

## Multilayer Chip Beads / CP TYPE ( Large Current )

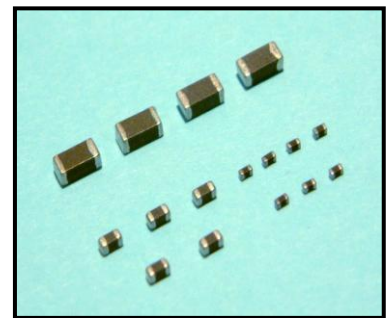
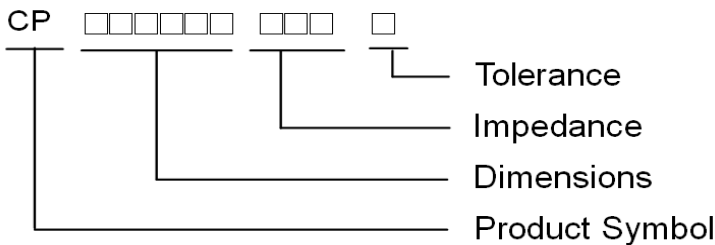
### Features:

1. Closed magnetic circuit structure allows high density mounting while preventing crosstalk.
2. Extremely high reliability due to entirely monolithic construction.
3. Low DC resistance structure of electrode to prevent wasteful electric power consumption.
4. High Current rating up to 6A.
5. The products contain no lead and also support lead-free soldering.

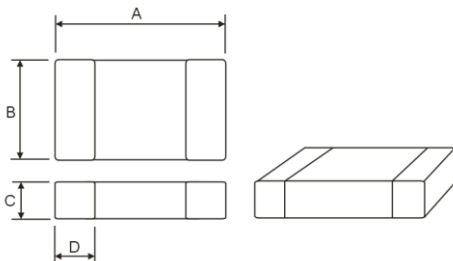
### Applications:

CP type has a large current function for power line due to its low DC resistance, it can generate an impedance down to relative low frequency and cover a wide range of noise suppression.

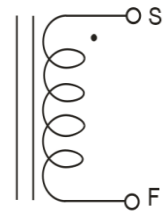
### Product Identification :



### Shape and Dimension



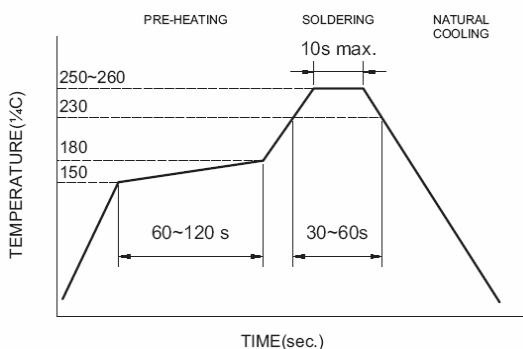
### Schematic



Dimensions in mm

TYPE	A(mm)	B(mm)	C(mm)	D(mm)
CP100505	1.0±0.1	0.5±0.1	0.5±0.1	0.25±0.1
CP160808	1.6±0.2	0.8±0.2	0.8±0.2	0.3±0.2
CP201209	2.0±0.2	1.2±0.2	0.9±0.2	0.5±0.3
CP321611	3.2±0.2	1.6±0.2	1.1±0.2	0.5±0.3
CP451616	4.5±0.2	1.6±0.2	1.6±0.2	0.5±0.3
CP453215	4.5±0.2	3.2±0.2	1.5±0.2	0.5±0.3

### Recommended Reflow



## Multilayer Chip Beads / CP TYPE ( Large Current )

### Electrical Characteristics ( CP100505 TYPE )

Part No.	IMPEDANCE ( $\Omega \pm 25\%$ )	Test frequency	DCR ( $\Omega$ ) Max	Rate Current (mA) Max
CP100505T-100□	10	100 MHZ,200 mV	0.03	2000
CP100505T-250□	25	100 MHZ,200 mV	0.05	1700
CP100505T-300□	30	100 MHZ,200 mV	0.05	1700
CP100505T-320□	32	100 MHZ,200 mV	0.05	1700
CP100505T-400□	40	100 MHZ,200 mV	0.075	1500
CP100505T-500□	50	100 MHZ,200 mV	0.075	1500
CP100505T-600□	60	100 MHZ,200 mV	0.075	1500
CP100505T-680□	68	100 MHZ,200 mV	0.09	1200
CP100505T-700□	70	100 MHZ,200 mV	0.09	1200
CP100505T-800□	80	100 MHZ,200 mV	0.09	1200
CP100505T-101□	100	100 MHZ,200 mV	0.09	1200
CP100505T-121□	120	100 MHZ,200 mV	0.09	1400
CP100505T-151□	150	100 MHZ,200 mV	0.14	1400
CP100505T-181□	180	100 MHZ,200 mV	0.14	900
CP100505T-221□	220	100 MHZ,200 mV	0.18	1100
CP100505T-601□	600	100 MHZ,200 mV	0.34	700
CP100505T-102□	1000	100 MHZ,200 mV	0.49	500

### Electrical Characteristics ( CP160808 TYPE )

Part No.	IMPEDANCE ( $\Omega \pm 25\%$ )	Test frequency	DCR ( $\Omega$ ) Max	Rate Current (mA) Max
CP160808T-100□	10	100 MHZ,200 mV	0.02	4000
CP160808T-110□	11	100 MHZ,200 mV	0.02	4000
CP160808T-190□	19	100 MHZ,200 mV	0.03	3000
CP160808T-200□	20	100 MHZ,200 mV	0.03	3000
CP160808T-220□	22	100 MHZ,200 mV	0.03	3000
CP160808T-250□	25	100 MHZ,200 mV	0.03	3000
CP160808T-300□	30	100 MHZ,200 mV	0.03	3000
CP160808T-310□	31	100 MHZ,200 mV	0.035	3000
CP160808T-400□	40	100 MHZ,200 mV	0.035	3000
CP160808T-470□	47	100 MHZ,200 mV	0.04	3000
CP160808T-500□	50	100 MHZ,200 mV	0.04	3000
CP160808T-560□	56	100 MHZ,200 mV	0.04	3000
CP160808T-600□	60	100 MHZ,200 mV	0.04	3000
CP160808T-680□	68	100 MHZ,200 mV	0.05	2500
CP160808T-700□	70	100 MHZ,200 mV	0.05	2500
CP160808T-750□	75	100 MHZ,200 mV	0.05	2500
CP160808T-800□	80	100 MHZ,200 mV	0.05	2500
CP160808T-900□	90	100 MHZ,200 mV	0.05	2500
CP160808T-101□	100	100 MHZ,200 mV	0.05	2500

## Multilayer Chip Beads / CP TYPE ( Large Current )

### Electrical Characteristics ( CP160808 TYPE )

Part No.	IMPEDANCE ( $\Omega \pm 25\%$ )	Test frequency	DCR ( $\Omega$ ) Max	Rate Current (mA) Max
CP160808T-121□	120	100 MHZ,200 mV	0.08	2500
CP160808T-151□	150	100 MHZ,200 mV	0.085	2000
CP160808T-201□	200	100 MHZ,200 mV	0.095	2000
CP160808T-221□	220	100 MHZ,200 mV	0.1	2000
CP160808T-241□	240	100 MHZ,200 mV	0.12	1500
CP160808T-301□	300	100 MHZ,200 mV	0.12	1500
CP160808T-331□	330	100 MHZ,200 mV	0.12	1500
CP160808T-401□	400	100 MHZ,200 mV	0.12	1500
CP160808T-471□	470	100 MHZ,200 mV	0.15	1500
CP160808T-501□	500	100 MHZ,200 mV	0.15	1200
CP160808T-601□	600	100 MHZ,200 mV	0.2	1000
CP160808T-751□	750	100 MHZ,200 mV	0.25	800
CP160808T-102□	1000	100 MHZ,200 mV	0.25	800
CP160808T-152□	1500	100 MHZ,200 mV	0.4	500

### Electrical Characteristics ( CP201209 TYPE )

Part No.	IMPEDANCE ( $\Omega \pm 25\%$ )	Test frequency	DCR ( $\Omega$ ) Max	Rate Current (mA) Max
CP201209T-050□	5	100 MHZ,200 mV	0.01	6000
CP201209T-070□	7	100 MHZ,200 mV	0.01	6000
CP201209T-110□	11	100 MHZ,200 mV	0.01	6000
CP201209T-130□	13	100 MHZ,200 mV	0.02	5000
CP201209T-150□	15	100 MHZ,200 mV	0.02	5000
CP201209T-170□	17	100 MHZ,200 mV	0.02	5000
CP201209T-190□	19	100 MHZ,200 mV	0.02	4000
CP201209T-220□	22	100 MHZ,200 mV	0.02	4000
CP201209T-260□	26	100 MHZ,200 mV	0.02	4000
CP201209T-280□	28	100 MHZ,200 mV	0.02	4000
CP201209T-300□	30	100 MHZ,200 mV	0.02	4000
CP201209T-310□	31	100 MHZ,200 mV	0.02	4000
CP201209T-320□	32	100 MHZ,200 mV	0.02	4000
CP201209T-390□	39	100 MHZ,200 mV	0.02	3000
CP201209T-400□	40	100 MHZ,200 mV	0.02	3000
CP201209T-420□	42	100 MHZ,200 mV	0.025	3000
CP201209T-500□	50	100 MHZ,200 mV	0.025	3000
CP201209T-600□	60	100 MHZ,200 mV	0.03	3000
CP201209T-700□	70	100 MHZ,200 mV	0.04	3000
CP201209T-750□	75	100 MHZ,200 mV	0.04	3000
CP201209T-800□	80	100 MHZ,200 mV	0.04	3000
CP201209T-900□	90	100 MHZ,200 mV	0.04	3000
CP201209T-101□	100	100 MHZ,200 mV	0.04	3000

## Multilayer Chip Beads / CP TYPE ( Large Current )

### Electrical Characteristics ( CP201209 TYPE )

Part No.	IMPEDANCE ( $\Omega \pm 25\%$ )	Test frequency	DCR ( $\Omega$ ) Max	Rate Current (mA) Max
CP201209T-121□	120	100 MHZ,200 mV	0.04	3000
CP201209T-131□	130	100 MHZ,200 mV	0.05	2500
CP201209T-151□	150	100 MHZ,200 mV	0.05	2500
CP201209T-181□	180	100 MHZ,200 mV	0.05	2500
CP201209T-201□	200	100 MHZ,200 mV	0.05	2500
CP201209T-221□	220	100 MHZ,200 mV	0.08	2000
CP201209T-241□	240	100 MHZ,200 mV	0.08	2000
CP201209T-251□	250	100 MHZ,200 mV	0.08	2000
CP201209T-301□	300	100 MHZ,200 mV	0.08	2000
CP201209T-331□	330	100 MHZ,200 mV	0.08	2000
CP201209T-391□	390	100 MHZ,200 mV	0.1	2000
CP201209T-401□	400	100 MHZ,200 mV	0.1	2000
CP201209T-451□	450	100 MHZ,200 mV	0.1	2000
CP201209T-471□	470	100 MHZ,200 mV	0.1	2000
CP201209T-501□	500	100 MHZ,200 mV	0.1	2000
CP201209T-601□	600	100 MHZ,200 mV	0.1	2000
CP201209T-751□	750	100 MHZ,200 mV	0.12	1500
CP201209T-102□	1000	100 MHZ,200 mV	0.12	1500
CP201209T-152□	1500	100 MHZ,200 mV	0.3	1000

### Electrical Characteristics ( CP321611 TYPE )

Part No.	IMPEDANCE ( $\Omega \pm 25\%$ )	Test frequency	DCR ( $\Omega$ ) Max	Rate Current (mA) Max
CP321611T-080□	8	100 MHZ,200 mV	0.015	6000
CP321611T-110□	11	100 MHZ,200 mV	0.015	6000
CP321611T-190□	19	100 MHZ,200 mV	0.015	6000
CP321611T-260□	26	100 MHZ,200 mV	0.015	6000
CP321611T-300□	30	100 MHZ,200 mV	0.015	4000
CP321611T-310□	31	100 MHZ,200 mV	0.015	4000
CP321611T-320□	32	100 MHZ,200 mV	0.015	4000
CP321611T-350□	35	100 MHZ,200 mV	0.015	4000
CP321611T-400□	40	100 MHZ,200 mV	0.015	4000
CP321611T-420□	42	100 MHZ,200 mV	0.015	4000
CP321611T-500□	50	100 MHZ,200 mV	0.02	4000
CP321611T-520□	52	100 MHZ,200 mV	0.02	4000
CP321611T-600□	60	100 MHZ,200 mV	0.02	4000
CP321611T-680□	68	100 MHZ,200 mV	0.02	4000
CP321611T-700□	70	100 MHZ,200 mV	0.02	4000
CP321611T-800□	80	100 MHZ,200 mV	0.025	3000
CP321611T-900□	90	100 MHZ,200 mV	0.03	3000
CP321611T-101□	100	100 MHZ,200 mV	0.03	2500
CP321611T-121□	120	100 MHZ,200 mV	0.03	2500
CP321611T-151□	150	100 MHZ,200 mV	0.04	2000

## Multilayer Chip Beads / CP TYPE ( Large Current )

### Electrical Characteristics ( CP321611 TYPE )

Part No.	IMPEDANCE ( $\Omega \pm 25\%$ )	Test frequency	DCR ( $\Omega$ ) Max	Rate Current (mA) Max
CP321611T-201□	200	100 MHZ,200 mV	0.05	2000
CP321611T-221□	220	100 MHZ,200 mV	0.05	2000
CP321611T-301□	300	100 MHZ,200 mV	0.06	2000
CP321611T-401□	400	100 MHZ,200 mV	0.1	2000
CP321611T-501□	500	100 MHZ,200 mV	0.1	2000
CP321611T-601□	600	100 MHZ,200 mV	0.1	2000
CP321611T-102□	1000	50 MHZ,200 mV	0.15	1200
CP321611T-122□	1200	50 MHZ,200 mV	0.18	1000
CP321611T-152□	1500	50 MHZ,200 mV	0.2	800

### Electrical Characteristics ( CP451616 TYPE )

Part No.	IMPEDANCE ( $\Omega \pm 25\%$ )	Test frequency	DCR ( $\Omega$ ) Max	Rate Current (mA) Max
CP451616T-190□	19	100 MHZ,200 mV	0.02	6000
CP451616T-400□	40	100 MHZ,200 mV	0.02	6000
CP451616T-500□	50	100 MHZ,200 mV	0.02	6000
CP451616T-600□	60	100 MHZ,200 mV	0.02	5000
CP451616T-700□	70	100 MHZ,200 mV	0.025	5000
CP451616T-750□	75	100 MHZ,200 mV	0.025	5000
CP451616T-800□	80	100 MHZ,200 mV	0.025	4000
CP451616T-101□	100	100 MHZ,200 mV	0.1	2000
CP451616T-151□	150	100 MHZ,200 mV	0.1	2000
CP451616T-191□	190	100 MHZ,200 mV	0.1	2000
CP451616T-301□	300	100 MHZ,200 mV	0.1	2000
CP451616T-601□	600	100 MHZ,200 mV	0.1	2000
CP451616T-102□	1000	100 MHZ,200 mV	0.1	2000
CP451616T-132□	1300	100 MHZ,200 mV	0.1	2000

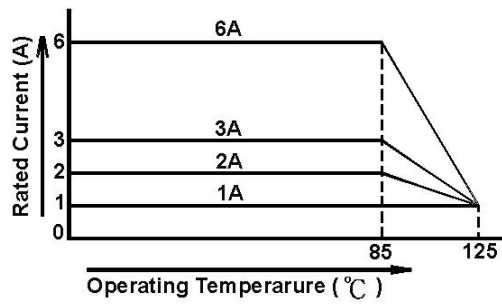
### Electrical Characteristics ( CP453215 TYPE )

Part No.	IMPEDANCE ( $\Omega \pm 25\%$ )	Test frequency	DCR ( $\Omega$ ) Max	Rate Current (mA) Max
CP453215T-190□	19	100 MHZ,200 mV	0.03	6000
CP453215T-300□	30	100 MHZ,200 mV	0.03	6000
CP453215T-470□	47	100 MHZ,200 mV	0.03	6000
CP453215T-500□	50	100 MHZ,200 mV	0.03	6000
CP453215T-600□	60	100 MHZ,200 mV	0.03	6000
CP453215T-700□	70	100 MHZ,200 mV	0.03	6000
CP453215T-800□	80	100 MHZ,200 mV	0.03	4000
CP453215T-900□	90	100 MHZ,200 mV	0.03	4000
CP453215T-121□	120	100 MHZ,200 mV	0.03	4000
CP453215T-125□	125	100 MHZ,200 mV	0.03	4000
CP453215T-151□	150	100 MHZ,200 mV	0.03	4000
CP453215T-191□	190	100 MHZ,200 mV	0.03	4000

## Multilayer Chip Beads / CP TYPE ( Large Current )

### NOTE:


1. Operating temperature range  $-55^{\circ}\text{C} \sim 125^{\circ}\text{C}$
2. Rate Current : Applied the current to coils, the temperature rise shall not be more than  $30^{\circ}\text{C}$
3. Rate Current is deRate as left figure depending on the operating temperature.
4. □Tolerance : J=5% ; K=10% ; M=20% ; Y=25% ; N=30%



## Multilayer Chip Beads / CP TYPE ( Large Current )

### 4. Reliability and Test Conditions(可靠性測試條件)

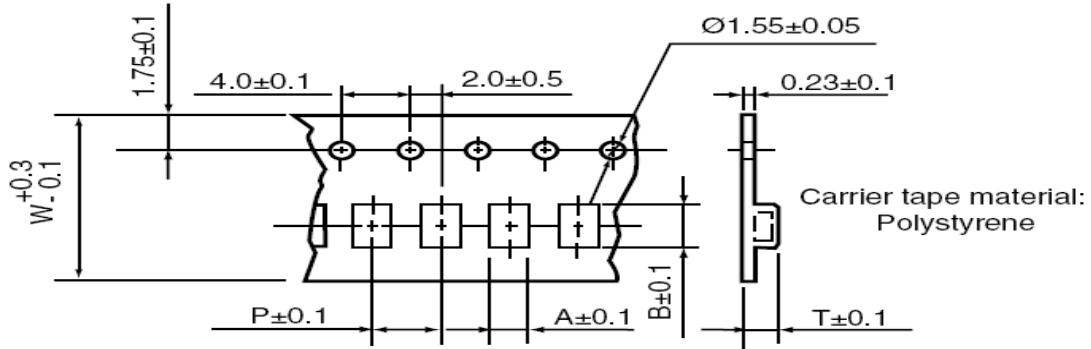
#### 1-1.Mechanical Performance

Item	Specification	Test Method
Flexure Strength	The forces applied on the right conditions must not damage the terminal electrode and the ferrite	Test device shall be soldered on the substrate Substrate Dimension: 100x40x1.6mm Deflection: 2.0mm Keeping Time: 30sec *For 100505, substrate dimension is 100x40x0.8mm
Vibration		Test device shall be soldered on the substrate Oscillation Frequency: 10 to 55 to 10Hz for 1min Amplitude: 1.5mm Time: 2hrs for each axis (X, Y & Z), total 6hrs
Resistance to Soldering Heat	Appearance: No damage More than 75% of the terminal electrode should be covered with solder. Impedance : within $\pm 30\%$ of initial value	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 260 $\pm$ 5°C Immersion Time: 10 $\pm$ 1sec
Solder ability	The electrodes shall be at least 90% covered with new solder coating	Pre-heating: 150°C, 1min Solder Composition: Sn/Pb = 63/37 Solder Temperature: 220 $\pm$ 5°C Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free) Solder Temperature: 245 $\pm$ 5°C (Pb-Free) Immersion Time: 4 $\pm$ 1sec
Terminal Strength Test	100505 series : $\geq 0.2$ kg 160808 series : $\geq 0.5$ kg 201209 series : $\geq 1.0$ kg other series : $\geq 2.0$ kg BAY/BAQ321609 series: $\geq 1.5$ kg (Push)	Test device shall be soldered on the substrate 

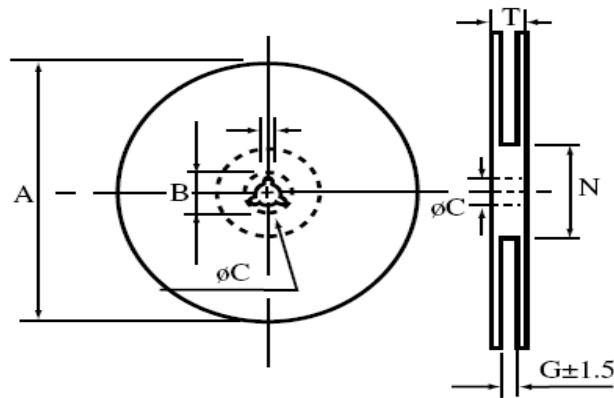
Item	Specification	Test Method															
Temperature Cycle	Appearance: No damage Impedance: within $\pm 30\%$ of initial value	One cycle: <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-55<math>\pm</math>3</td> <td>30</td> </tr> <tr> <td>2</td> <td>25<math>\pm</math>2</td> <td>3</td> </tr> <tr> <td>3</td> <td>125<math>\pm</math>3</td> <td>30</td> </tr> <tr> <td>4</td> <td>25<math>\pm</math>2</td> <td>3</td> </tr> </tbody> </table>	Step	Temperature (°C)	Time (min)	1	-55 $\pm$ 3	30	2	25 $\pm$ 2	3	3	125 $\pm$ 3	30	4	25 $\pm$ 2	3
Step		Temperature (°C)	Time (min)														
1		-55 $\pm$ 3	30														
2		25 $\pm$ 2	3														
3	125 $\pm$ 3	30															
4	25 $\pm$ 2	3															
Humidity Resistance	Total: 100cycles Measured after exposure in the room condition for 24hrs Temperature: 40 $\pm$ 2°C Relative Humidity: 90 ~ 95% / Time: 1000hrs Measured after exposure in the room condition for 24hrs																
High Temperature Resistance	Temperature: 125 $\pm$ 3°C / Relative Humidity: 0% Applied Current: Rated Current /Time: 1000hrs Measured after exposure in the room condition for 24hrs																
Low Temperature Resistance	Temperature: -55 $\pm$ 3°C Relative Humidity: 0% / Time: 1000hrs Measured after exposure in the room condition for 24hrs																

## Multilayer Chip Beads / CP TYPE ( Large Current )

### 4 .Packing Specifications



TYPE	Packaging Quantity		Tape Dimension				
	Pcs / Reel	Inner box	A	B	W	P	T
CP100505	10000	50000	0.62	1.12	8	2	0.6
CP160808	4000	20000	1.08	1.88	8	2	1.02
CP201209	4000	20000	1.42	2.24	8	4	1.04
CP321611	3000	15000	1.88	3.5	8	4	1.27
CP451616	2000	8000	1.93	4.95	12	4	1.93
CP453215	1000	4000	3.66	4.95	12	8	1.85



TYPE	Reel Dimension					
	A	B	C	G	N	T
8mm	178±2	21.0±0.8	13.0±0.8	10	75	12.5
12mm	178±2	21.0±0.8	13.0±0.8	14	75	16.5