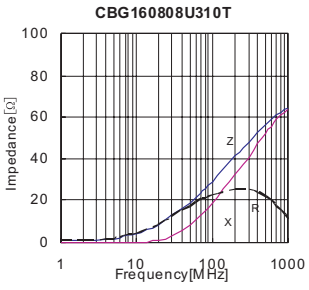


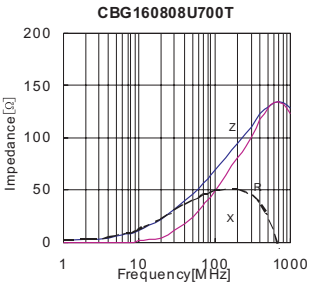


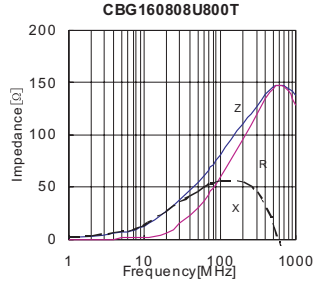
1680 SERIES

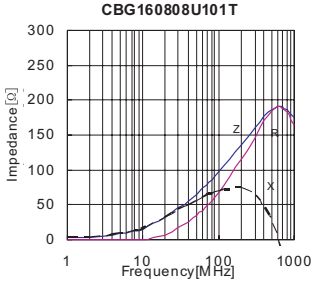


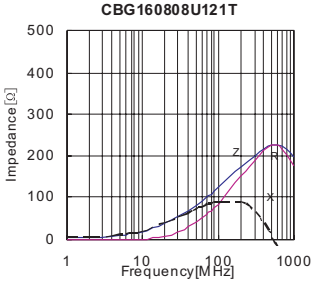


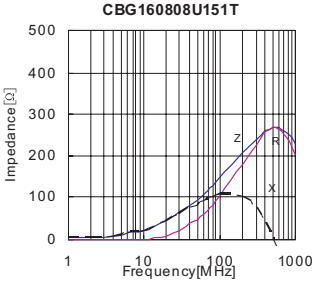






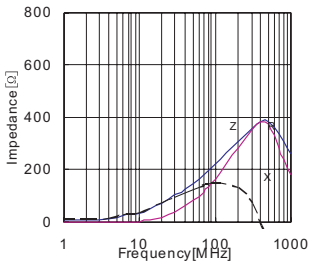






■ 鐵氧體疊層片式磁珠(普通型)
FERRITE CHIP BEADS

CBG160808U221T



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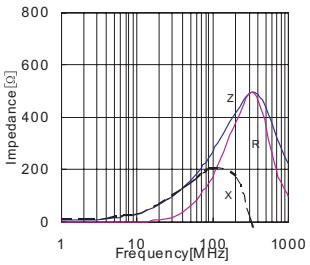

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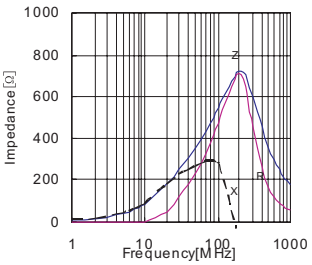

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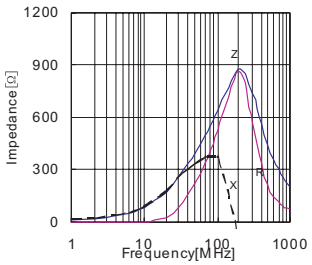

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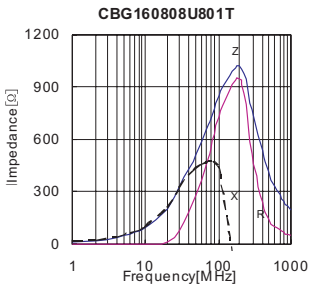

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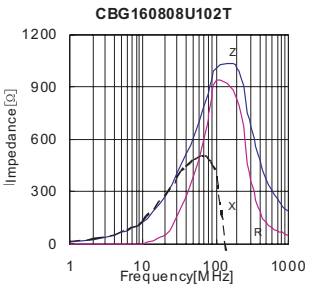

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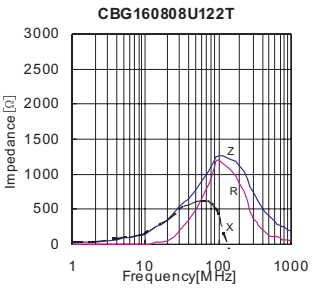

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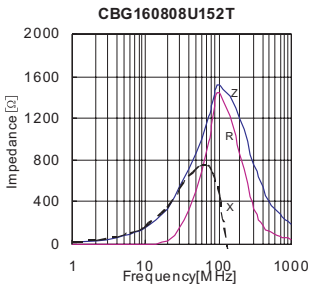

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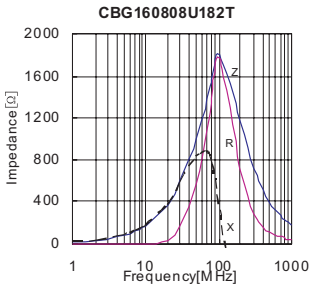

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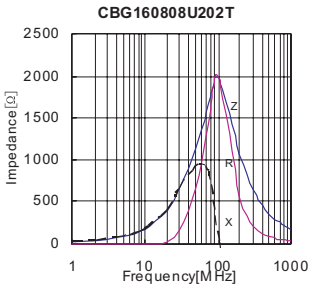
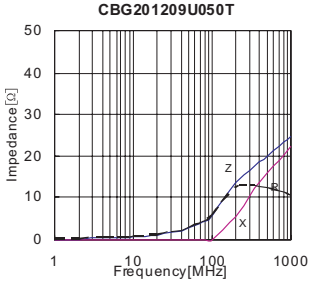


2012 SERIES

CBG201209U050T



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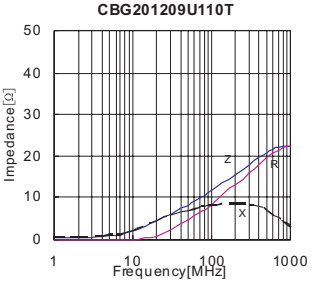

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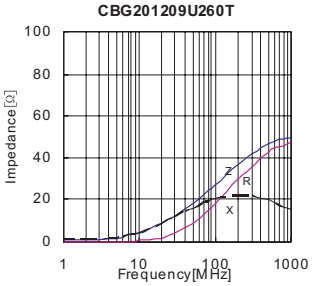

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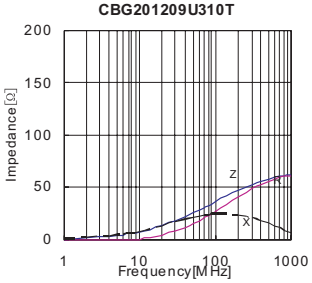
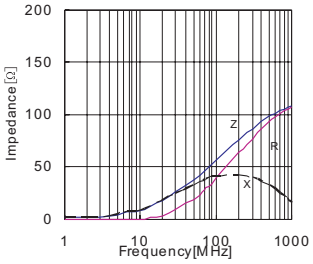


■ 鐵氧體疊層片式磁珠(普通型)
FERRITE CHIP BEADS

CBG201209U500T



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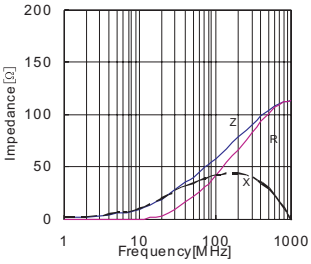

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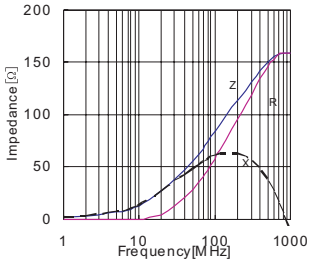

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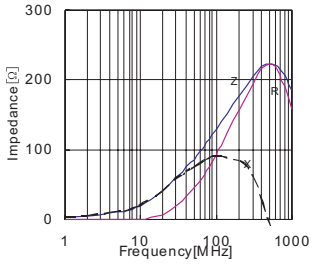

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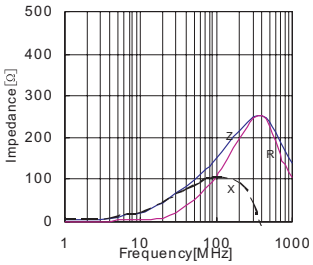

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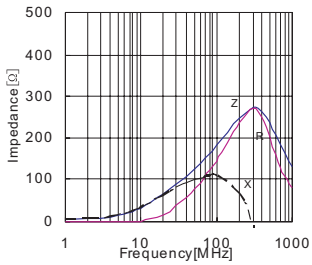

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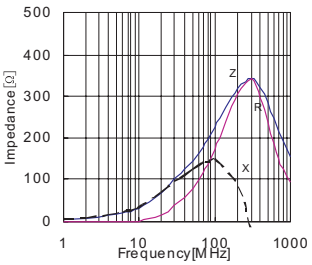

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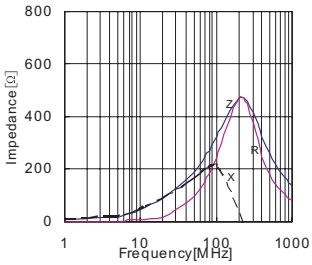

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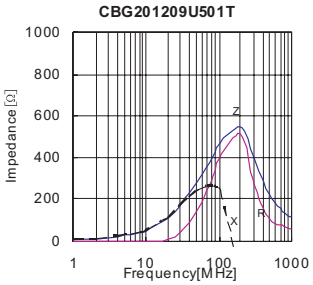

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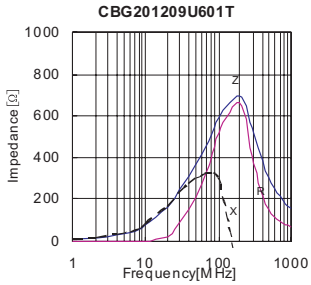

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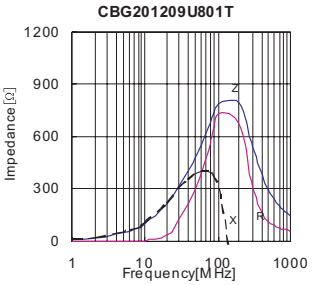

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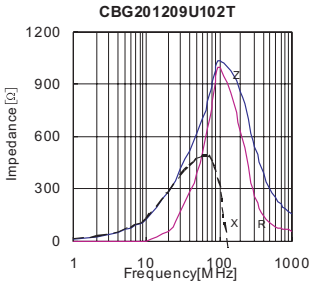

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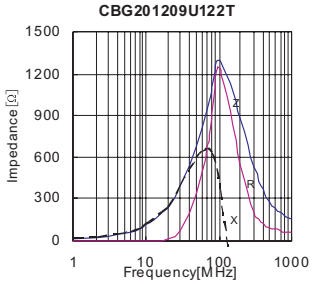

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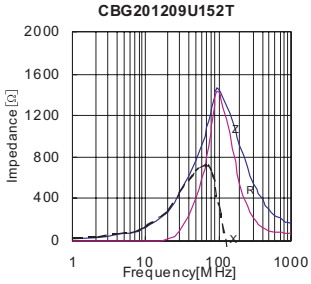

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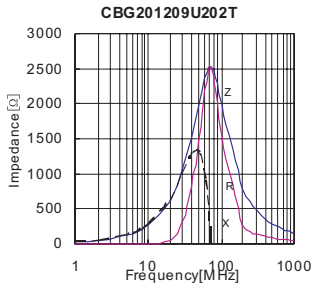

■ 鐵氧體疊層片式磁珠(普通型)
FERRITE CHIP BEADS

3216SERIES

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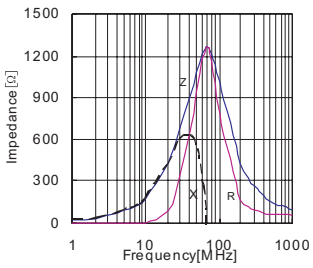

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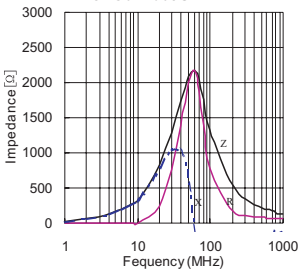

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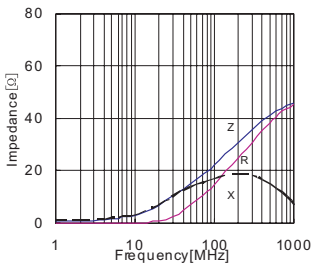

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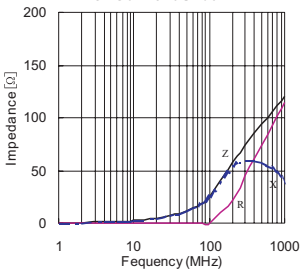

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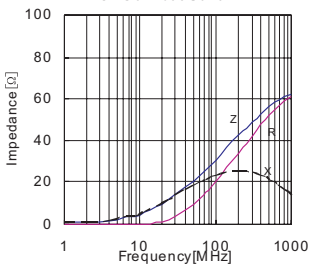

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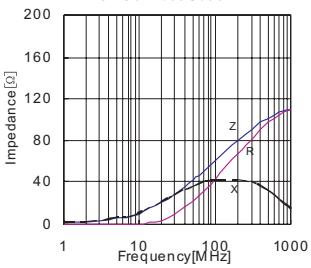

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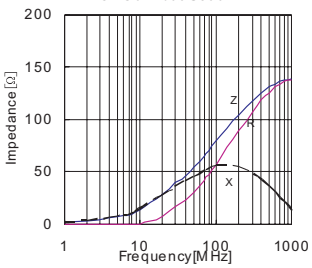

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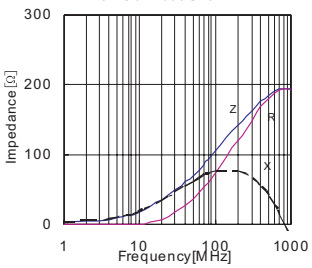

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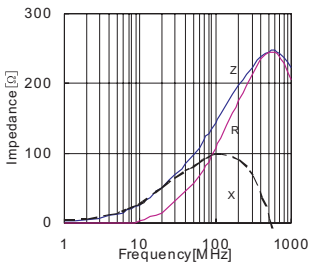

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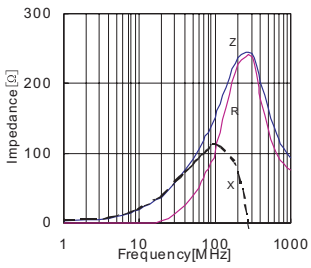

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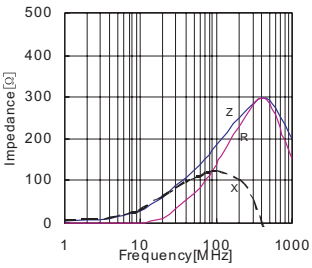

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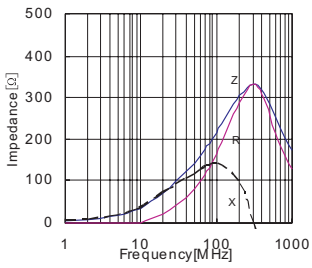

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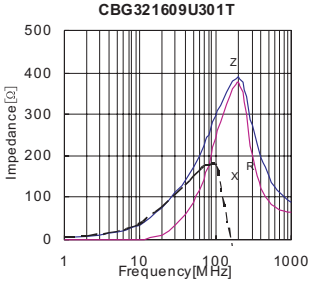

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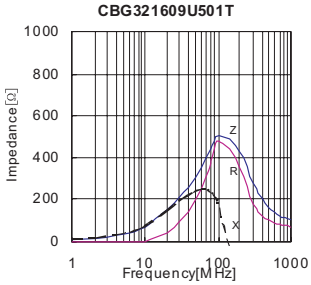

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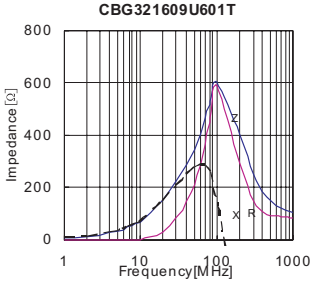

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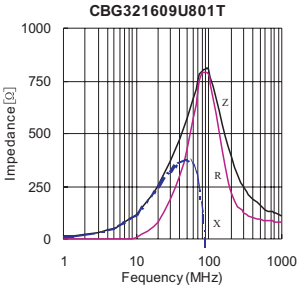
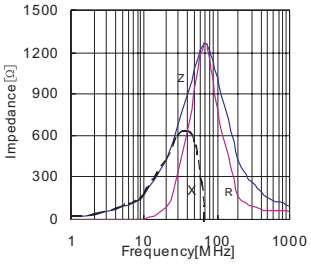


■ 鐵氧體疊層片式磁珠(普通型)
FERRITE CHIP BEADS

CBG321609U102T



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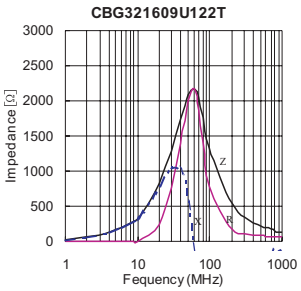

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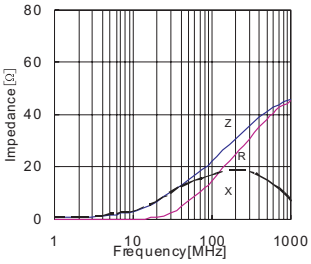

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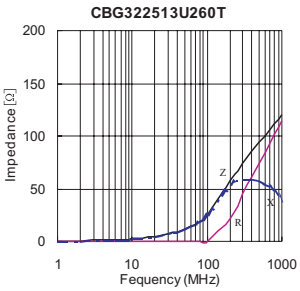

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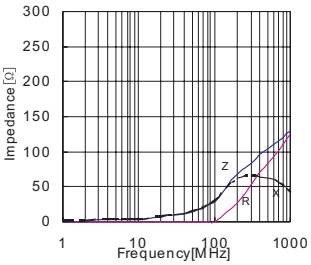

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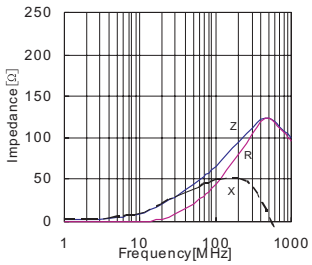

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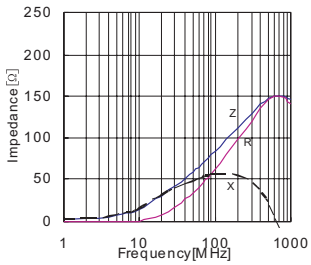

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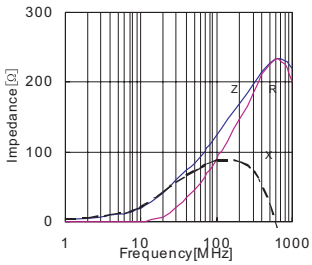

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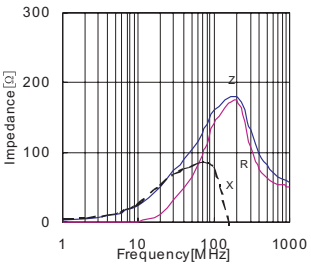

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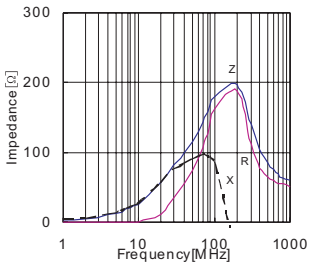

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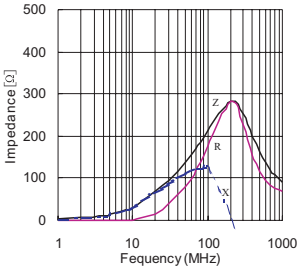

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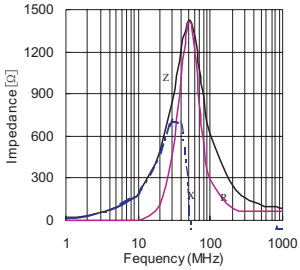

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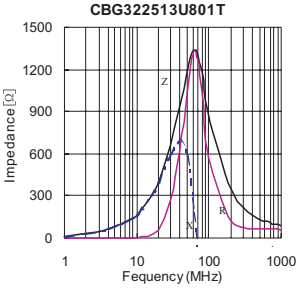

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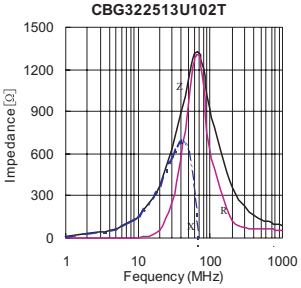
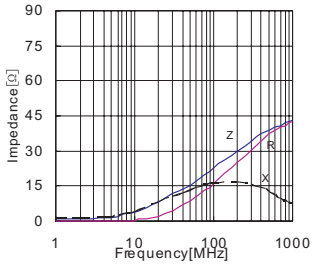


■ 鐵氧體疊層片式磁珠(普通型)
FERRITE CHIP BEADS

4532SERIES

CBG453215U190T



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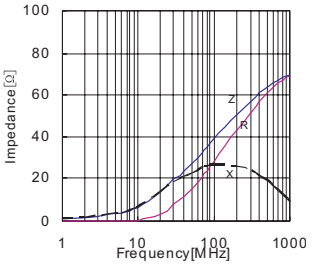

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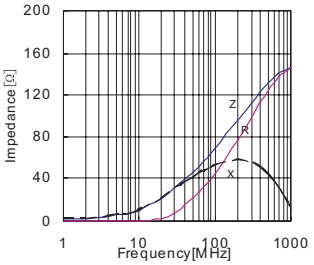

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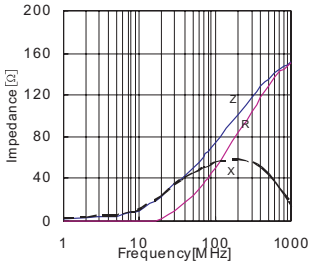

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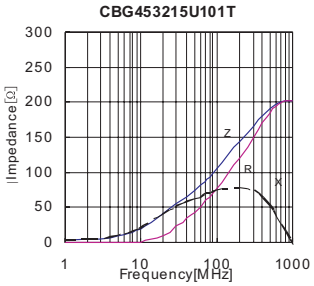

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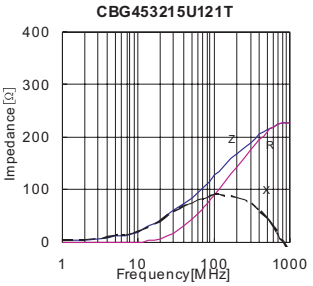

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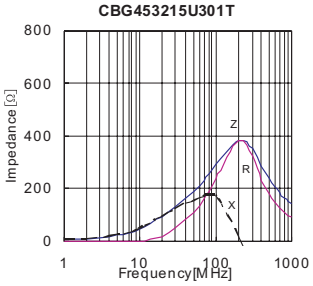
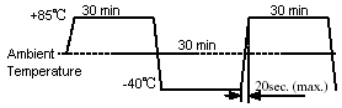
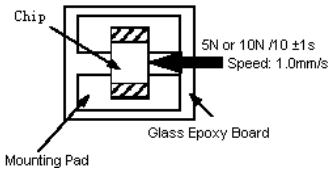
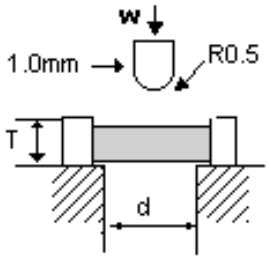


■ 可靠性測試
RELIABILITY TESTING

Type	Item	Specified value	Test methods
1	Operating temperature range	-40 to +125℃	
2	Storage temperature range	-10 to +40℃	
3	Solderability	At least 90% of terminal electrode is covered by new solder	Solder temperature: 230±5℃ Duration: 4±1S Preheating temperature: 120 to 150℃ Preheating time: 60S immersion into the colophony flux for 3 to 5 sec. Flux: immersion into methanol solution with colophony for 3 to 5 sec. Immersion speed: 25mm/sec
4	Resistance to soldering	Appearance: No significant abnormality. At least 75% of terminal electrode is covered by new solder Impedance change: within ±20% Inductor change: within±10%	Solder temperature: 260±5℃ Duration: 10±0.5S Preheating temperature: 120 to 150℃ Preheating time: 60S immersion into the colophony flux for 3 to 5 sec. Flux: immersion into methanol solution with colophony for 3 to 5 sec. Immersion speed: 25mm/sec
5	Thermal shock	Appearance: No significant abnormality. Impedance change: within ±30% Inductor change: within±10% Q value change(ferrite):within±30% Q value change(ceramic):within±20%	Temperature: -40℃ for 30±3min +85℃ for 30±3min Transforming interval :max 20 sec Number of cycles: 32 
6	Loading at low temperature	Appearance: No significant abnormality. Impedance change: within±20% Inductor change: within±10%	Temperature: -55±2℃ Duration: 500^{+24}_{-0} hrs
7	Loading at high temperature	Appearance: No significant abnormality. Impedance change: within±30% Inductor change: within±10% Q value change(ferrite):within±30% Q value change(ceramic):within±20%	Temperature: 85±2℃ Duration: 1000^{+24}_{-0} hrs Applied current: Rated current
8	Loading under Damp Heat	Appearance: No significant abnormality. Impedance change: within±30% Inductor change : within±10% Q value change(ferrite):within±30% Q value change(ceramic):within±20%	Temperature: 55±2℃ Duration: 500^{+24}_{-0} hrs Humidity: 90 to 95%RH Applied current: Rated current

<table>
<tr><th>Type</th><th>Item</th><th>Specified value</th><th>Test methods</th></tr>
<tr><td>9</td><td>Vibration</td><td>Appearance:
No significant abnormality.
Impedance change: within ±30%
Inductor change: within±10%
Q value change(ferrite):within±30%
Q value change(ceramic):within±20%</td><td>Amplitude:1.5mm
Directions:2hrs each in X Y Zdirection
Frequency range：10 to 55to 10Hz(min)
Aookued firce:5N force for 1005 and 1608 series.
10N force for 2012、3216、3225、4516、4532 series.
Keep time：10±1S</td></tr>
<tr><td>10</td><td>Adhesion of electrode</td><td>The termination and body should be no damage</td><td>Applied force: 5N force for 1005 and 1608 series.
10N force for 2012、3216 、3225、4516、4532series.
Keep time ： 10±1S
 
</td></tr>
<tr><td>11</td><td>Resistance to pressure of substrate</td><td>The body shall not be damaged by forces applied on the right.
<table>
<tr><td>d</td><td>1.3</td><td>1.3</td><td>2.0</td></tr>
<tr><td>w</td><td>2.0</td><td>3.0</td><td>4.0</td></tr>
</table></td><td> 
</td></tr>
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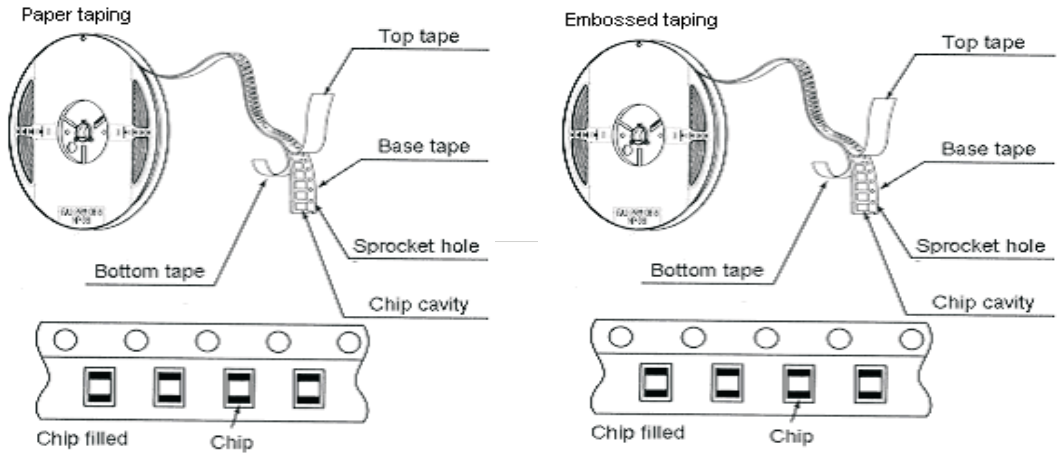
Note: When there are questions concerning, measurement shall be made after 24±2hrs of recovery under the standard condition.

包装PACKAGING
(VHF、CMI、CBG、CBW、CBH、CBY、CBA、CBM SERIES)

STANDAE QUANTITY

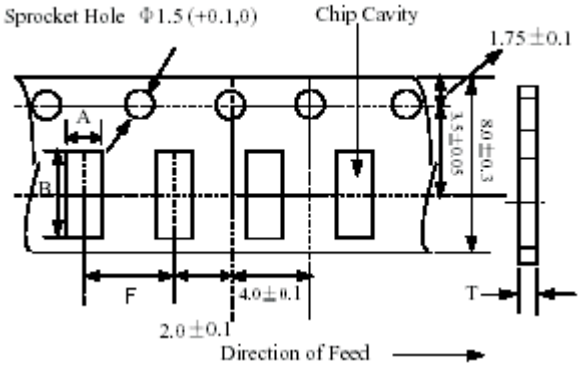
Type	1000505	160808	201209	321609	321611	322513	451616	453215	321609 (磁珠排)
Quantity(pcs)	10000	4000	4000	4000	3000	3000	5000	3000	3000

TAPING DRAWINGS



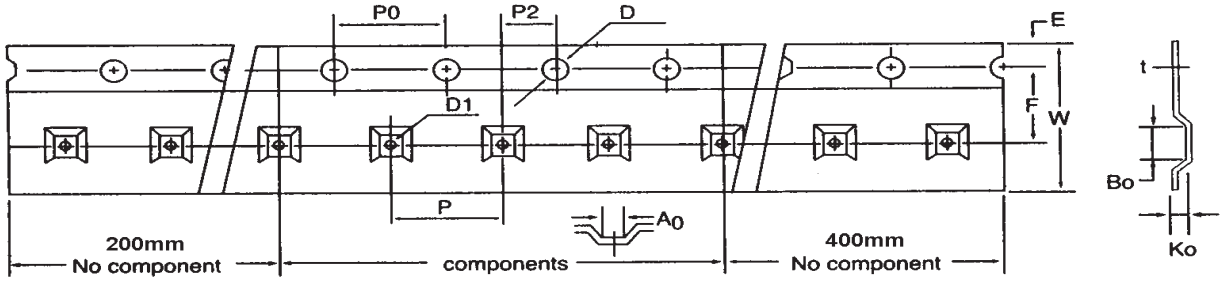
TAPING DIMENSIONS (UNIT: mm)

Paper tape



Part NO.	A	B	F	T
100505	0.65±0.1	1.15±0.1	2.0±0.05	0.62max
160808	1.1±0.1	1.9±0.1	4.0±0.05	1.1max
201209	1.5±0.1	2.3±0.1	4.0±0.05	1.1max
321609	1.9±0.1	3.5±0.1	4.0±0.05	0.97max

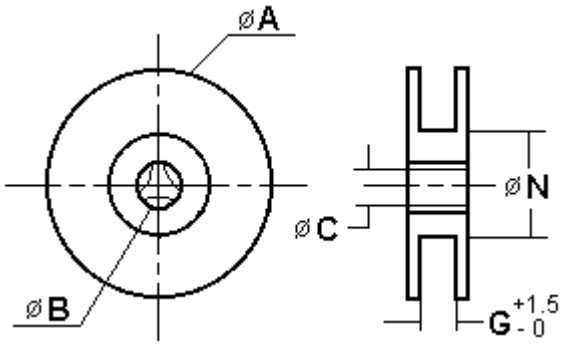
Embossed tape



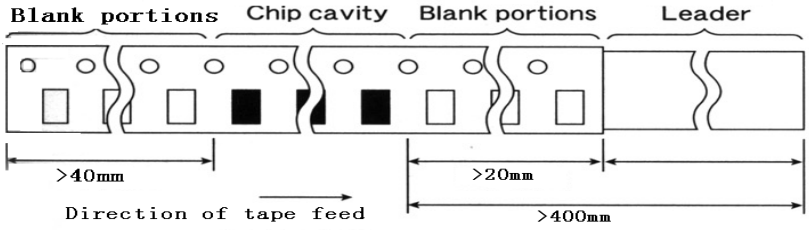
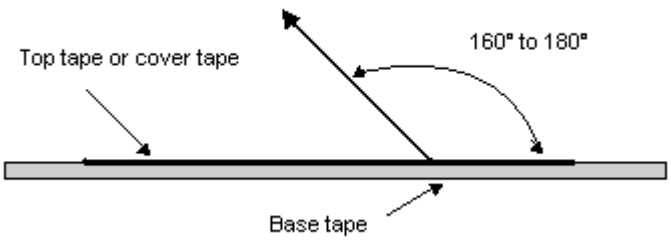
	2012	3216	3225	4516	4532	3216（磁珠排）
W	8.1+/-0.2	8.1+/-0.2	8.1+/-0.2	12.0+/-0.2	12.0+/-0.2	8.1+/-0.2
P	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	8.0+/-0.10	4.0+/-0.10
E	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10
F	3.50+/-0.10	3.50+/-0.10	3.50+/-0.10	5.50+/-0.10	5.50+/-0.10	3.50+/-0.10
D	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05
D1	$1.50\ ^{+0.25}_{-0}$	$1.50\ ^{+0.25}_{-0}$	$1.50\ ^{+0.25}_{-0}$	$1.50\ ^{+0.25}_{-0}$	$1.50\ ^{+0.25}_{-0}$	$1.50\ ^{+0.25}_{-0}$
P_0	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10
$P_0$10	40.0+/-0.20	40.0+/-0.20	40.0+/-0.20	40.0+/-0.20	40.0+/-0.20	40.0+/-0.20
P2	2.0+/-0.05	2.0+/-0.05	2.0+/-0.05	2.0+/-0.05	2.0+/-0.05	2.0+/-0.05
A_0	1.52+/-0.10	1.90+/-0.10	2.80+/-0.10	1.93+/-0.10	3.66+/-0.10	1.90+/-0.10
B_0	2.41+/-0.10	3.51+/-0.10	3.50+/-0.10	4.95+/-0.10	4.95+/-0.10	3.51+/-0.10
t	0.23+/-0.10	0.23+/-0.10	0.23+/-0.10	0.23+/-0.10	0.23+/-0.10	0.23+/-0.10
K_0	1.35+/-0.10	1.27+/-0.10	1.55+/-0.10	1.85+/-0.10	1.74+/-0.10	1.10+/-0.10

- **REEL DIMENSIONS(UNIT:mm)**

	A	B	C	N	G
CF-8	178±2.0	22±2.0	12.5±1.5	57±2.0	8
CF-12	330±2.0	22±2.0	12.5±1.5	98±2.0	12



- **LEADER AND BLANK PORTION**



- **PEELING OFF FORCE : 0.05 to 0.7N in the direction show below.**