

Multi Layer Ferrite Power Beads

Type CZP

ISO 9001:2000
TS-16949

1. General

- Designed to reduce noise at high frequencies
- Standard EIA Packages: 1J, 2A, 2B
- Nickel barrier with solder overcoat for excellent solderability
- Magnetically shielded

2. Dimensions

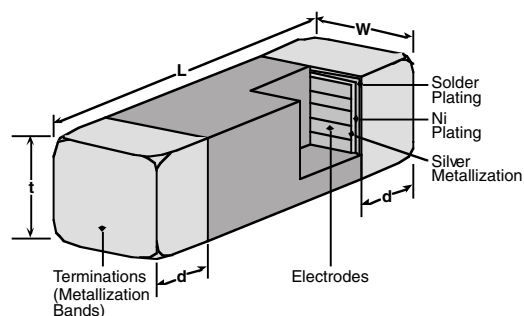


Table 1

Dimensions - inches (mm)				
Part	L	W	t	d
1J (0603)	0.063±0.006 (1.60±0.15)	0.031±0.006 (0.80±0.15)	0.031±0.006 (0.80±0.15)	0.014±0.006 (0.36±0.15)
2A (0805)	0.079±0.008 (2.00±0.20)	0.049±0.008 (1.25±0.20)	0.035±0.008 (0.90±0.20)	0.020±0.010 (0.51±0.25)
2B (1206)	0.126±0.008 (3.20±0.20)	0.063±0.008 (1.60±0.20)	0.043±0.008 (1.10±0.20)	0.020±0.010 (0.51±0.25)

3. Type Designation

The type designation shall be in the following form:

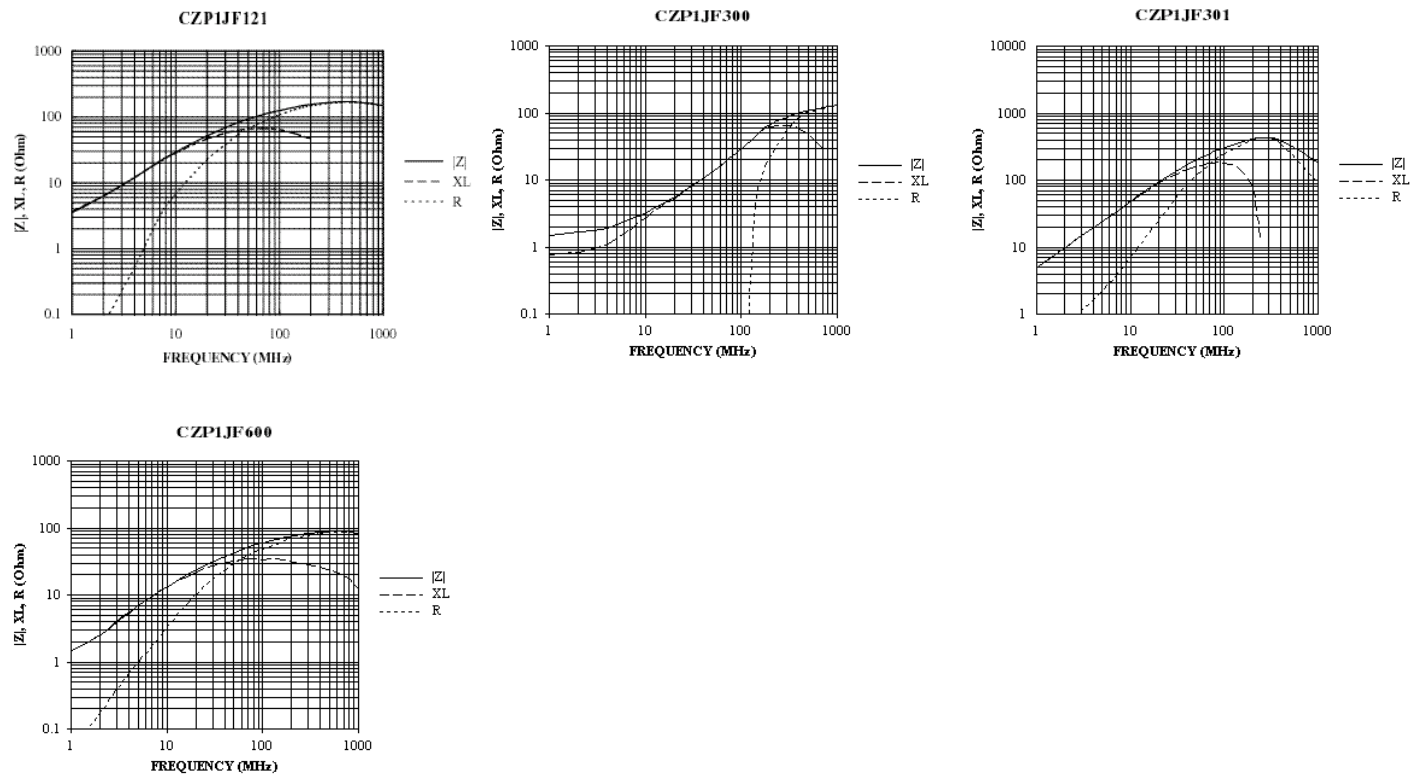
New Type

CZP	2A	F	T	TD	500	P
Type	Size	Permeability Code	Termination Material	Packaging	Impedence	Tolerance
	1J 2A 2B	F P	T: Sn (Other termination styles available, contact factory for options)	TD: 7" Paper Tape (1J, 2A: 4,000 pcs/reel) TE: 7" Embossed Plastic (2B: 3,000 pcs/reel)	2 significant figures + 1 multiplier	P: ±25%

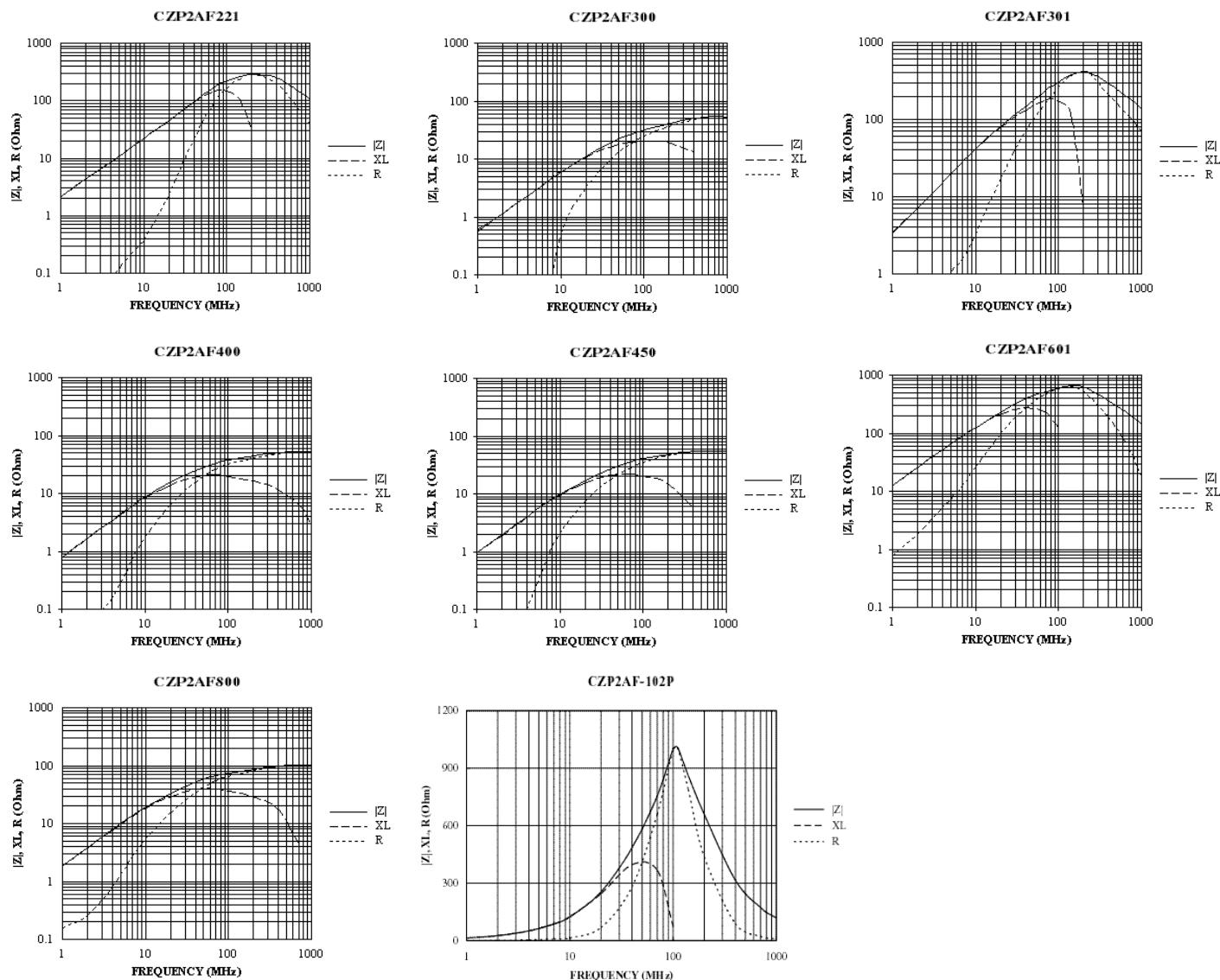
4. Standard Applications

Part Designation	Impedance @ 100MHz ()	DC Resistance Maximum ()	Allowable DC Current Maximum (mA)	Operating Temperature Range
CZP1JFTTD300P	30	0.03	3000	-55°C to +125°C
CZP1JFTTD600P	60	0.04		
CZP1JFTTD121P	120	0.10		
CZP1JFTTD301P	300	0.10		
CZP2AFTTD300P	30	0.015	3000	-55°C to +125°C
CZP2AFTTD400P	40	0.03	2000	
CZP2AFTTD450P	45			
CZP2AFTTD600P	60	0.025	3000	
CZP2AFTTD800P	80	0.04	2000	
CZP2AFTTD221P	220	0.05		
CZP2AFTTD301P	300	0.15	1000	
CZP2AFTTD601P	600	0.20		
CZP2AFTTD102P	1000			
CZP2BFTTE190P	19	0.02	3000	-55°C to +125°C
CZP2BFTTE260P	26			
CZP2BFTTE300P	30			
CZP2BFTTE310P	31			
CZP2BFTTE500P	50	0.025	2000	
CZP2BFTTE650P	65	0.03		
CZP2BFTTE700P	70			
CZP2BFTTE800P	80			
CZP2BFTTE900P	90	0.10	1000	
CZP2BFTTE101P	100			
CZP2BFTTE121P	120			
CZP2BPTTE700P	70	0.20	3000	
CZP2BFTTE601P	600		1000	
CZP2BPTTE101P	100	0.03	3000	
CZP2BPTTE121P	120	0.04		
CZP2BPTTE601P	600	0.10	1500	

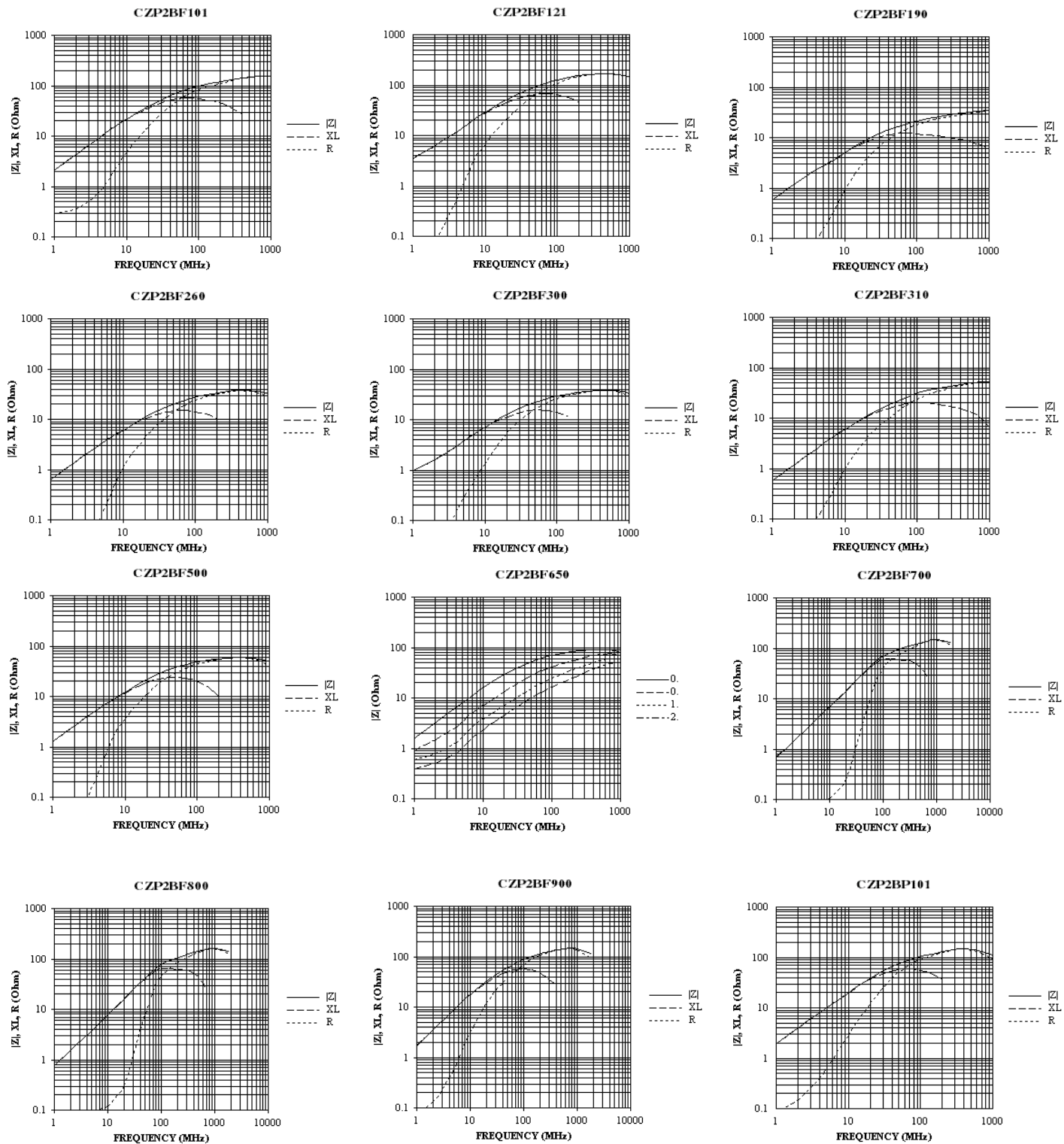
5. 0603 (1J) Graphs



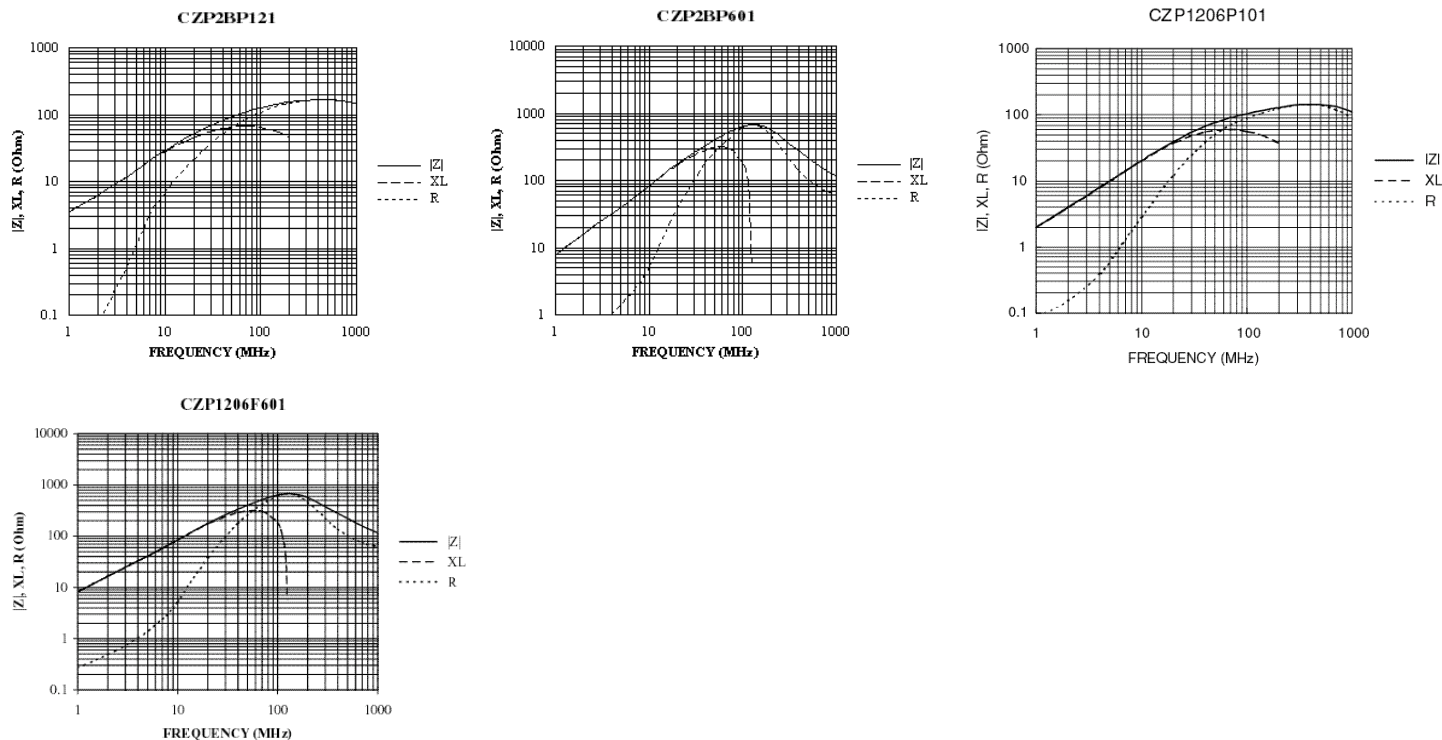
5. 0805 (2A) Graphs



5. 1206 (2B) Graphs



5. 1206 (2B)Graphs (continued)



5. Characteristics

Item	Requirement	Conditions												
Operating Temperature	-55°C ~ +125°C													
Storage Temperature	40°C @ 70% Humidity	Sealed plastic bags with desiccant shall be used to reduce the potential of oxidation on the terminations during storage.												
Resistance to Solder Heat	Change in Impedance: Relative to value before test $\pm 20\%$. Appearance: There shall be no cracking Solder Coverage: More than 75% of the terminal electrode shall be covered with solder.	Flux: 5-10 sec dip After Flux: Air dry for 15 sec Preheat: 150°C $\pm 10^\circ\text{C}$ Preheat Time: 60 sec Solder Temp: 260°C $\pm 5^\circ\text{C}$ Dip Time: 10 ± 1 sec												
Solderability	Solder Coverage: More than 95% of the termination shall be covered with solder.	Flux: 5-10 sec dip After Flux: Air dry for 15 sec Solder Temp: 245°C $\pm 5^\circ\text{C}$ Dip Time: 5 ± 0.5 sec												
Leach Resistance	Appearance: There shall be no visible signs of physical or mechanical damage (i.e. no cracks). Terminations: Termination must not be leached away for more than 5%.	The bead shall be subjected to the following 5 steps for the period of time shown below. The 5 steps constitute one (1) rotation. 4 rotations shall be carried out. 1) Flux: 5-10 sec 2) After Flux: Air dry for 15 sec 3) Solder Temp: 230°C $\pm 5^\circ\text{C}$ 4) Dip Time: 5 ± 0.5 sec 5) Cool: Air cool for 60 seconds												
Insulation Resistance	Insulation Resistance: Min 1G ohms													
Solvent Resistance	Change in Impedance: Relative to value before test $\pm 10\%$.	Cleaning by: Washer: Ultrasonic washer (100W) Solvent: Isopropyl alcohol Time: 3 minutes												
Terminal Strength (hanging test)	Appearance: The terminal electrode shall not break off, nor shall there be damage to the body.	<table> <tr> <th>Type</th><th>W(kgf)</th><th>Time</th></tr> <tr> <td>1J</td><td>0.5</td><td>30 sec ± 2 sec</td></tr> <tr> <td>2A</td><td>1.0</td><td>30 sec ± 2 sec</td></tr> <tr> <td>2B</td><td>1.5</td><td>30 sec ± 2 sec</td></tr> </table>	Type	W(kgf)	Time	1J	0.5	30 sec ± 2 sec	2A	1.0	30 sec ± 2 sec	2B	1.5	30 sec ± 2 sec
Type	W(kgf)	Time												
1J	0.5	30 sec ± 2 sec												
2A	1.0	30 sec ± 2 sec												
2B	1.5	30 sec ± 2 sec												
Terminal Strength (push test)	Appearance: There shall be no evidence of mechanical degradations to terminals or body.	<table> <tr> <th>Type</th><th>W(kgf)</th><th>Time</th></tr> <tr> <td>1J</td><td>1.4</td><td>60 sec</td></tr> <tr> <td>2A</td><td>1.8</td><td>60 sec</td></tr> <tr> <td>2B</td><td>2.3</td><td>60 sec</td></tr> </table>	Type	W(kgf)	Time	1J	1.4	60 sec	2A	1.8	60 sec	2B	2.3	60 sec
Type	W(kgf)	Time												
1J	1.4	60 sec												
2A	1.8	60 sec												
2B	2.3	60 sec												
Bending Strength	Appearance: There shall be no physical or mechanical damage. Impedance: Relative to initial value before test $\pm 10\%$.	Board: 90x40x1.6mm Bend: 1mm Time: 5 sec												

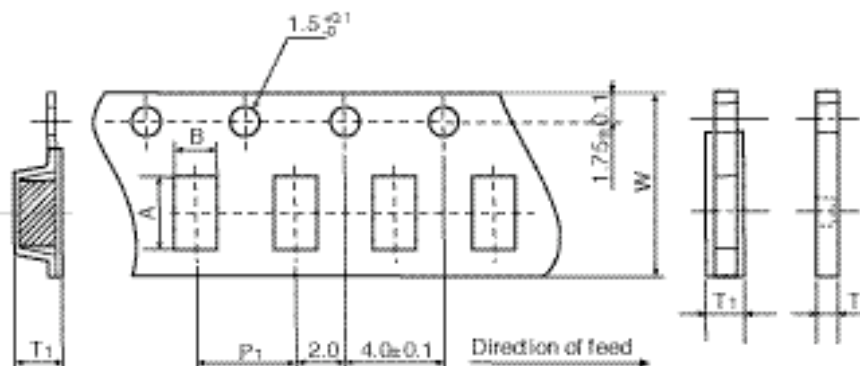
5. Characteristics (continued)

Item	Requirement	Conditions																		
Mechanical Shock	Appearance: There shall be no physical or mechanical damage. Impedance: Relative to initial value before test $\pm 10\%$.	Force: 50G Time: 11 msec There shall be 3 shocks in each of 6 directions (18 shocks total).																		
Vibration	Impedance: Relative to initial value $\pm 10\%$.	Only endurance conditioning by sweeping shall be made. The entire frequency range from 10-2,000Hz and return to 10Hz in 20 minutes (this shall constitute one cycle). Amplitude: 1.5mm The test shall have a 15G peak and shall be applied for a period of 4 hours (12 cycles) in each of 3 mutually perpendicular directions (a total of 36 cycles within a total of 12 hours).																		
Thermal Shock	Appearance: There shall be no physical or mechanical damage. Impedance: Relative to initial value $\pm 20\%$. DCR: The DCR shall not exceed initial specified value. Testing of the parts will be made at 0 hours, 250 hours and 500 hours. Before testing, the parts shall be allowed to cool to room temperature for 24 hours.	<table border="1"> <thead> <tr> <th>Step</th><th>Temperature</th><th>Time</th></tr> </thead> <tbody> <tr> <td>1-start</td><td>$-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$</td><td>_____</td></tr> <tr> <td>2-hold</td><td>$-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$</td><td>30 min ± 5 min</td></tr> <tr> <td>3-transfer</td><td>_____</td><td>0.5 min max.</td></tr> <tr> <td>4-hold</td><td>$+105^{\circ}\text{C} \pm 2^{\circ}\text{C}$</td><td>30 min ± 5 min</td></tr> <tr> <td>5-transfer</td><td>_____</td><td>0.5 min max.</td></tr> </tbody> </table> Steps 1 thru 5 constitute one complete cycle and the test shall consist of a total of 500 cycles.	Step	Temperature	Time	1-start	$-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$	_____	2-hold	$-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$	30 min ± 5 min	3-transfer	_____	0.5 min max.	4-hold	$+105^{\circ}\text{C} \pm 2^{\circ}\text{C}$	30 min ± 5 min	5-transfer	_____	0.5 min max.
Step	Temperature	Time																		
1-start	$-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$	_____																		
2-hold	$-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$	30 min ± 5 min																		
3-transfer	_____	0.5 min max.																		
4-hold	$+105^{\circ}\text{C} \pm 2^{\circ}\text{C}$	30 min ± 5 min																		
5-transfer	_____	0.5 min max.																		
Load Humidity	Appearance: There shall be no physical or mechanical damage. Impedance: Relative to initial value $\pm 15\%$. Measurements shall be taken at 0 hours, 250 hours, 500 hours and 1,000 hours and shall meet the conditions stated above.	Temperature: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ Relative Humidity: 85% Time: 1,000 hours total Apply: 100% rated current																		
Life Test	Appearance: There shall be no physical or mechanical damage Impedance: Relative to initial value $\pm 15\%$ Measurements shall be taken at 0 hours, 250 hours, 500 hours and 1,000 hours and shall meet the conditions stated above.	Temperature: $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ Time: 1,000 hours total Apply: 100% rated current																		

6. Packaging Specifications

KOA's multilayer components are provided on tape-and-reel for use in pick-and-place machines. The reel size is 7 inch.

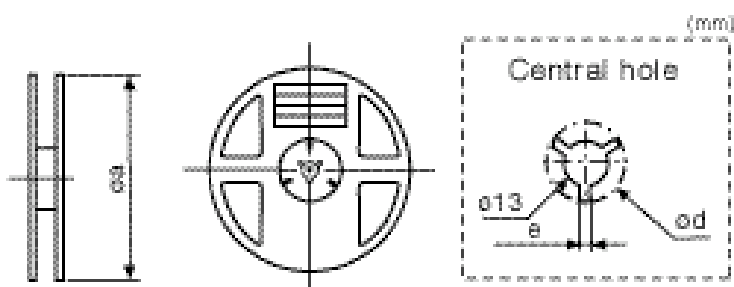
7. Dimensions - inches (mm)



Dimensions - inches (mm)

Tape	A	B	W	P ₁	T ₁
1J 0603	0.075±0.002 (1.9±0.1)	0.043±0.002 (1.1±0.1)	0.318±0.002 (8.1±0.1)	0.157±0.004 (4.0±0.1)	0.043±0.002 (1.1±0.1)
2A 0805	0.093±0.002 (2.4±0.1)	0.063±0.002 (1.6±0.1)	0.318±0.002 (8.1±0.1)	0.157±0.004 (4.0±0.1)	0.046±0.002 (1.2±0.1)
2B 1206	0.138±0.002 (3.5±0.1)	0.071±0.002 (1.8±0.1)	0.318±0.002 (8.1±0.1)	0.157±0.004 (4.0±0.1)	0.071±0.002 (1.8±0.1)

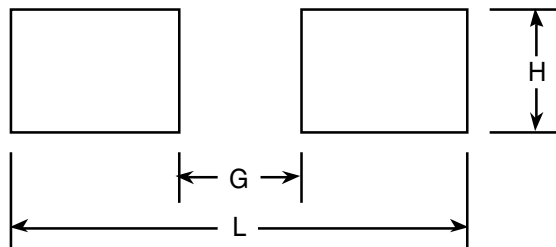
Dimensions - inches (mm)



Tape	øa	ød	e
1J 0603	7 (178)	0.827 (21)	0.079 (2.0)
2A 0805			
2B 1206			

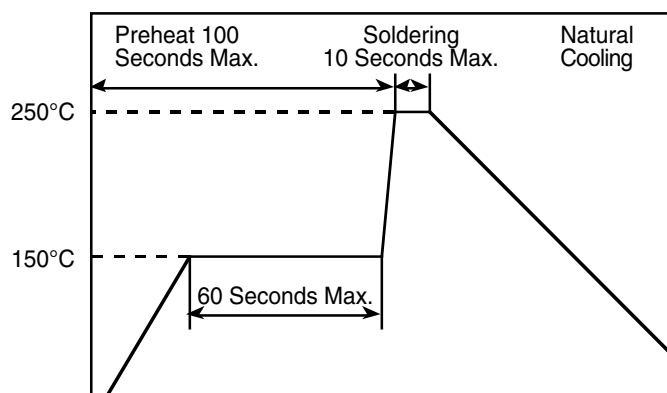
9. Recommended PC Board Land Patterns - mm (inches)

Chip Size	L	G	H
1J (0603)	2.6 (0.102)	0.6 (0.023)	0.8 (0.031)
2A (0805)	3.0 (0.118)	1.0 (0.039)	1.0 (0.039)
2B (1206)	4.4 (0.173)	2.2 (0.087)	1.4 (0.055)

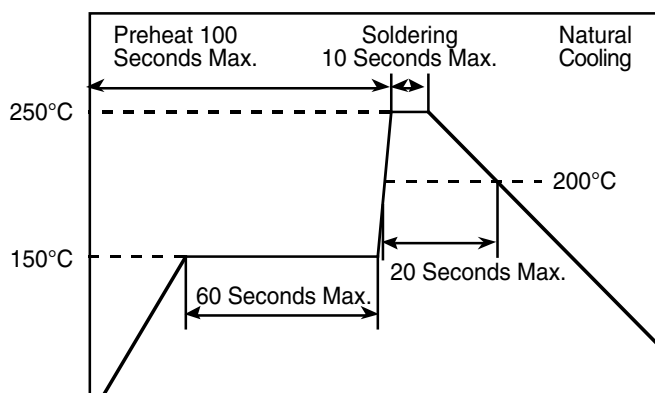


10. Recommended Temperature Profiles for Soldering

**Recommended Temperature Profile
for Wave Soldering**



**Recommended Temperature Profile
for Reflow Soldering**



Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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