

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

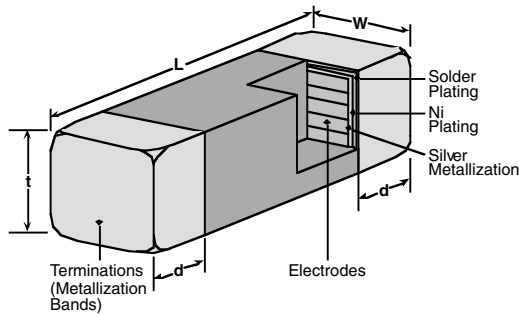


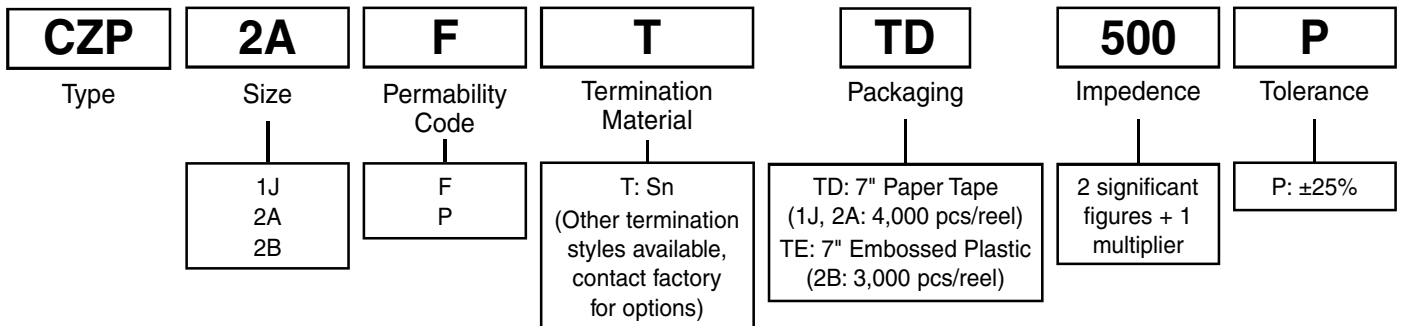
Table 1

| 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

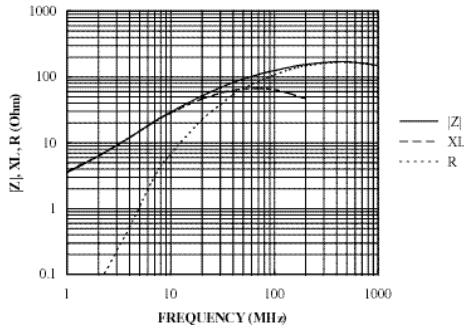


4. Standard Applications

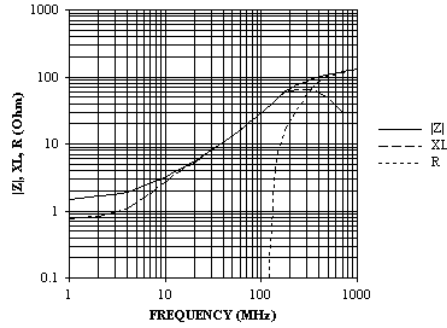
| Part Designation | Impedance @ 100MHz () | DC Resistance Maximum () | Allowable DC Current Maximum (mA) | Operating Temperature Range | |
|------------------|------------------------|---------------------------|-----------------------------------|-----------------------------|-----------------|
| CZP1JFTTD300P | 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 | |
| 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 | | | |

5. 0603 (1J) Graphs

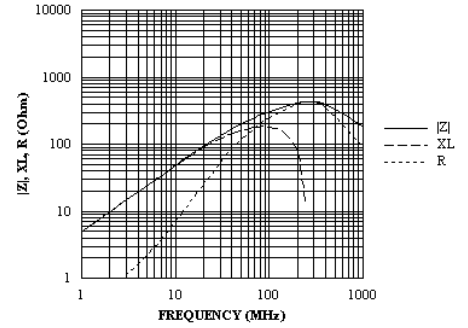
CZP1JF121



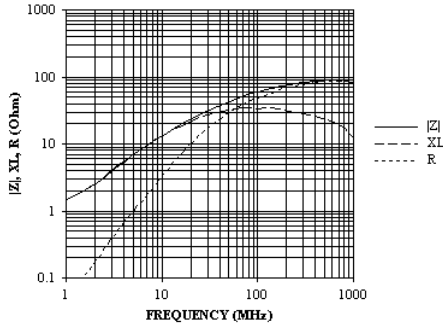
CZP1JF300



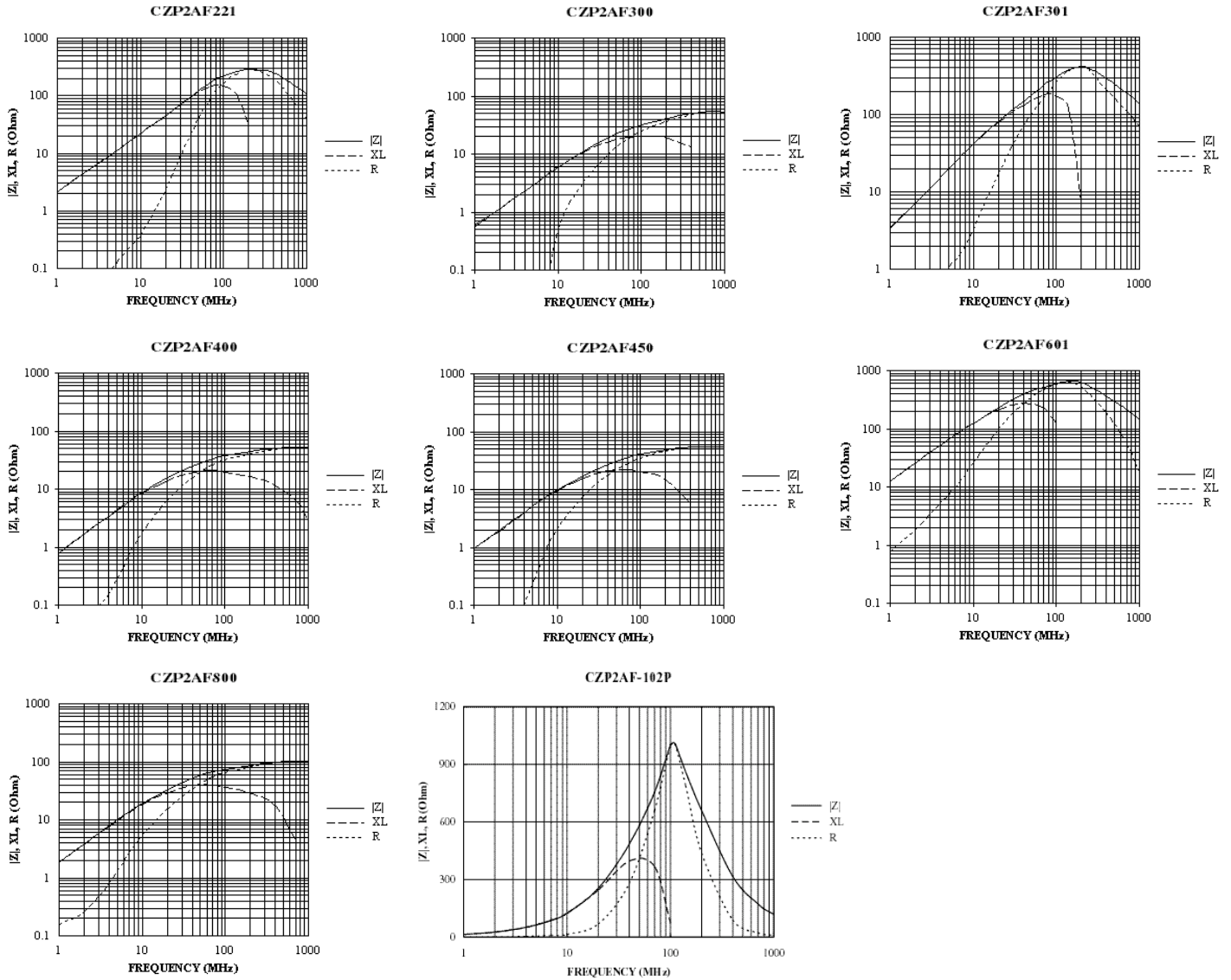
CZP1JF301



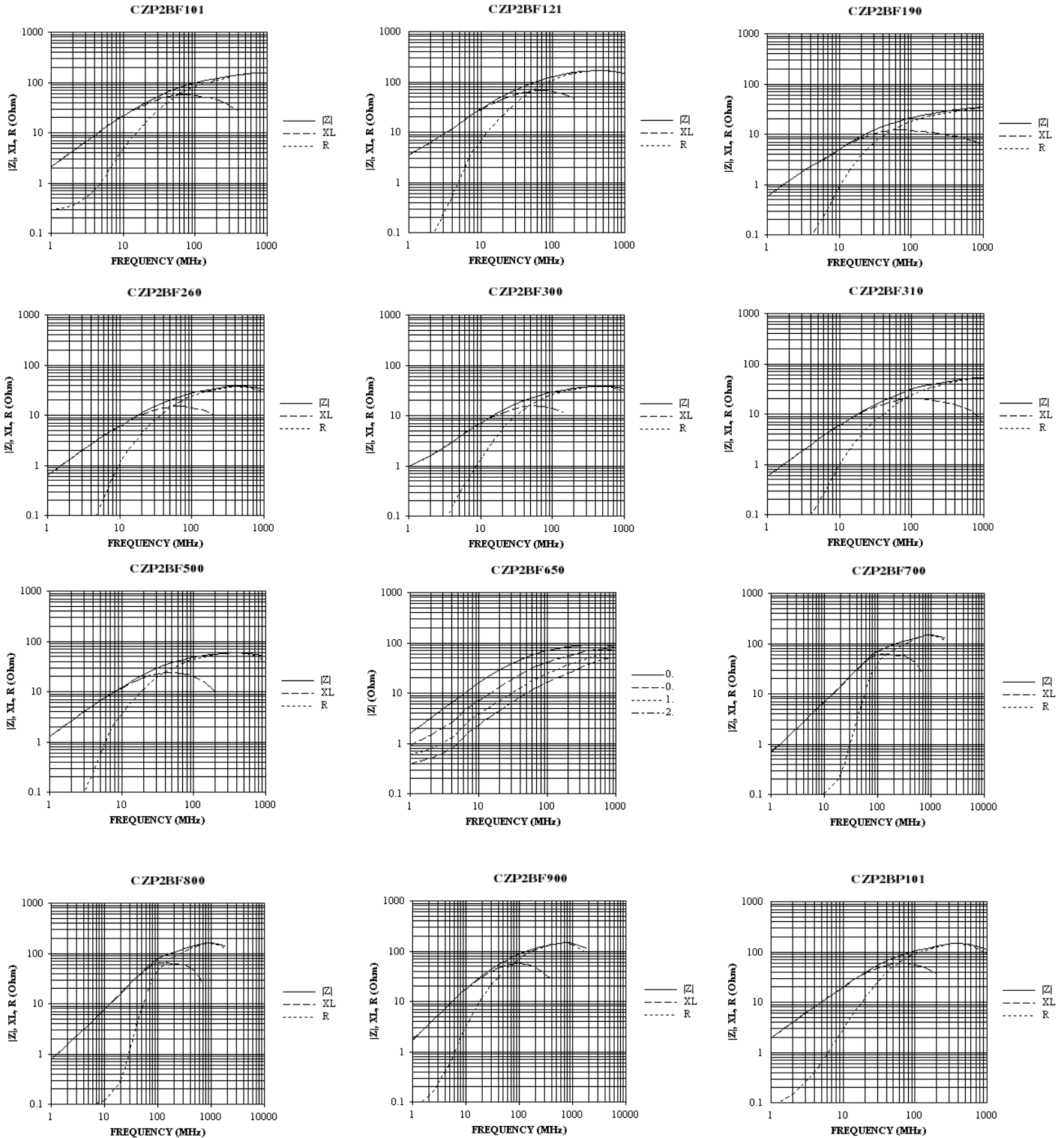
CZP1JF600



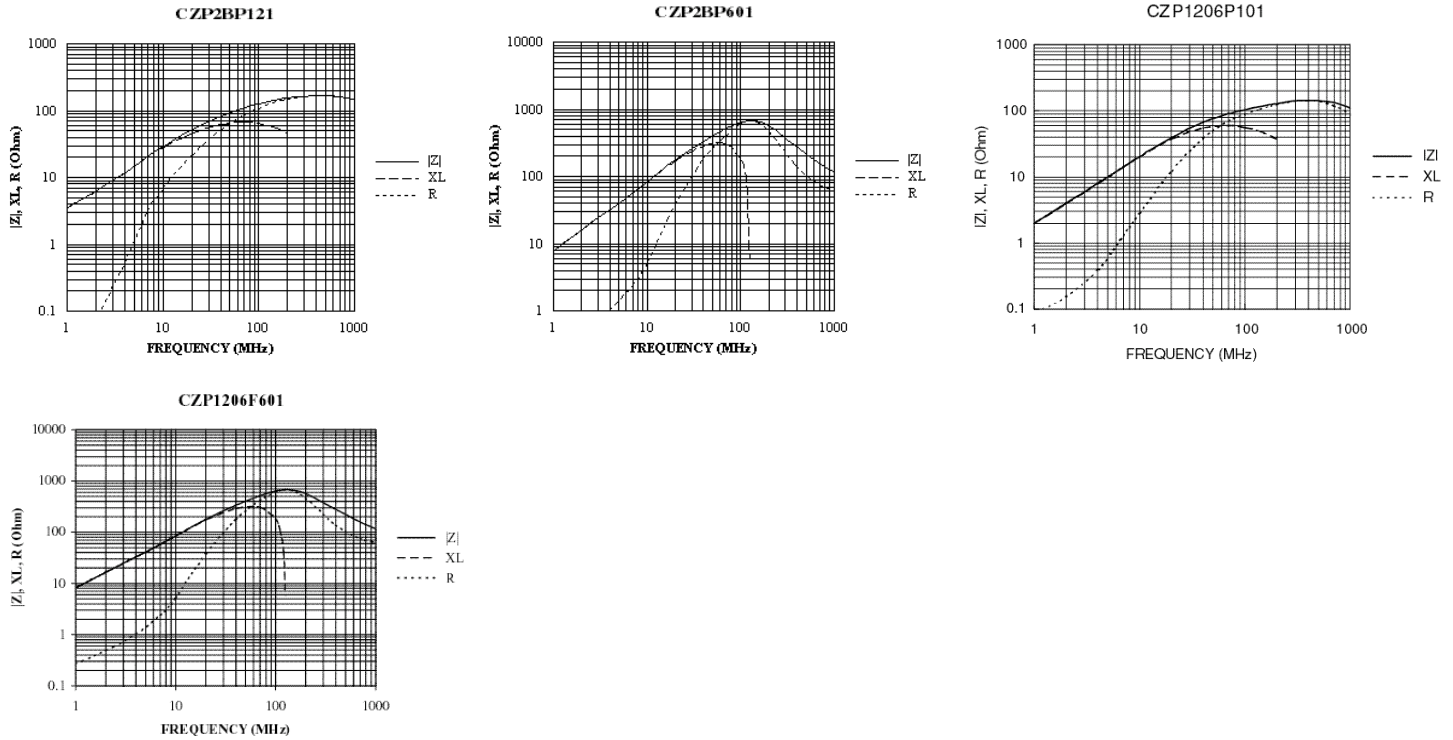
5. 0805 (2A) Graphs



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 border="1"> <thead> <tr> <th>Type</th> <th>W(kgf)</th> <th>Time</th> </tr> </thead> <tbody> <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> </tbody> </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 border="1"> <thead> <tr> <th>Type</th> <th>W(kgf)</th> <th>Time</th> </tr> </thead> <tbody> <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> </tbody> </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 | | | | | | | | | | | | |

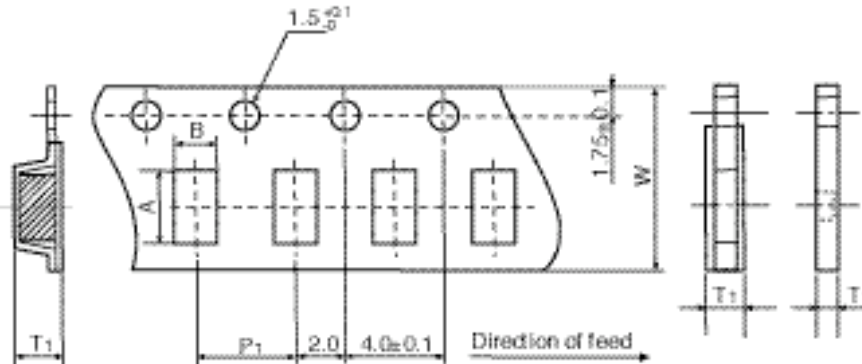
5. Characteristics (continued)

| Item | Requirement | Conditions | | | | | | | | | | | | | | | | | | |
|------------------|--|--|------|-------------|------|---------|-----------------------------|-------|--------|-----------------------------|--------------------|------------|-------|--------------|--------|------------------------------|--------------------|------------|-------|--------------|
| Mechanical Shock | <p>Appearance: There shall be no physical or mechanical damage.</p> <p>Impedance: Relative to initial value before test $\pm 10\%$.</p> | <p>Force: 50G</p> <p>Time: 11 msec</p> <p>There shall be 3 shocks in each of 6 directions (18 shocks total).</p> | | | | | | | | | | | | | | | | | | |
| Vibration | <p>Impedance: Relative to initial value $\pm 10\%$.</p> | <p>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</p> <p>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).</p> | | | | | | | | | | | | | | | | | | |
| Thermal Shock | <p>Appearance: There shall be no physical or mechanical damage.</p> <p>Impedance: Relative to initial value $\pm 20\%$.</p> <p>DCR: The DCR shall not exceed initial specified value.</p> <p>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.</p> | <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1-start</td> <td>-40°C $\pm 2^\circ\text{C}$</td> <td>_____</td> </tr> <tr> <td>2-hold</td> <td>-40°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°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> <p>Steps 1 thru 5 constitute one complete cycle and the test shall consist of a total of 500 cycles.</p> | Step | Temperature | Time | 1-start | -40°C $\pm 2^\circ\text{C}$ | _____ | 2-hold | -40°C $\pm 2^\circ\text{C}$ | 30 min ± 5 min | 3-transfer | _____ | 0.5 min max. | 4-hold | +105°C $\pm 2^\circ\text{C}$ | 30 min ± 5 min | 5-transfer | _____ | 0.5 min max. |
| Step | Temperature | Time | | | | | | | | | | | | | | | | | | |
| 1-start | -40°C $\pm 2^\circ\text{C}$ | _____ | | | | | | | | | | | | | | | | | | |
| 2-hold | -40°C $\pm 2^\circ\text{C}$ | 30 min ± 5 min | | | | | | | | | | | | | | | | | | |
| 3-transfer | _____ | 0.5 min max. | | | | | | | | | | | | | | | | | | |
| 4-hold | +105°C $\pm 2^\circ\text{C}$ | 30 min ± 5 min | | | | | | | | | | | | | | | | | | |
| 5-transfer | _____ | 0.5 min max. | | | | | | | | | | | | | | | | | | |
| Load Humidity | <p>Appearance: There shall be no physical or mechanical damage.</p> <p>Impedance: Relative to initial value $\pm 15\%$.</p> <p>Measurements shall be taken at 0 hours, 250 hours, 500 hours and 1,000 hours and shall meet the conditions stated above.</p> | <p>Temperature: 85°C $\pm 2^\circ\text{C}$</p> <p>Relative Humidity: 85%</p> <p>Time: 1,000 hours total</p> <p>Apply: 100% rated current</p> | | | | | | | | | | | | | | | | | | |
| Life Test | <p>Appearance: There shall be no physical or mechanical damage</p> <p>Impedance: Relative to initial value $\pm 15\%$</p> <p>Measurements shall be taken at 0 hours, 250 hours, 500 hours and 1,000 hours and shall meet the conditions stated above.</p> | <p>Temperature: 85°C $\pm 2^\circ\text{C}$</p> <p>Time: 1,000 hours total</p> <p>Apply: 100% rated current</p> | | | | | | | | | | | | | | | | | | |

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.

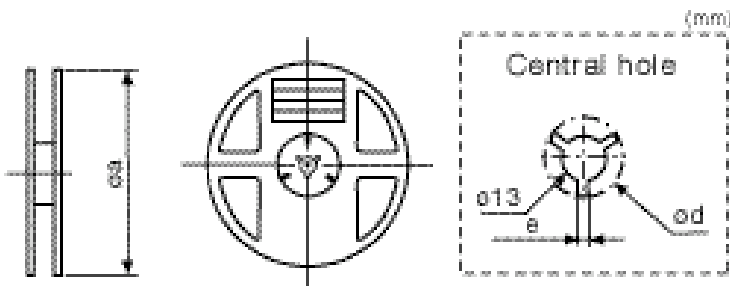
7. Dimensions - inches (mm)



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) |

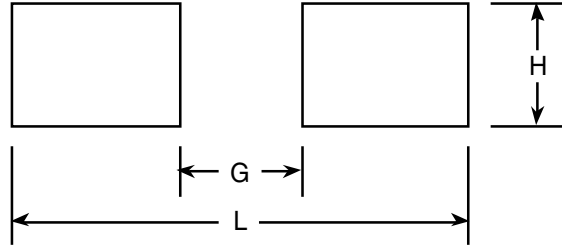
Dimensions - inches (mm)



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

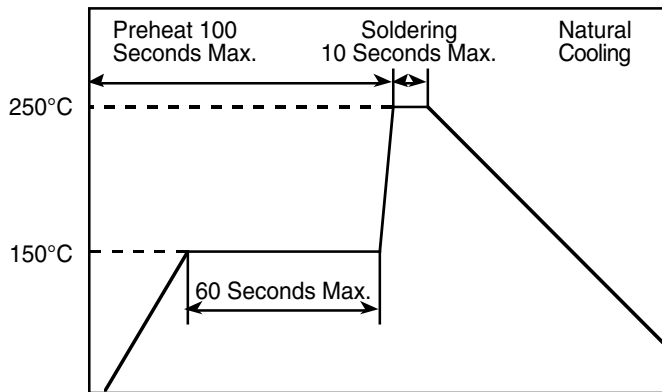
9. Recommended PC Board Land Patterns - mm (inches)

| 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) |

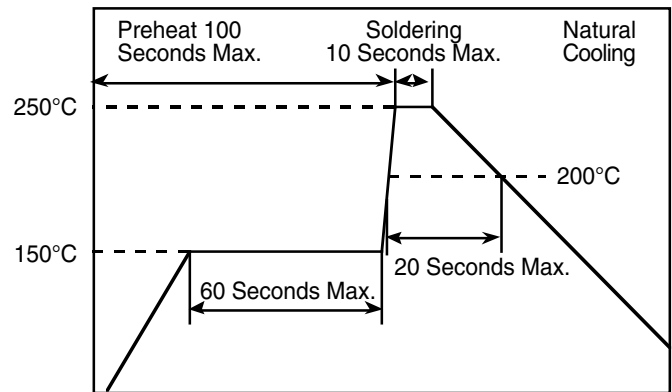


10. Recommended Temperature Profiles for Soldering

Recommended Temperature Profile for Wave Soldering



Recommended Temperature Profile for Reflow Soldering



Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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