High current type beads

OPEARATING TEMP.	1005	:55～125℃
	1608 2012	:-40～+85℃

FEATURES

・A unique terminal electrode structure ensures permissible current 6.0A(max).

・High impedance and EMI suppression effective over a wide frequency range.

・Suitable reflow and wave soldering.

APPLICATIONS

・Digital videos、communication equipment 、OA equipment and others.

ORDERING CODE

CBW	201209	U	121	T
①	②	③	④	⑤

①

Product Code	
CBW	MULTILAYER CHIP POWER BEADS

②

Dimensions (L×W×T) (mm)	
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

Material Code
U

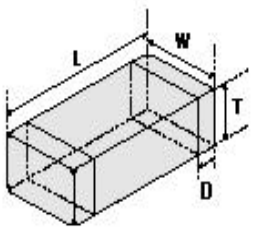
④

Impedance (Ω)	
Example	
110	11
300	30
102	1000

⑤

Packaging Style	
T	Tape & Reel
B	Bulk

SHAPE AND DIMENSIONS



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)

ELECTRICAL CHARACTERISTICS

1005 TYPE

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (A)Max
CBW100505U070	5~11	0.03	1.00
CBW100505U190	19±25%	0.05	0.80
CBW100505U260	26±25%	0.06	0.75
CBW100505U310	31±25%	0.08	0.70
CBW100505U600	60±25%	0.15	0.65
CBW100505U101	100±25%	0.20	0.65
CBW100505U121	120±25%	0.25	0.45
CBW100505U151	150±25%	0.25	0.45
CBW100505U201	200±25%	0.40	0.35
CBW100505U301	300±25%	0.50	0.30
CBW100505U501	500±25%	0.65	0.25
CBW100505U601	600±25%	0.70	0.20
CBW100505U801	800±25%	0.90	0.20

1608 TYPE

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (A)Max
CBW160808U110	5~11	0.05	1.5
CBW160808U190	19±25%	0.06	1.5
CBW160808U260	26±25%	0.08	1.2
CBW160808U310	31±25%	0.10	1.0
CBW160808U800	80±25%	0.12	1.0
CBW160808U101	100±25%	0.15	1.0
CBW160808U121	120±25%	0.20	0.8
CBW160808U151	150±25%	0.20	0.8
CBW160808U181	180±25%	0.25	0.8
CBW160808U221	220±25%	0.30	0.6
CBW160808U301	300±25%	0.30	0.6
CBW160808U501	500±25%	0.30	0.6
CBW160808U601	600±25%	0.40	0.5
CBW160808U801	800±25%	0.45	0.5
CBW160808U102	1000±25%	0.60	0.5
CBW160808U122	1200±25%	0.70	0.5
CBW160808U152	1500±25%	0.80	0.4
CBW160808U182	1800±25%	0.80	0.4
CBW160808U202	2000±25%	1.00	0.4

2012 TYPE

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (A)Max
CBW201209U050	0~7	0.03	3
CBW201209U110	7~19	0.03	3
CBW201209U260	26±25%	0.03	3
CBW201209U310	31±25%	0.05	3
CBW201209U500	50±25%	0.05	3
CBW201209U600	60±25%	0.05	3
CBW201209U800	80±25%	0.05	3
CBW201209U121	120±25%	0.10	3
CBW201209U151	150±25%	0.10	2
CBW201209U181	180±25%	0.15	2
CBW201209U201	200±25%	0.15	2
CBW201209U301	300±25%	0.20	2
CBW201209U501	500±25%	0.20	1.5
CBW201209U601	600±25%	0.25	1.5
CBW201209U801	800±25%	0.30	1.0
CBW201209U102	1000±25%	0.40	0.8
CBW201209U122	1200±25%	0.45	0.5
CBW201209U202	2000±25%	0.50	0.3

3216 TYPE

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (A)Max
CBW321609U050	0~6	0.04	4
CBW321609U090	7~10	0.04	4
CBW321609U110	11±25%	0.05	4
CBW321609U190	19±25%	0.05	4

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (A)Max
CBW321609U260	26±25%	0.05	4
CBW321609U310	31±25%	0.08	3
CBW321609U600	60±25%	0.10	3
CBW321609U800	80±25%	0.10	3
CBW321609U101	100±25%	0.10	3
CBW321609U151	150±25%	0.15	3
CBW321609U181	180±25%	0.15	3
CBW321609U221	200±25%	0.20	3
CBW321609U301	300±25%	0.20	2.5
CBW321609U501	500±25%	0.20	2
CBW321609U601	600±25%	0.25	2
CBW321609U801	800±25%	0.25	2
CBW321609U102	1000±25%	0.30	2
CBW321609U122	1200±25%	0.35	1

3225 TYPE

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (A)Max
CBW322513U190	31±25%	0.05	4.5
CBW322513U260	31±25%	0.05	4
CBW322513U310	31±25%	0.05	4
CBW322513U600	60±25%	0.06	4
CBW322513U800	80±25%	0.08	3
CBW322513U121	120±25%	0.10	3
CBW322513U151	150±25%	0.10	3
CBW322513U181	180±25%	0.10	3
CBW322513U221	220±25%	0.15	3
CBW322513U301	300±25%	0.15	3
CBW322513U501	500±25%	0.15	2
CBW322513U601	600±25%	0.20	2
CBW322513U801	800±25%	0.25	1
CBW322513U102	1000±25%	0.30	1

4516 TYPE

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (A)Max
CBW451616U260	26±25%	0.05	3
CBW451616U310	31±25%	0.05	3
CBW451616U750	75±25%	0.06	3
CBW451616U900	90±25%	0.08	3
CBW451616U121	120±25%	0.10	3
CBW451616U151	150±25%	0.10	2
CBW451616U221	220±25%	0.15	2
CBW451616U301	300±25%	0.20	2
CBW451616U501	500±25%	0.25	1
CBW451616U601	600±25%	0.30	1
CBW451616U851	850±25%	0.30	1

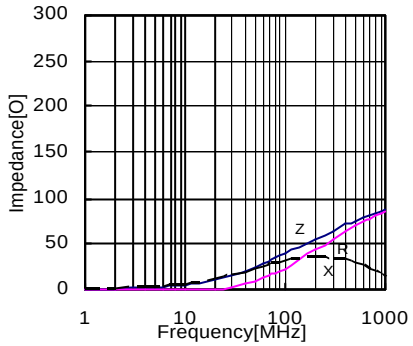
4532 TYPE

Part No.	Impedance(Ω) At 100MHz	DCR (Ω)Max	Ir (A)Max
CBW453215U190	19±25%	0.05	5
CBW453215U260	26±25%	0.05	5
CBW453215U380	38±25%	0.06	4
CBW453215U700	70±25%	0.06	4
CBW453215U800	80±25%	0.08	4
CBW453215U101	100±25%	0.08	4
CBW453215U121	120±25%	0.08	3
CBW453215U151	150±25%	0.10	3
CBW453215U221	220±25%	0.12	2
CBW453215U301	300±25%	0.15	2
CBW453215U501	500±25%	0.20	1
CBW453215U601	600±25%	0.25	1
CBW453215U801	800±25%	0.30	1
CBW453215U102	1000±25%	0.35	0.8

CHARACTERISTICS CURVES

1005 series

CBW100505U310T



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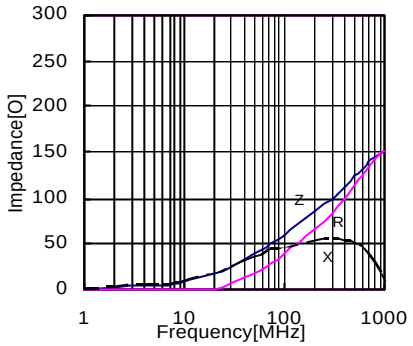

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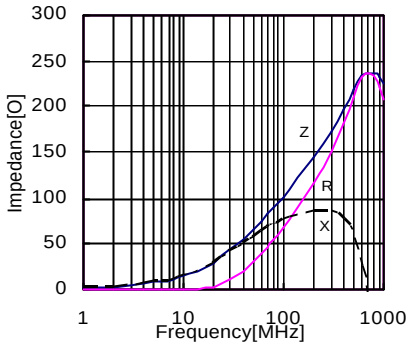

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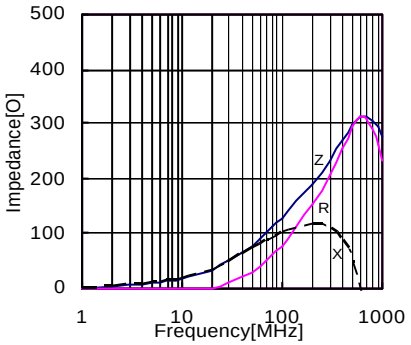

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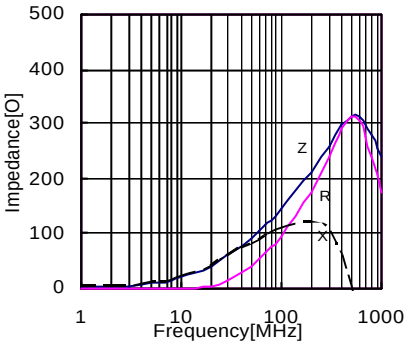

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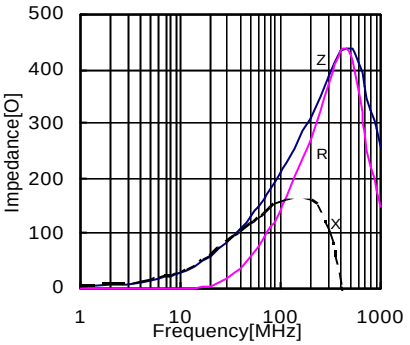

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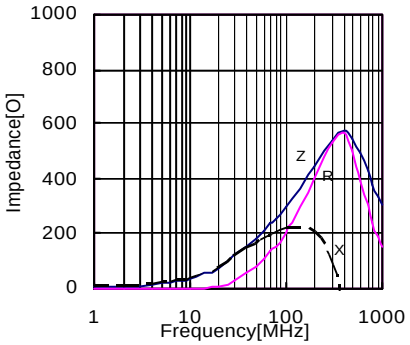

1608 series

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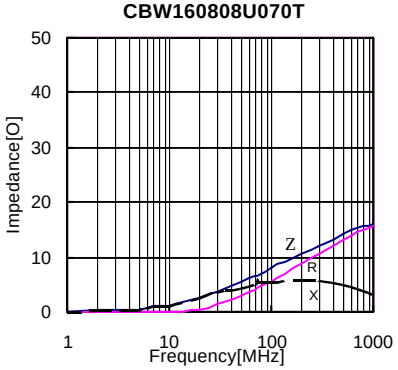

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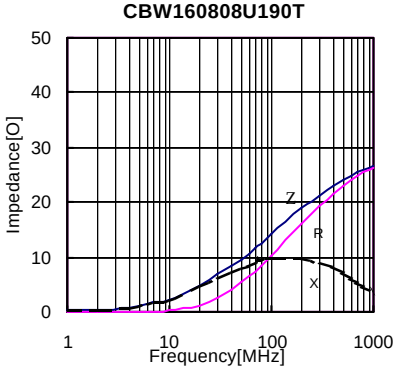

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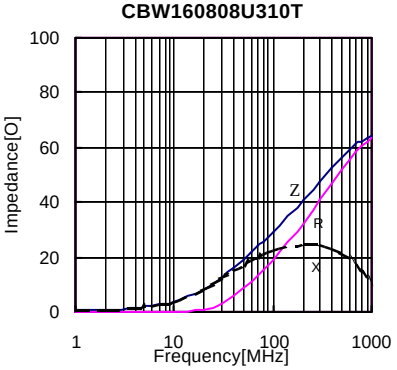

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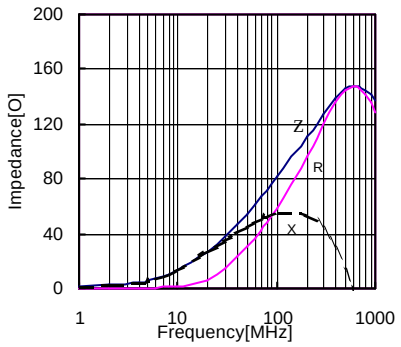

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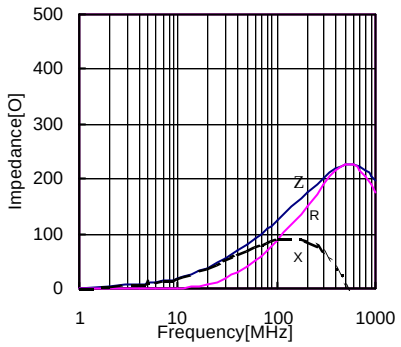

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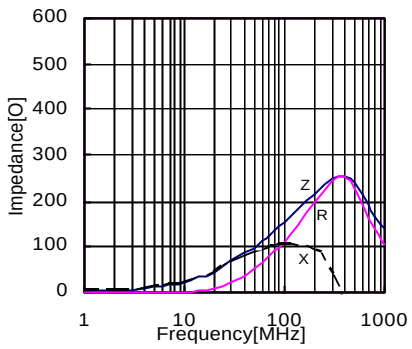

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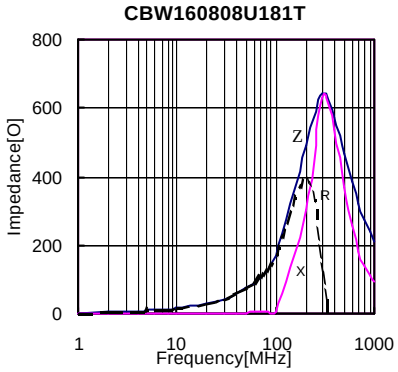

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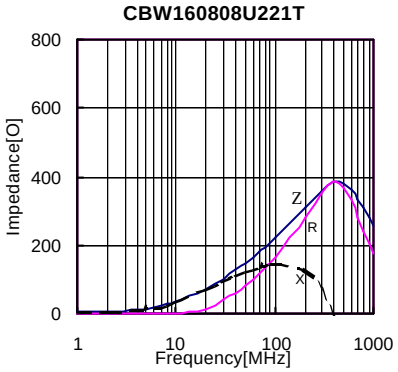

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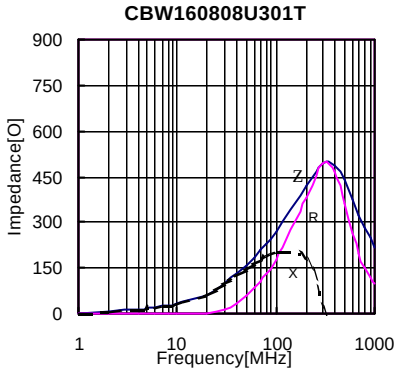

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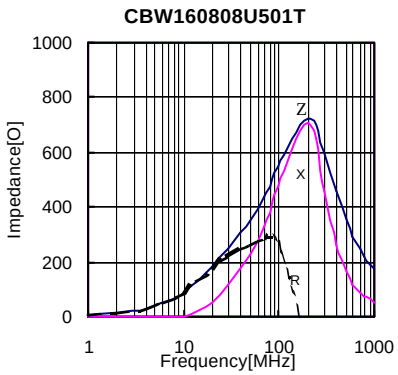

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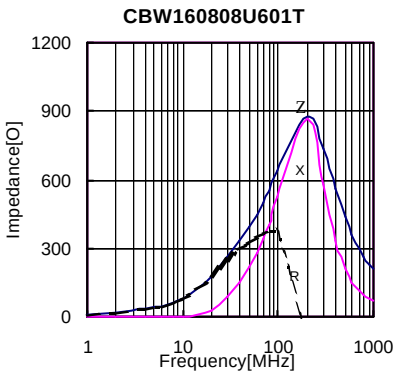

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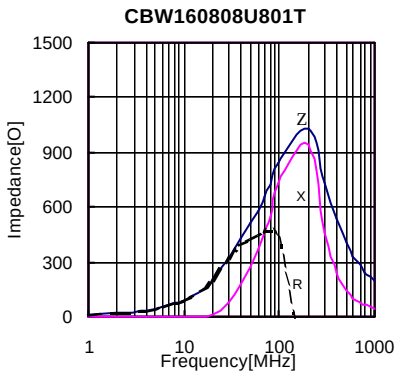

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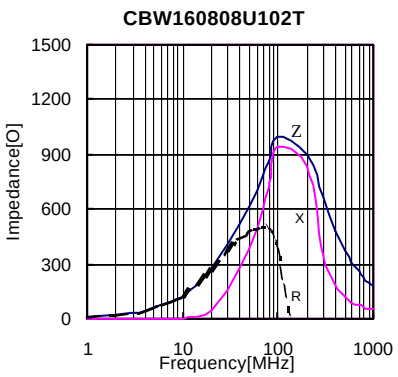

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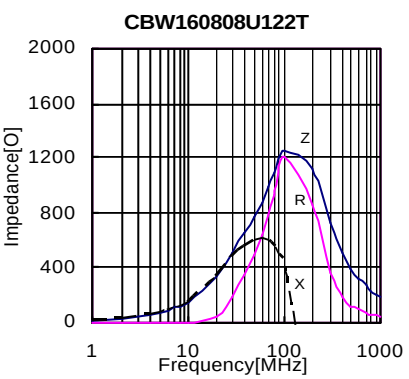

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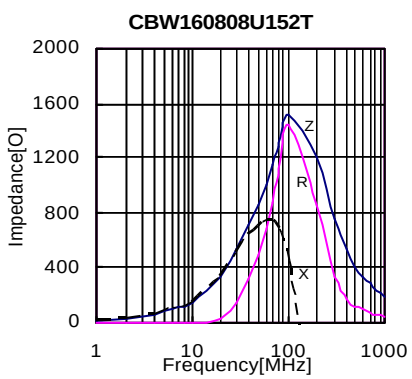

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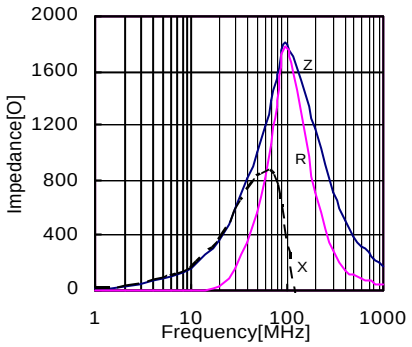

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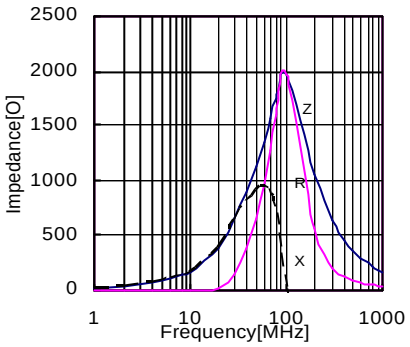
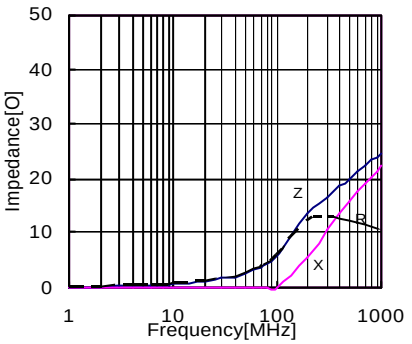


2012 series

CBW201209U050T



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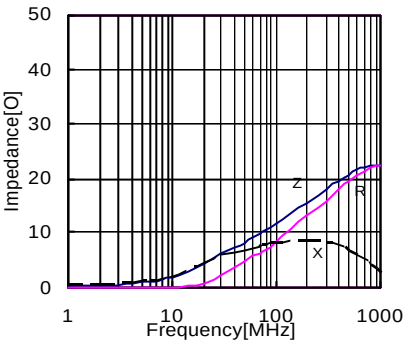

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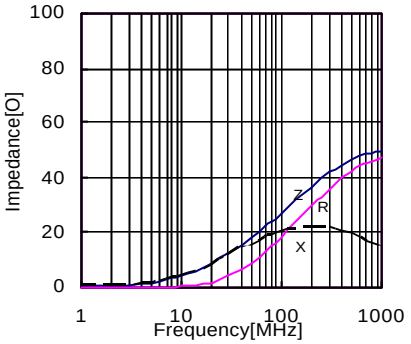

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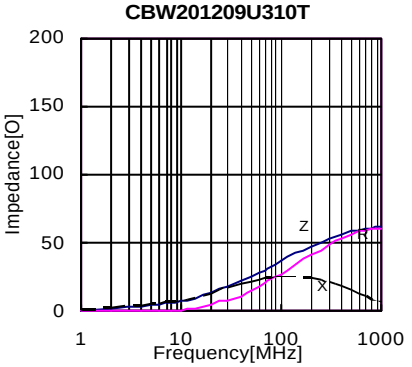

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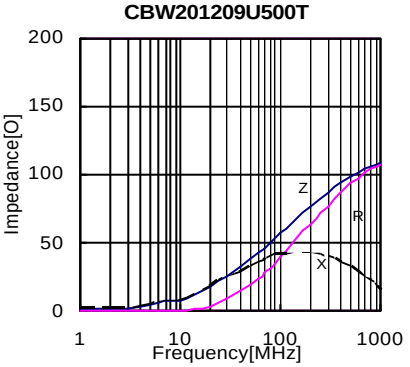

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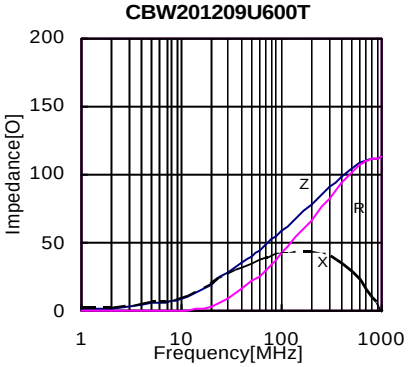

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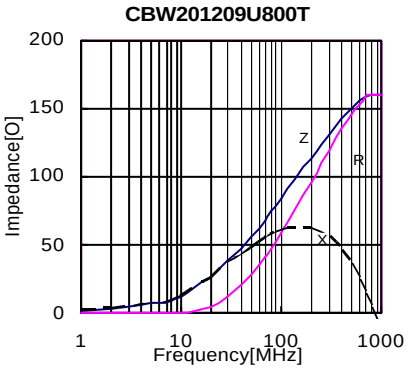

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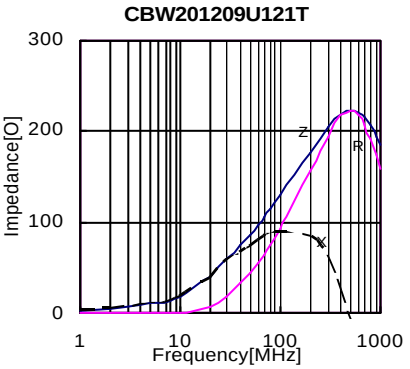

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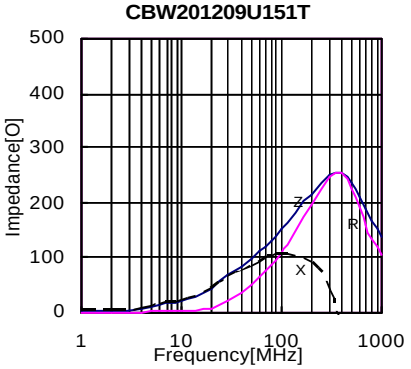

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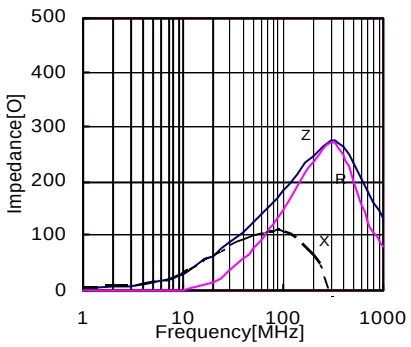

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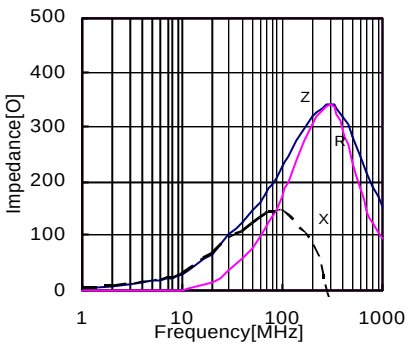

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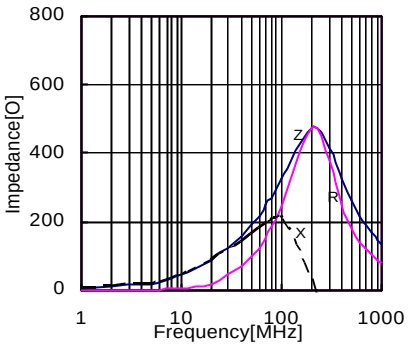

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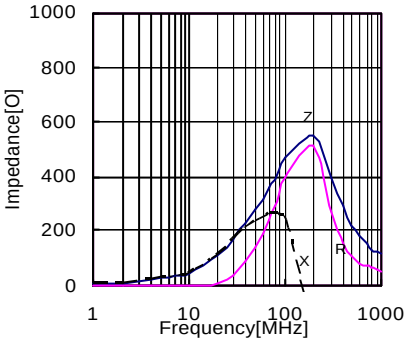

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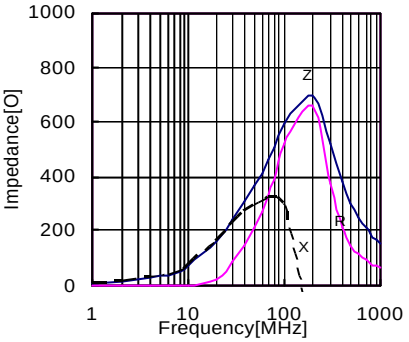

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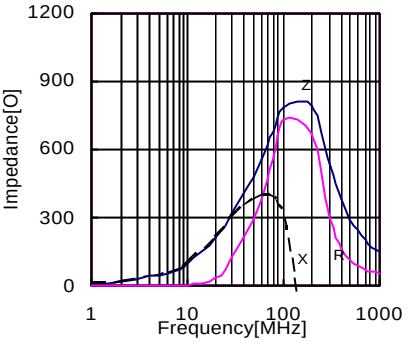

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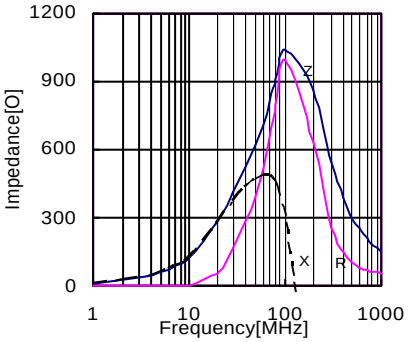

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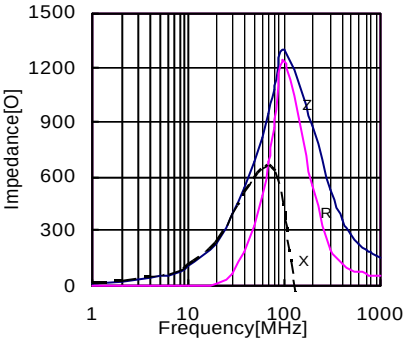

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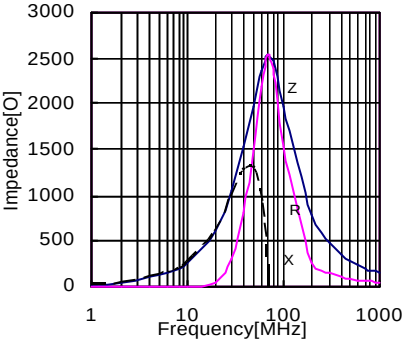

3216 series

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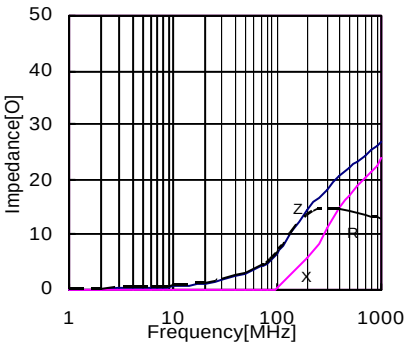

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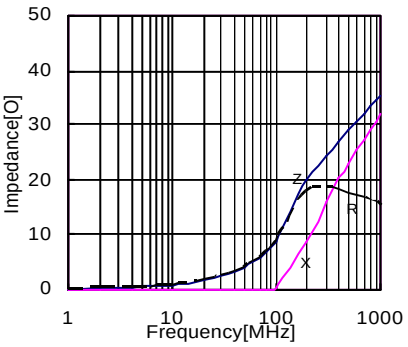

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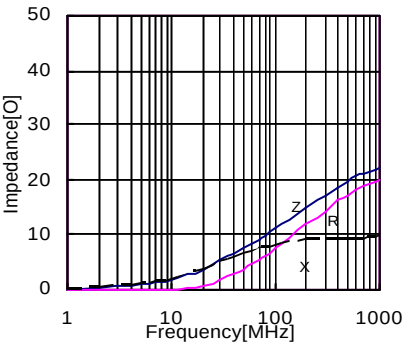

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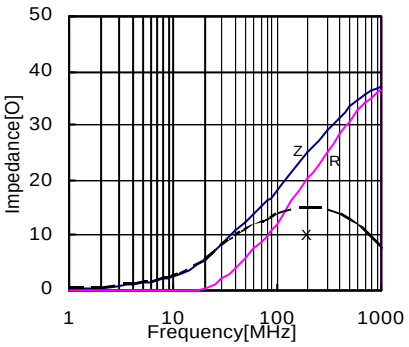

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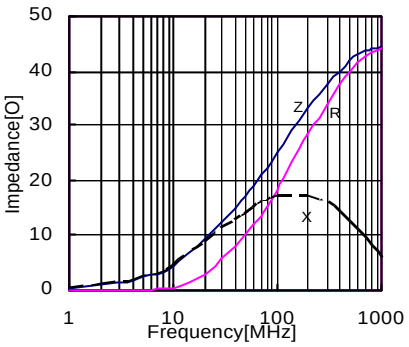

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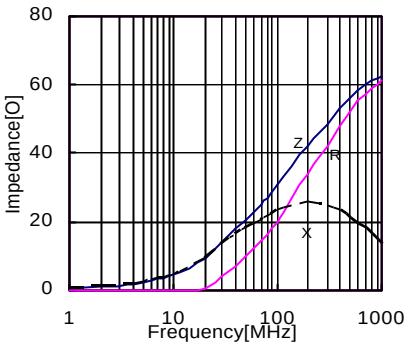

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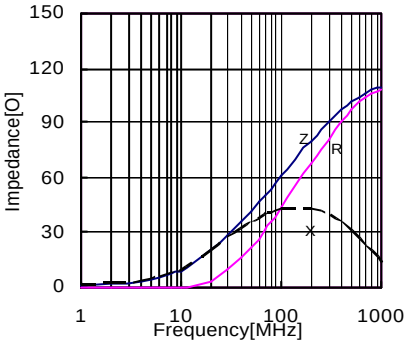

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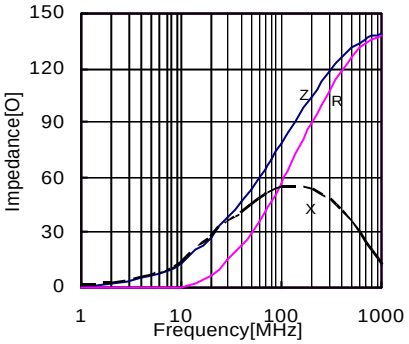

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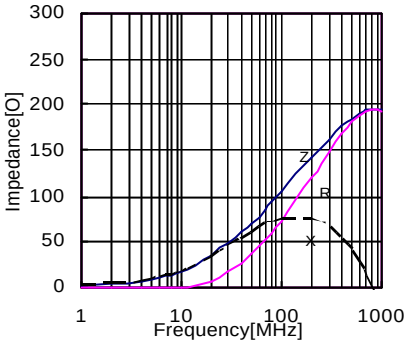

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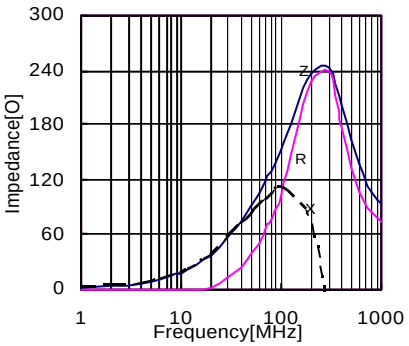

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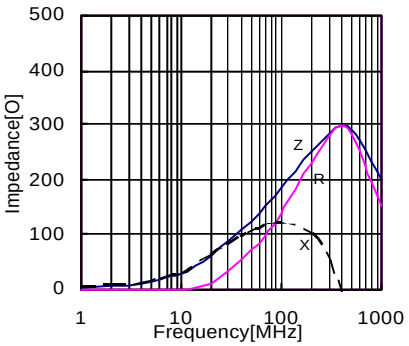

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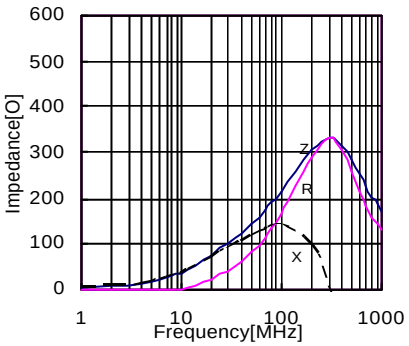

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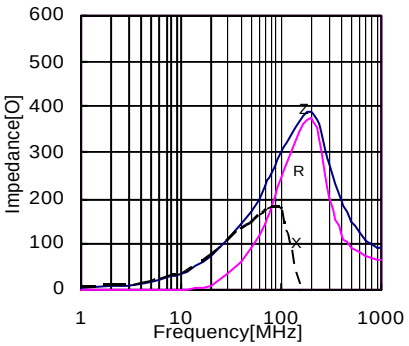

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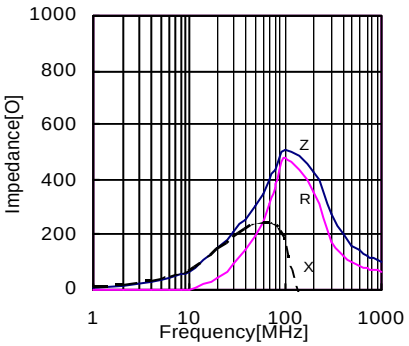

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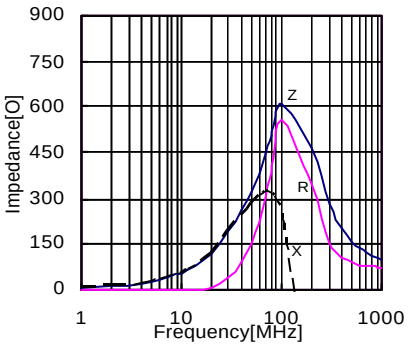

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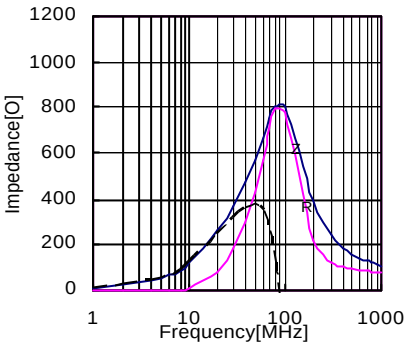

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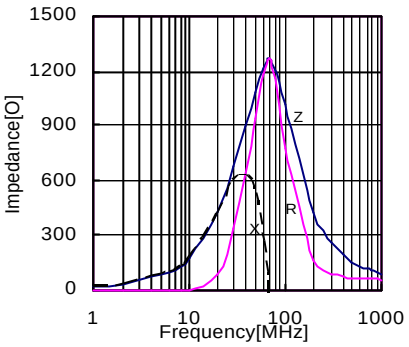

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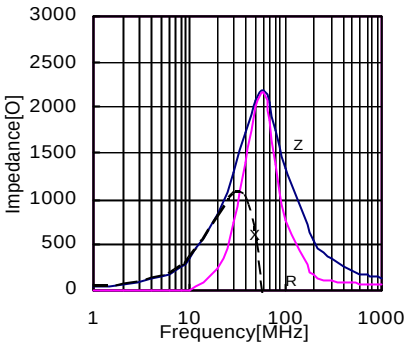

3225 series

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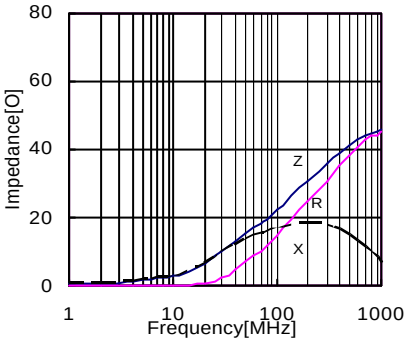

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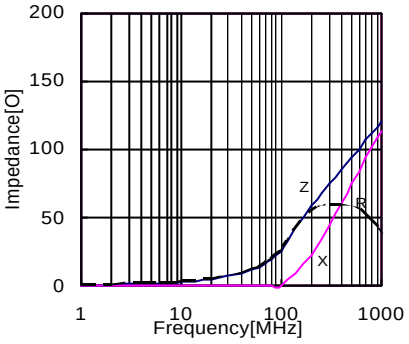

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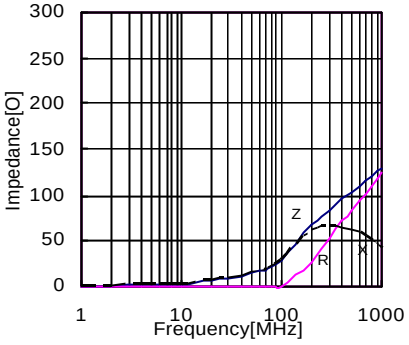

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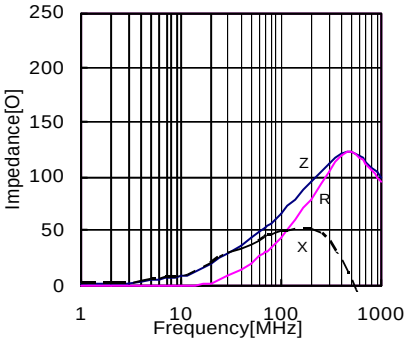

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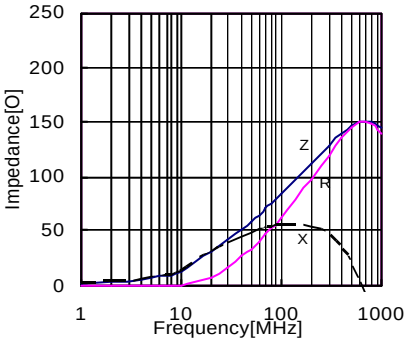

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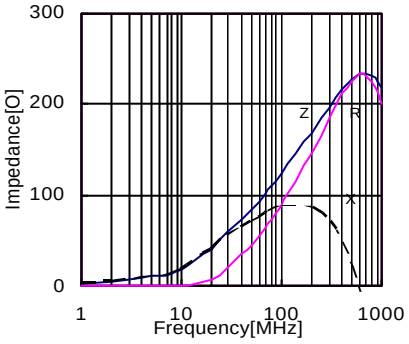

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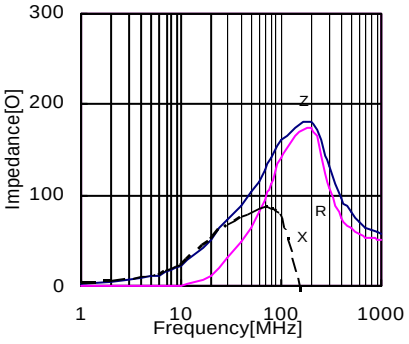

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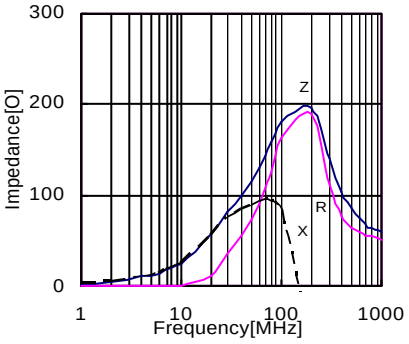

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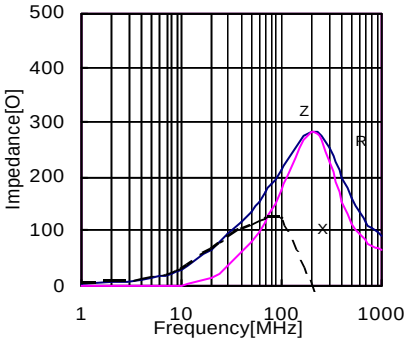

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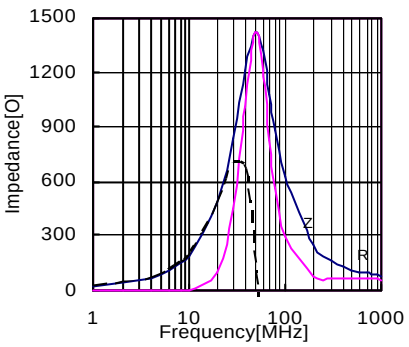

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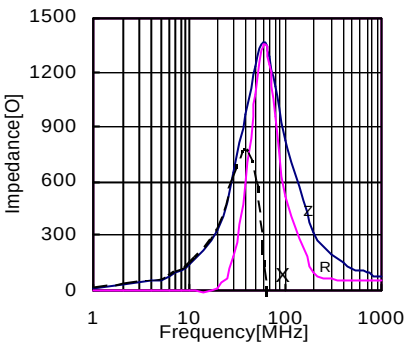

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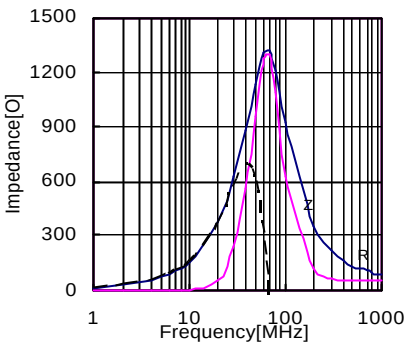

4532 series

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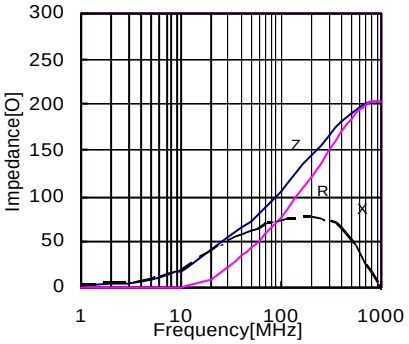

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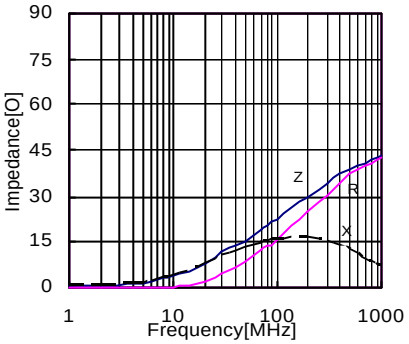

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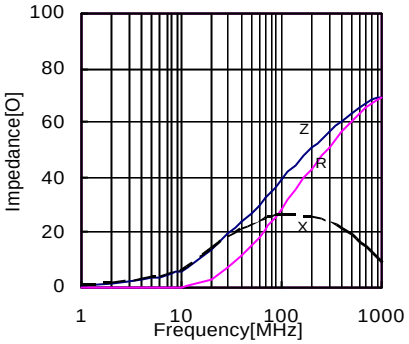

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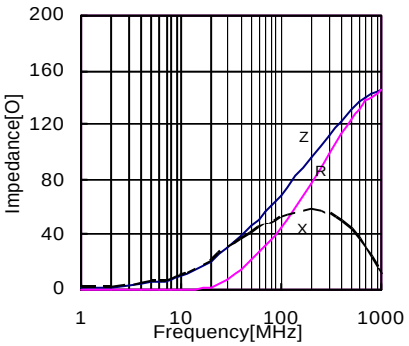

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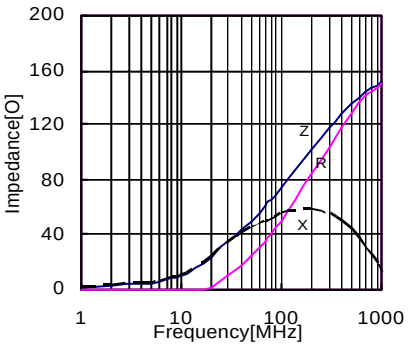

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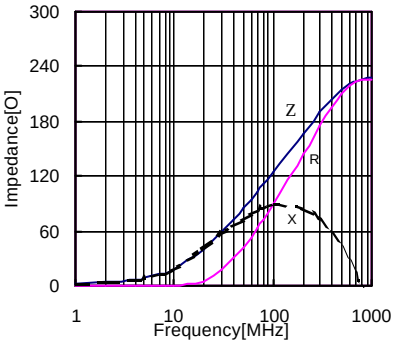

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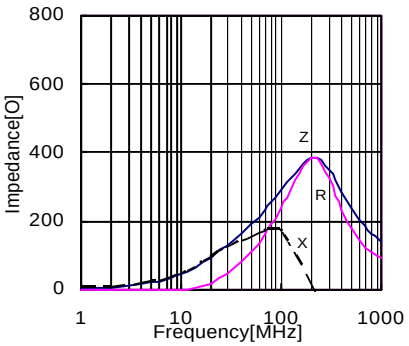
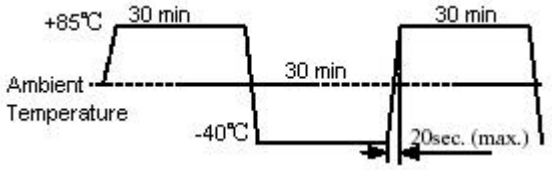
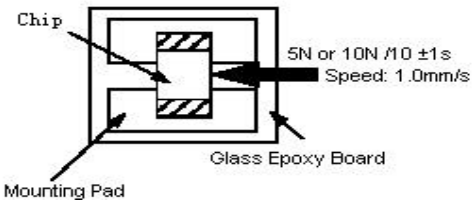
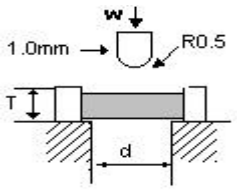


RELIABILITY TESTING (VHF、CMI、CBG、CBW、CBH、CBY、CBA series)

Type	Item	Specified value	Test methods
1	Operating temperature range	-40 to +125℃	
2	Storage temperature range	-40 to +125℃	
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 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 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 ±20% Inductor change: within±10%	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 hrs
7	Loading at high temperature	Appearance: No significant abnormality. Impedance change: within±20% Inductor change: within±10%	Temperature: 85±2℃ Duration: 1000 $^{+24}_{-0}$ hrs Applied current: Rated current
8	Loading under Damp Heat	Appearance: No significant abnormality. Impedance change: within±20% Inductor change : within±10%	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±20%。
Inductor change : within±10%</td><td>Amplitude: 1.5mm
Directions: 2hrs each in X Y Z direction
Frequency range: 10 to 55 to 10Hz (min)</td></tr>
<tr><td>10</td><td>Adhesion of electrode</td><td>Impedance change: within±20%
Inductor change : within±10%
Appearance: No significant abnormality.</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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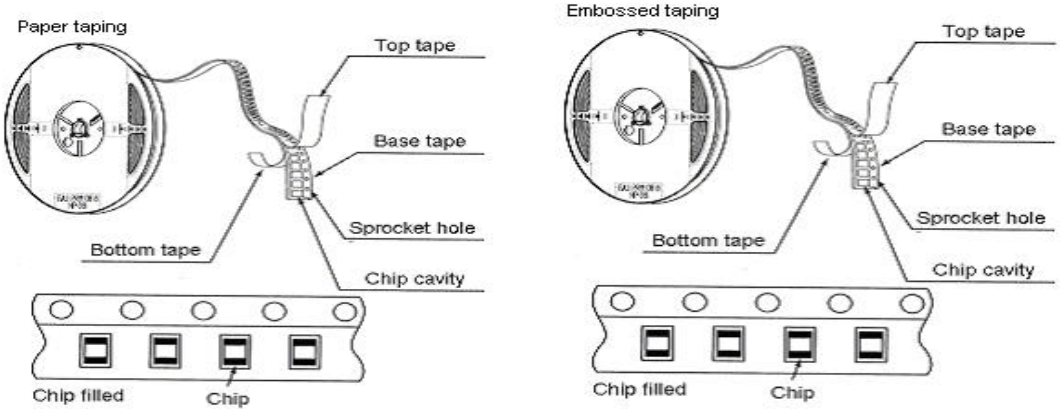
Note: When there are questions concerning, measurement shall be made after 24±2hrs of recovery under the standard condition.

PACKAGING

STANDAE QUANTITY

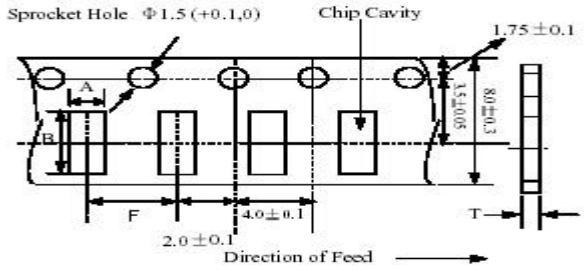
TYPE	100505	160808	201209	321609	321611	322513	451616	453215
Quantity(pcs)	10000	4000	4000	4000	3000	3000	5000	3000

TAPING DRAWINGS



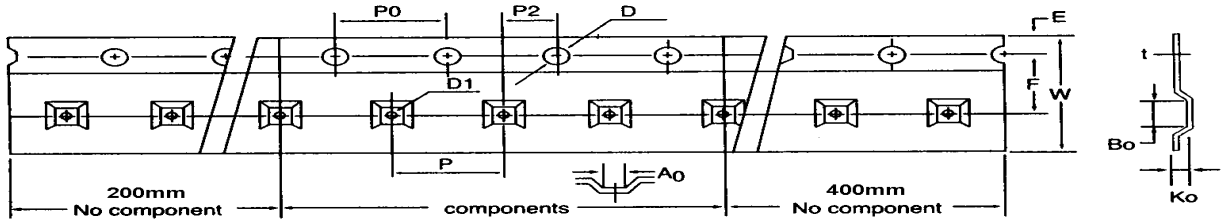
TAPING DIMENSIONS (UNIT: mm)

Paper tape



Part NO.	A	B	F	T
100505	0.65±0.1	1.15±0.1	2.0±0.05	0.8max
160808	1.0±0.2	1.8±0.2	4.0±0.2	1.1max
201209	1.5±0.2	2.3±0.2	4.0±0.2	1.1max

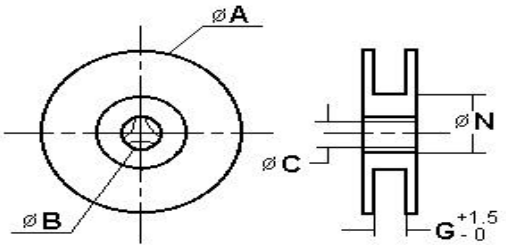
Embossed tape



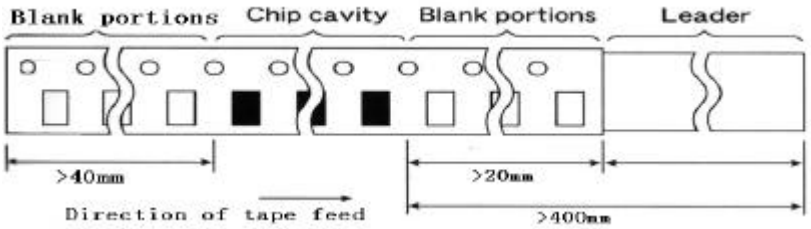
	4532	4516	3225	3216	2012
W	12.0+/-0.2	12.0+/-0.2	8.1+/-0.2	8.1+/-0.2	8.1+/-0.2
P	8.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10
E	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10
F	5.50+/-0.10	5.50+/-0.10	3.50+/-0.10	3.50+/-0.10	3.50+/-0.10
D	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05
D1	$1.50^{+0.25}_{-0}$	$1.50^{+0.25}_{-0}$	$1.50^{+0.25}_{-0}$	$1.50^{+0.25}_{-0}$	$1.50^{+0.25}_{-0}$
P_0	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
P2	2.0+/-0.05	2.0+/-0.05	2.0+/-0.05	2.0+/-0.05	2.0+/-0.05
A_0	3.66+/-0.10	1.93+/-0.10	2.80+/-0.10	1.90+/-0.10	1.52+/-0.10
B_0	4.95+/-0.10	4.95+/-0.10	3.50+/-0.10	3.51+/-0.10	2.41+/-0.10
t	0.23+/-0.10	0.23+/-0.10	0.23+/-0.10	0.23+/-0.10	0.23+/-0.10

REEL DIMENSIONS (UNIT：mm)

	A	B	C	N	G
CF-8	178 ±2.0	22.0 ±2.0	12.5 ±1.5	67 ±2.0	8
CF-12	330 ±2.0	22.0 ±2.0	12.5 ±1.5	110 ±2.0	12



LEADER AND BLANK PORTION



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