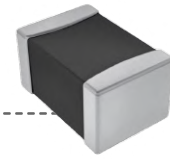


# Large Current Multilayer Chip Ferrite Beads—PB Series



## FEATURES

- Withstand high current, low DC resistance, high reliability.
- Suppression and elimination of electromagnetic interference and radio frequency interference within a wide range of frequency.
- Small volume can be achieved using magnetic shielding structure.
- OPERATING TEMP: -55°C ~ +125°C

## APPLICATIONS

- Noise suppression for high speed signal of electric equipments such as computers and peripheral devices, Set-Top-Box, LCD TVs, communication equipments, Portable device with low power consumption, etc.

## PRODUCT IDENTIFICATION



01 Type	
ZPB	Chip Ferrite Bead For Large Current

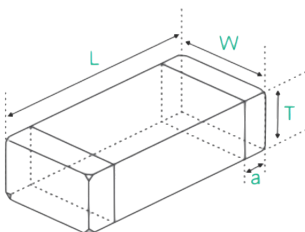
02 External Dimensions (LxW)(mm)	
1005 [0402]	1.0 x 0.5
1608 [0603]	1.6 x 0.8
2012 [0805]	2.0 x 1.25
3216 [1206]	3.2 x 1.6
3225 [1210]	3.2 x 2.5
4516[1806]	4.5 x 1.6
4532[1812]	4.5 x 3.2

03 Nominal Impedance	
Example	Nominal value
300	30Ω
121	120Ω
102	1000Ω

04 Rated Current	
3A	3.0A
1A5	1.5A

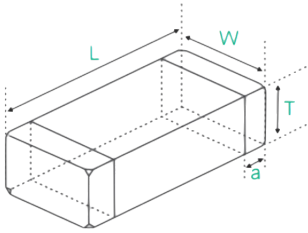
05 Hazardous Substance Free Products	
F	

## SHAPE AND DIMENSIONS



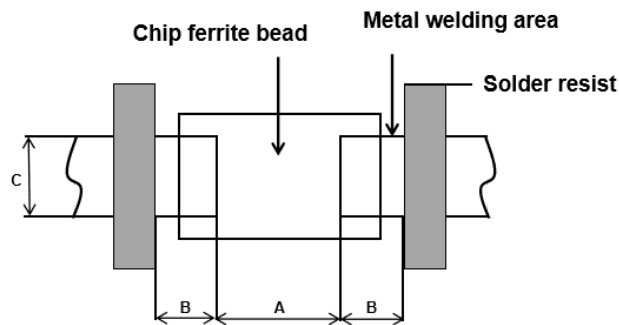
Part Number	Dimensions(mm)			
	L	W	T	a
ZPB1005 [0402]	1.0±0.15	0.5±0.15	0.5±0.15	0.25±0.1
ZPB1608 [0603]	1.6±0.15	0.8±0.15	0.8±0.15	0.3±0.2
ZPB2012 [0805]	2.0±0.2	1.2±0.2	0.8±0.2	0.4±0.2
			1.2±0.2	
ZPB3216 [1206]	3.2±0.2	1.6±0.2	0.8±0.2	0.5±0.3
			1.1±0.3	
ZPB3225 [1210]	3.2±0.2	2.5±0.2	1.6±0.3	0.5±0.3
			1.3±0.3	

## SHAPE AND DIMENSIONS



Part Number	Dimensions(mm)			
	L	W	T	a
ZPB4516[1806]	4.5±0.2	1.6±0.2	1.6±0.3	0.5±0.3
ZPB4532[1812]	4.5±0.2	3.2±0.2	1.5±0.3	0.5±0.3

## RECOMMENDED PC BOARD PATTERN



Part Number	Dimensions(mm)		
	A	B	C
ZPB1005	0.35	0.6	0.6
ZPB1608	0.6	1.0	0.8
ZPB2012	1.0	1.0	1.0
ZPB3216	2.2	1.1	1.4
ZPB3225	2.2	1.1	2.2
ZPB4516	3.0	1.3	1.6
ZPB4532	3.0	1.3	3.0

## SPECIFICATIONS

### ● ZPB1005 TYPE

Part Number	Impedance ( $\Omega$ ) $\pm 25\%$	Impedance Test Frequency (MHz)	Max.DC Resistance (m $\Omega$ )	Rated CurrentMax. (A)	Thickness
ZPB1005-300/1A0	30	100/0.05	0.05	1	0.5 $\pm$ 0.15
ZPB1005-700/0A8	70	100/0.05	0.10	0.8	
ZPB1005-121/0A7	120	100/0.05	0.13	0.7	
ZPB1005-221/0A6	220	100/0.05	0.18	0.6	
ZPB1005-471/0A5	470	100/0.05	0.30	0.5	
ZPB1005-601/0A5	600	100/0.05	0.34	0.45	
ZPB1005-102/0A3	1000	100/0.05	0.47	0.3	

### ● ZPB1608 TYPE

Part Number	Impedance ( $\Omega$ ) $\pm 25\%$	Impedance Test Frequency (MHz)	Max.DC Resistance ( $\Omega$ )	Rated CurrentMax. (A)	Thickness
ZPB1608-000/3A	$\leq 10$	100/0.05	0.02	3	0.8 $\pm$ 0.15
ZPB1608-000/4A	$\leq 10$	100/0.05	0.01	4	
ZPB1608-000/6A	$\leq 10$	100/0.05	0.006	6	
ZPB1608-110/3A	11	100/0.05	0.02	3	
ZPB1608-110/4A	11	100/0.05	0.01	4	
ZPB1608-190/3A	19	100/0.05	0.03	3	
ZPB1608-260/3A	26	100/0.05	0.03	3	
ZPB1608-300/3A	30	100/0.05	0.03	3	
ZPB1608-310/2A	31	100/0.05	0.04	2	
ZPB1608-310/3A	31	100/0.05	0.03	3	
ZPB1608-470/3A	47	100/0.05	0.03	3	
ZPB1608-500/3A	50	100/0.05	0.03	3	
ZPB1608-600/2A	60	100/0.05	0.045	2	
ZPB1608-600/3A	60	100/0.05	0.03	3	
ZPB1608-800/2A	80	100/0.05	0.075	2	
ZPB1608-800/3A	80	100/0.05	0.04	3	
ZPB1608-121/1A	120	100/0.05	0.10	1	

Part Number	Impedance (Ω) ±25%	Impedance Test Frequency (MHz)	Max.DC Resistance (Ω)	Rated CurrentMax. (A)	Thickness
ZPB1608-121/2A	120	100/0.05	0.09	2	0.8±0.15
ZPB1608-121/3A	120	100/0.05	0.55	3	
ZPB1608-151/1A	150	100/0.05	0.10	1	
ZPB1608-151/2A	150	100/0.05	0.09	2	
ZPB1608-221/1A	220	100/0.05	0.15	1	
ZPB1608-221/2A	220	100/0.05	0.10	2	
ZPB1608-301/1A	300	100/0.05	0.15	1	
ZPB1608-301/2A	300	100/0.05	0.11	2	
ZPB1608-501/1A	500	100/0.05	0.25	1	
ZPB1608-601/1A	600	100/0.05	0.25	1	

● ZPB2012 TYPE

Part Number	Impedance (Ω) ±25%	Impedance Test Frequency (MHz)	Max.DC Resistance (Ω)	Rated CurrentMax. (A)	Thickness
ZPB2012-000/2A	≤10	100/0.05	0.02	2	0.8±0.15
ZPB2012-000/4A	≤10	100/0.05	0.01	4	
ZPB2012-000/6A	≤10	100/0.05	0.006	6	
ZPB2012-110/2A	11	100/0.05	0.02	2	
ZPB2012-110/4A	11	100/0.05	0.015	4	
ZPB2012-110/6A	11	100/0.05	0.006	6	
ZPB2012-190/2A	19	100/0.05	0.025	2	
ZPB2012-190/4A	19	100/0.05	0.015	4	
ZPB2012-190/6A	19	100/0.05	0.006	6	
ZPB2012-260/2A	26	100/0.05	0.025	2	
ZPB2012-260/4A	26	100/0.05	0.015	4	
ZPB2012-300/2A	30	100/0.05	0.025	2	
ZPB2012-300/3A	30	100/0.05	0.020	3	
ZPB2012-300/4A	30	100/0.05	0.015	4	
ZPB2012-310/1A	31	100/0.05	0.04	1	
ZPB2012-310/3A	31	100/0.05	0.02	3	
ZPB2012-310/4A	31	100/0.05	0.015	4	

Part Number	Impedance (Ω) ±25%	Impedance Test Frequency (MHz)	Max.DC Resistance (Ω)	Rated CurrentMax. (A)	Thickness
ZPB2012-310/6A	31	100/0.05	0.006	6	0.8±0.15
ZPB2012-390/4A	39	100/0.05	0.02	4	
ZPB2012-500/1A	50	100/0.05	0.06	1	
ZPB2012-600/2A	60	100/0.05	0.06	2	
ZPB2012-600/3A	60	100/0.05	0.04	3	
ZPB2012-600/4A	60	100/0.05	0.02	4	
ZPB2012-800/1A	80	100/0.05	0.08	1	
ZPB2012-800/2A	80	100/0.05	0.06	2	
ZPB2012-800/3A	80	100/0.05	0.04	3	
ZPB2012-800/4A	80	100/0.05	0.025	4	
ZPB2012-101/2A	100	100/0.05	0.04	2	
ZPB2012-101/3A	100	100/0.05	0.04	3	
ZPB2012-121/1A	120	100/0.05	0.08	1	
ZPB2012-121/2A	120	100/0.05	0.06	2	
ZPB2012-121/3A	120	100/0.05	0.04	3	
ZPB2012-151/2A	150	100/0.05	0.06	2	
ZPB2012-151/3A	150	100/0.05	0.04	3	
ZPB2012-181/2A	180	100/0.05	0.06	2	
ZPB2012-181/3A	180	100/0.05	0.045	3	
ZPB2012-221/2A	220	100/0.05	0.06	2	
ZPB2012-221/3A	220	100/0.05	0.045	3	
ZPB2012-301/1A	300	100/0.05	0.12	1	
ZPB2012-301/2A	300	100/0.05	0.07	2	
ZPB2012-301/3A	300	100/0.05	0.05	3	
ZPB2012-501/1A	500	100/0.05	0.20	1	
ZPB2012-501/2A	500	100/0.05	0.12	2	
ZPB2012-501/3A	500	100/0.05	0.08	3	
ZPB2012-601/1A	600	100/0.05	0.20	1	
ZPB2012-601/2A	600	100/0.05	0.125	2	
ZPB2012-601/3A	600	100/0.05	0.10	3	
ZPB2012-801/1A	800	100/0.05	0.20	1	
ZPB2012-102/1A	1000	100/0.05	0.22	1	



● ZPB3216 TYPE

Part Number	Impedance (Ω) ±25%	Impedance Test Frequency (MHz)	Max.DC Resistance (Ω)	Rated CurrentMax. (A)	Thickness
ZPB3216-000/3A	≤10	100/0.05	0.025	3	0.8±0.2
ZPB3216-000/4A	≤10	100/0.05	0.015	4	
ZPB3216-000/6A	≤10	100/0.05	0.06	6	
ZPB3216-100/3A	10	100/0.05	0.025	3	
ZPB3216-100/4A	10	100/0.05	0.015	4	
ZPB3216-100/6A	10	100/0.05	0.006	6	
ZPB3216-110/6A	11	100/0.05	0.006	6	
ZPB3216-190/3A	19	100/0.05	0.025	3	
ZPB3216-190/4A	19	100/0.05	0.015	4	
ZPB3216-190/6A	19	100/0.05	0.006	6	
ZPB3216-220/3A	22	100/0.05	0.025	3	
ZPB3216-220/6A	22	100/0.05	0.006	6	
ZPB3216-260/4A	26	100/0.05	0.02	4	
ZPB3216-310/3A	31	100/0.05	0.025	3	
ZPB3216-310/6A	31	100/0.05	0.006	6	
ZPB3216-390/6A	39	100/0.05	0.006	6	
ZPB3216-400/2A	40	100/0.05	0.10	2	
ZPB3216-400/3A	40	100/0.05	0.03	3	
ZPB3216-400/4A	40	100/0.05	0.02	4	
ZPB3216-400/6A	40	100/0.05	0.006	6	
ZPB3216-500/2A	50	100/0.05	0.10	2	
ZPB3216-500/3A	50	100/0.05	0.04	3	
ZPB3216-500/4A	50	100/0.05	0.03	4	
ZPB3216-500/6A	50	100/0.05	0.006	6	
ZPB3216-600/2A	60	100/0.05	0.10	2	
ZPB3216-600/3A	60	100/0.05	0.04	3	
ZPB3216-600/4A	60	100/0.05	0.03	4	
ZPB3216-600/6A	60	100/0.05	0.006	6	
ZPB3216-700/2A	70	100/0.05	0.10	2	
ZPB3216-700/3A	70	100/0.05	0.04	3	
ZPB3216-700/4A	70	100/0.05	0.03	4	



Part Number	Impedance (Ω) ±25%	Impedance Test Frequency (MHz)	Max.DC Resistance (Ω)	Rated CurrentMax. (A)	Thickness
ZPB3216-700/6A	70	100/0.05	0.006	6	0.8±0.2
ZPB3216-800/2A	80	100/0.05	0.10	2	
ZPB3216-800/3A	80	100/0.05	0.04	3	
ZPB3216-800/4A	80	100/0.05	0.03	4	
ZPB3216-800/6A	80	100/0.05	0.006	6	
ZPB3216-101/1A	100	100/0.05	0.15	1	
ZPB3216-101/2A	100	100/0.05	0.08	2	
ZPB3216-101/3A	100	100/0.05	0.04	3	
ZPB3216-121/1A	120	100/0.05	0.15	1	
ZPB3216-121/2A	120	100/0.05	0.08	2	
ZPB3216-121/3A	120	100/0.05	0.04	3	
ZPB3216-151/1A	150	100/0.05	0.15	1	
ZPB3216-151/2A	150	100/0.05	0.08	2	
ZPB3216-151/3A	150	100/0.05	0.04	3	
ZPB3216-221/1A	220	100/0.05	0.15	1	
ZPB3216-221/2A	220	100/0.05	0.08	2	
ZPB3216-221/3A	220	100/0.05	0.04	3	
ZPB3216-301/1A	300	100/0.05	0.15	1	
ZPB3216-301/2A	300	100/0.05	0.09	2	
ZPB3216-301/3A	300	100/0.05	0.07	3	
ZPB3216-401/1A	400	100/0.05	0.15	1	
ZPB3216-401/2A	400	100/0.05	0.09	2	
ZPB3216-401/3A	400	100/0.05	0.07	3	
ZPB3216-501/1A	500	100/0.05	0.15	1	
ZPB3216-501/2A	500	100/0.05	0.10	2	
ZPB3216-501/3A	500	100/0.05	0.08	3	
ZPB3216-601/1A	600	100/0.05	0.15	1	
ZPB3216-601/2A	600	100/0.05	0.10	2	
ZPB3216-601/3A	600	100/0.05	0.08	3	
ZPB3216-751/3A	750	100/0.05	0.08	3	
ZPB3216-801/1A	800	100/0.05	0.18	1	
ZPB3216-801/2A	800	100/0.05	0.12	2	
ZPB3216-102/1A	1000	100/0.05	0.18	1	



● ZPB3225 TYPE

Part Number	Impedance (Ω) ±25%	Impedance Test Frequency (MHz)	Max.DC Resistance (Ω)	Rated CurrentMax. (A)	Thickness
PB3225-190/3A	19	100/0.05	0.025	3	1.3±0.3
PB3225-190/4A	19	100/0.05	0.01	4	
PB3225-190/6A	19	100/0.05	0.006	6	
PB3225-260/6A	26	100/0.05	0.006	6	
PB3225-310/3A	31	100/0.05	0.025	3	
PB3225-310/4A	31	100/0.05	0.01	4	
PB3225-310/6A	31	100/0.05	0.006	6	
PB3225-390/3A	39	100/0.05	0.025	3	
PB3225-390/4A	39	100/0.05	0.01	4	
PB3225-390/6A	39	100/0.05	0.006	6	
PB3225-470/3A	47	100/0.05	0.04	3	
PB3225-470/4A	47	100/0.05	0.025	4	
PB3225-470/6A	47	100/0.05	0.006	6	
PB3225-500/3A	50	100/0.05	0.04	3	
PB3225-500/4A	50	100/0.05	0.025	4	
PB3225-500/6A	50	100/0.05	0.006	6	
PB3225-600/3A	60	100/0.05	0.04	3	
PB3225-600/4A	60	100/0.05	0.025	4	
PB3225-600/6A	60	100/0.05	0.006	6	
PB3225-700/2A	70	100/0.05	0.06	2	
PB3225-700/3A	70	100/0.05	0.05	3	
PB3225-700/4A	70	100/0.05	0.03	4	
PB3225-800/2A	80	100/0.05	0.06	2	
PB3225-800/3A	80	100/0.05	0.05	3	
PB3225-800/4A	80	100/0.05	0.03	4	
PB3225-900/2A	90	100/0.05	0.04	2	
PB3225-900/3A	90	100/0.05	0.04	3	
PB3225-900/4A	90	100/0.05	0.03	4	
PB3225-101/2A	100	100/0.05	0.08	2	
PB3225-101/3A	100	100/0.05	0.06	3	
PB3225-121/1A	120	100/0.05	0.10	1	





Part Number	Impedance (Ω) ±25%	Impedance Test Frequency (MHz)	Max.DC Resistance (Ω)	Rated CurrentMax. (A)	Thickness
ZPB3225-121/2A	120	100/0.05	0.08	2	1.3±0.3
ZPB3225-121/3A	120	100/0.05	0.06	3	
ZPB3225-151/2A	150	100/0.05	0.08	2	
ZPB3225-181/1A	180	100/0.05	0.12	1	
ZPB3225-181/2A	180	100/0.05	0.09	2	
ZPB3225-181/3A	180	100/0.05	0.06	3	
ZPB3225-221/1A	220	100/0.05	0.135	1	
ZPB3225-221/2A	220	100/0.05	0.10	2	
ZPB3225-221/3A	220	100/0.05	0.06	3	
ZPB3225-301/1A	300	100/0.05	0.15	1	
ZPB3225-301/1A5	300	100/0.05	0.12	1.5	
ZPB3225-301/2A	300	100/0.05	0.10	2	
ZPB3225-301/3A	300	100/0.05	0.06	3	
ZPB3225-421/1A5	420	100/0.05	0.12	1.5	
ZPB3225-501/1A	500	100/0.05	0.16	1	
ZPB3225-501/2A	500	100/0.05	0.11	2	
ZPB3225-501/3A	500	100/0.05	0.08	3	
ZPB3225-601/1A	600	100/0.05	0.16	1	
ZPB3225-601/2A	600	100/0.05	0.11	2	
ZPB3225-601/3A	600	100/0.05	0.08	3	
ZPB3225-751/1A	750	100/0.05	0.16	1	
ZPB3225-751/2A	750	100/0.05	0.12	2	
ZPB3225-102/1A	1000	100/0.05	0.17	1	

● ZPB4516 TYPE

Part Number	Impedance (Ω) ±25%	Impedance Test Frequency (MHz)	Max.DC Resistance (Ω)	Rated CurrentMax. (mA)	Thickness
ZPB4516-260/6A	26	100/0.05	0.006	6	1.6±0.3
ZPB4516-300/6A	30	100/0.05	0.006	6	
ZPB4516-310/6A	31	100/0.05	0.006	6	
ZPB4516-500/4A	50	100/0.05	0.02	4	
ZPB4516-500/6A	50	100/0.05	0.006	6	



Part Number	Impedance ( $\Omega$ ) $\pm 25\%$	Impedance Test Frequency (MHz)	Max.DC Resistance ( $\Omega$ )	Rated CurrentMax. (A)	Thickness
ZPB4516-600/3A	60	100/0.05	0.035	3	1.6±0.3
ZPB4516-600/6A	60	100/0.05	0.006	6	
ZPB4516-750/3A	75	100/0.05	0.035	3	
ZPB4516-800/3A	80	100/0.05	0.035	3	
ZPB4516-800/4A	80	100/0.05	0.025	4	
ZPB4516-900/3A	90	100/0.05	0.035	3	
ZPB4516-101/3A	100	100/0.05	0.035	3	
ZPB4516-121/2A	120	100/0.05	0.05	2	
ZPB4516-121/3A	120	100/0.05	0.035	3	
ZPB4516-151/2A	150	100/0.05	0.06	2	
ZPB4516-181/2A	180	100/0.05	0.06	2	
ZPB4516-221/3A	220	100/0.05	0.045	3	
ZPB4516-301/2A	300	100/0.05	0.10	2	
ZPB4516-501/2A	500	100/0.05	0.12	2	
ZPB4516-601/2A	600	100/0.05	0.12	2	
ZPB4516-801/1A	800	100/0.05	0.18	1	
ZPB4516-801/2A	800	100/0.05	0.12	2	
ZPB4516-102/1A	1000	100/0.05	0.18	1	
ZPB4516-102/1A5	1000	100/0.05	0.15	1.5	

● ZPB4532 TYPE

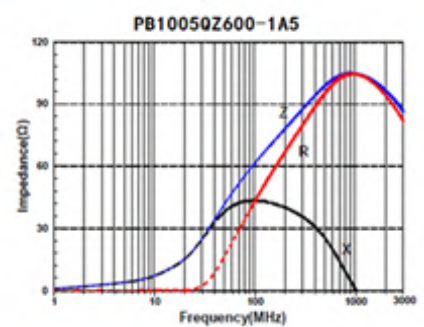
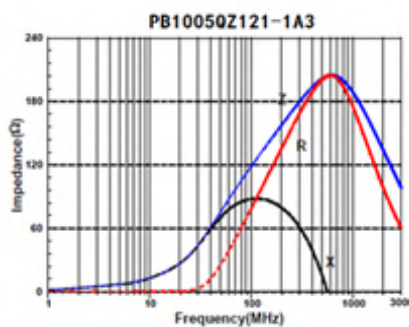
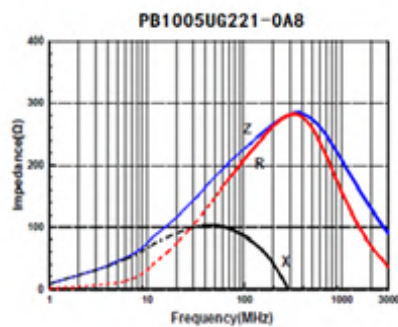
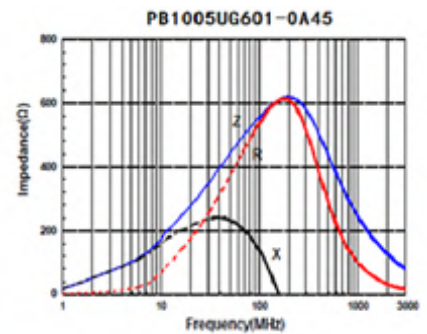
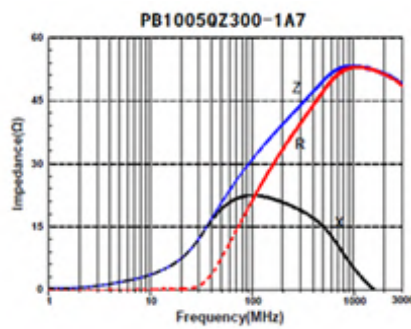
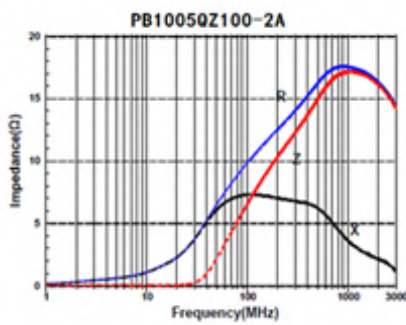
Part Number	Impedance ( $\Omega$ ) $\pm 25\%$	Impedance Test Frequency (MHz)	Max.DC Resistance ( $\Omega$ )	Rated CurrentMax. (mA)	Thickness
ZPB4532-310/6A	31	100/0.05	0.006	6	1.6±0.3
ZPB4532-500/6A	50	100/0.05	0.006	6	
ZPB4532-600/3A	60	100/0.05	0.015	3	
ZPB4532-600/4A	60	100/0.05	0.01	4	
ZPB4532-600/6A	60	100/0.05	0.006	6	
ZPB4532-800/3A	80	100/0.05	0.015	3	
ZPB4532-800/4A	80	100/0.05	0.01	4	
ZPB4532-800/6A	80	100/0.05	0.006	6	
ZPB4532-101/4A	100	100/0.05	0.015	4	

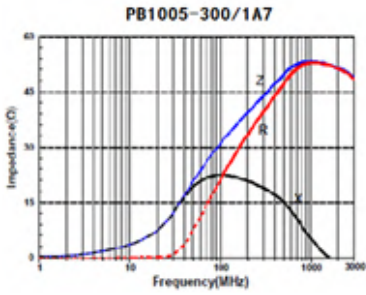
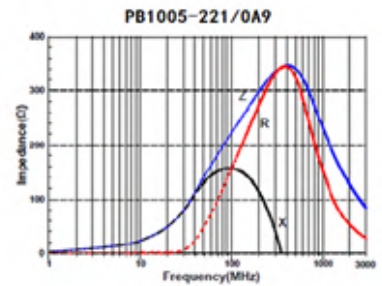
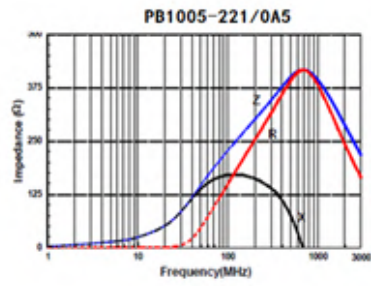
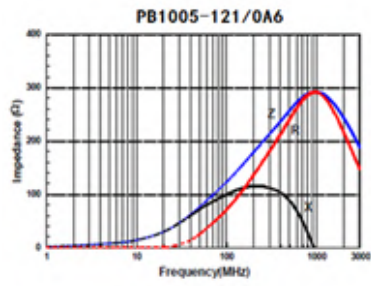


Part Number	Impedance ( $\Omega$ ) $\pm 25\%$	Impedance Test Frequency (MHz)	Max.DC Resistance ( $\Omega$ )	Rated CurrentMax. (A)	Thickness
ZPB4532-121/2A	120	100/0.05	0.035	2	1.6 $\pm$ 0.3
ZPB4532-121/3A	120	100/0.05	0.02	3	
ZPB4532-151/3A	150	100/0.05	0.025	3	
ZPB4532-181/2A	180	100/0.05	0.035	2	
ZPB4532-181/3A	180	100/0.05	0.025	3	
ZPB4532-221/2A	220	100/0.05	0.045	2	
ZPB4532-221/3A	220	100/0.05	0.035	3	
ZPB4532-301/2A	300	100/0.05	0.045	2	
ZPB4532-301/3A	300	100/0.05	0.035	3	
ZPB4532-501/2A	500	100/0.05	0.08	2	
ZPB4532-501/3A	500	100/0.05	0.05	3	
ZPB4532-601/2A	600	100/0.05	0.08	2	
ZPB4532-601/3A	600	100/0.05	0.05	3	

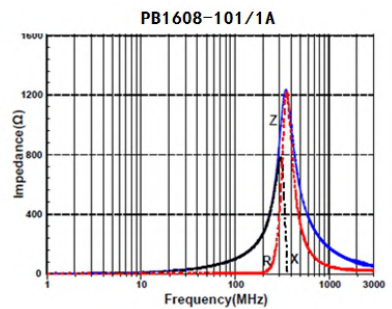
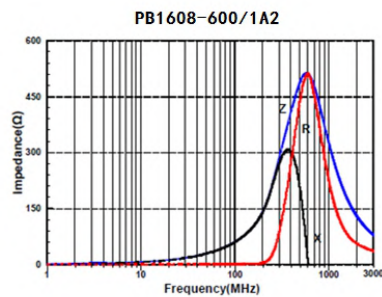
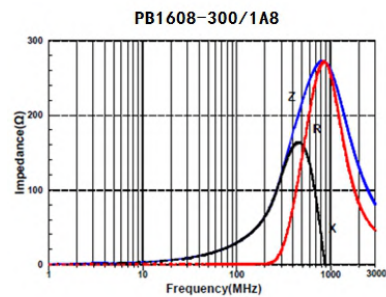
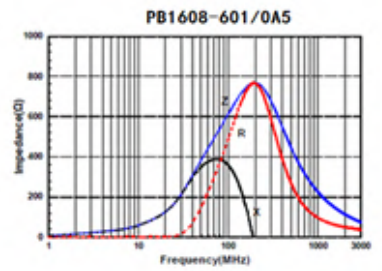
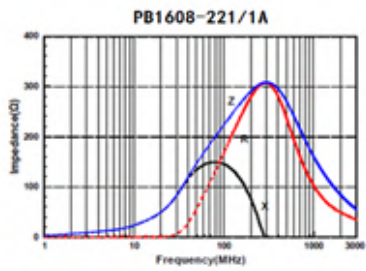
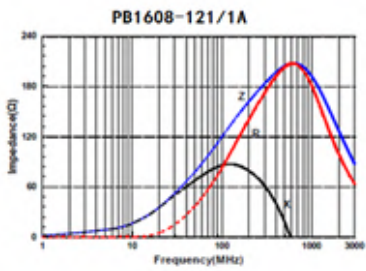
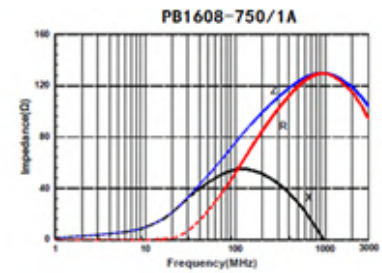
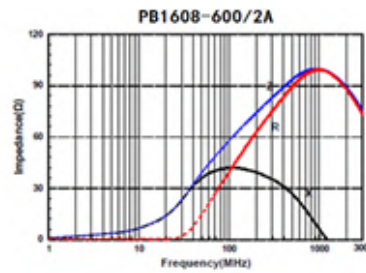
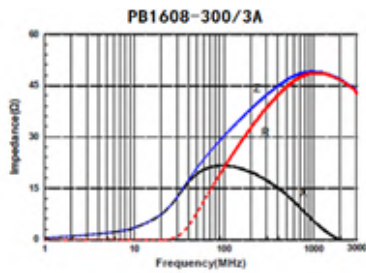
## DETAIL ELECTRICAL CHARACTERISTICS

- ZPB1005

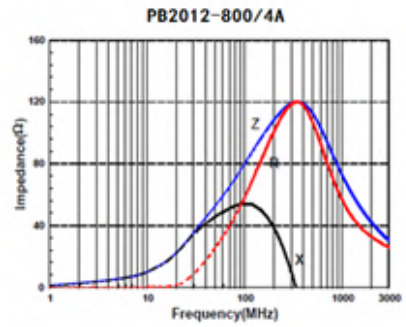
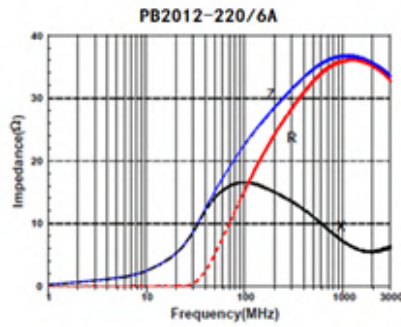
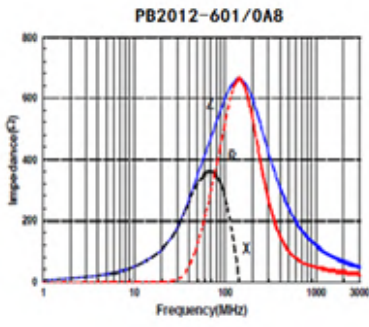




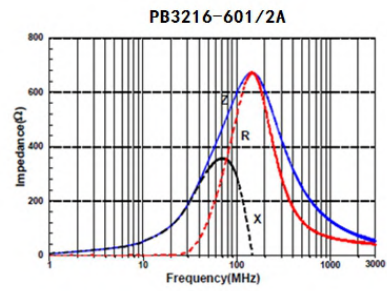
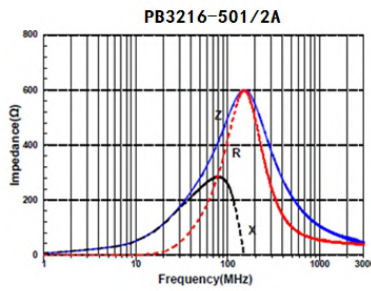
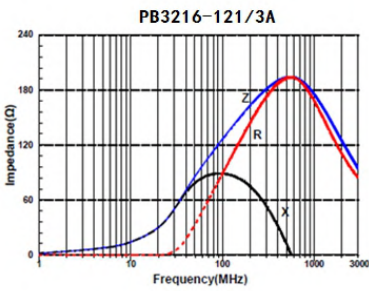
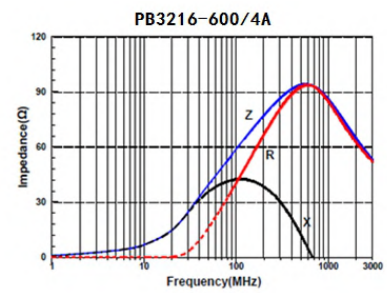
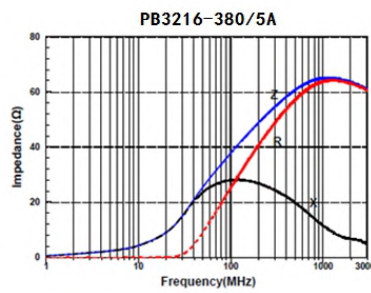
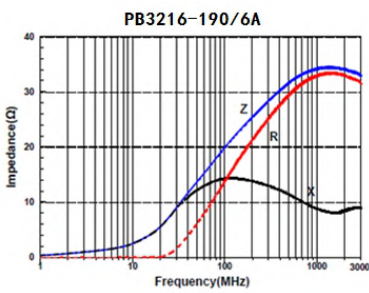
● ZPB1608







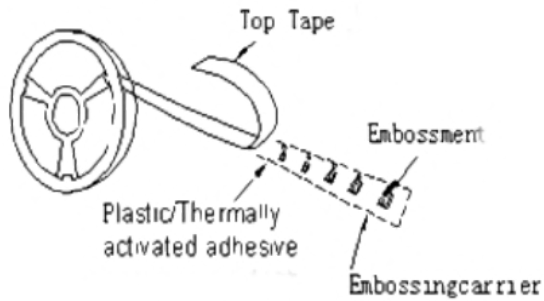
● ZPB3216



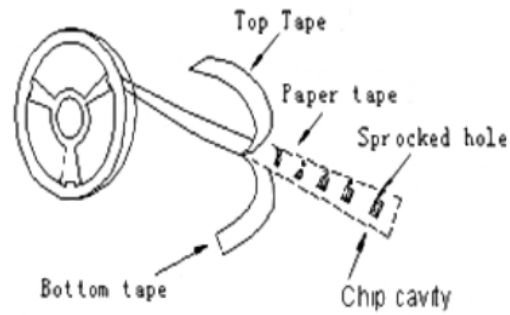
## PACKAGING STYLE

### • Taping Material

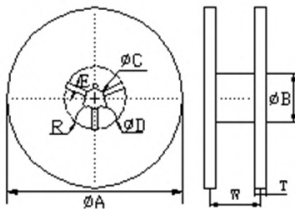
#### Embossing Tape



#### Paper Tape



### • Reel Dimensions(mm)



Tape Width	A	B	C	D	E	W	T	R
8mm	178±2	60±1	13±0.5	21±0.8	2±0.5	10±1	1.5±0.5	1
12mm	178±2	60±1	13±0.5	21±0.8	2±0.5	14±1	1.5±0.5	1

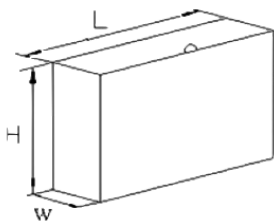
## STORAGE

### • Quantity

Type	PCS/REEL	PCS/INNERBOX	PCS/OUTERBOX
1005	10000	50000	250000
1608	4000	20000	100000
2012	4000	20000	100000
3216	4000	20000	100000
3225	2000	10000	50000
4516	500	2000	20000
4532	500	2000	20000

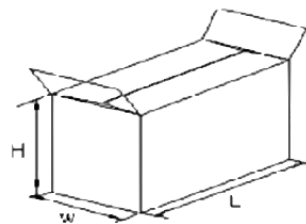
### • Packing Dimensions(mm)

#### Inner Box Dimensions



L	W	H	THICK
180±3	70±3	190±3	2±0.8

#### Outer Box Dimensions



L	W	H	THICK
370±3	200±3	210±3	2±0.8

### • Storage

Please be sure to the parts at 40°C, or less, 70%RH or less, and isolate the parts from sulphic and chloric atmosphere.