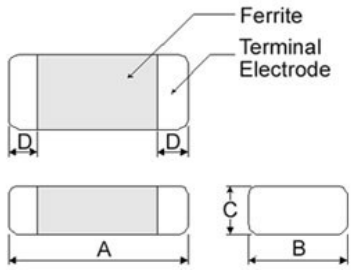
SMD Multilayer Ferrite Chip Beads

FEATURES

- Internal silver printed layers and magnetic shielded structures to minimize crosstalk
- Monolithic structure for excellent reliability
- Smaller DC resistance and larger allowable current than CVB series
- Can be used in a wide range of frequency to suppress EMI



Shape and Dimensions

Unit: mm [inch]

Type	A	B	C	D
3225	3 2±0.2	2.5±0.2	1.3±0.2	0.7±0.3

PRODUCT IDENTIFICATION

CVB ① 3225 ② P ③ 301 ④ T ⑤

①

EMI BEADS	
CVB	Chip Ferrite Bead For

②

External Dimensions (L×W) (mm)	
3225	3.2×2.5

③

Type	
P	Super current

④

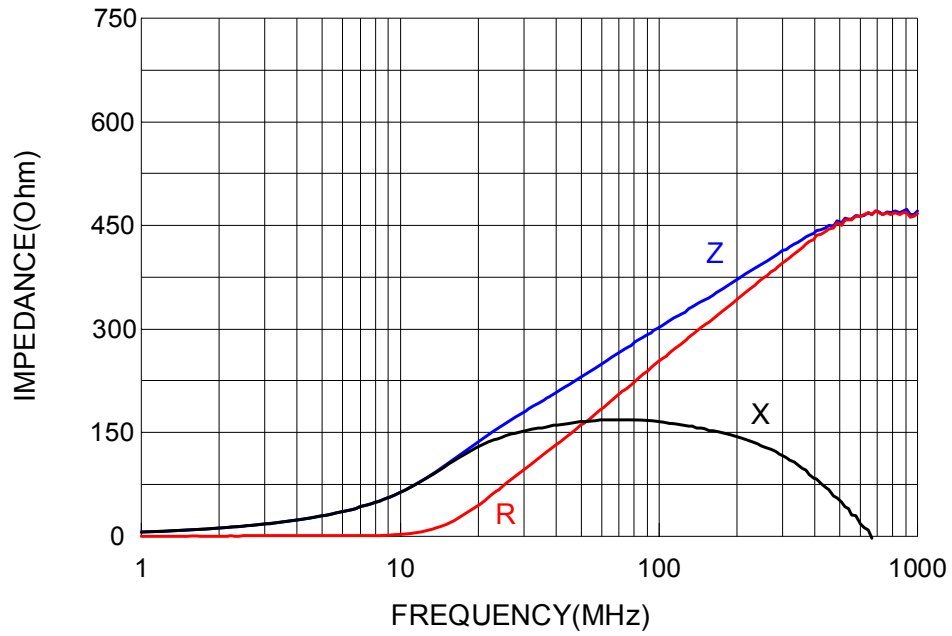
Nominal Impedance	
Example	Nominal Value
301	300 Ω

⑤

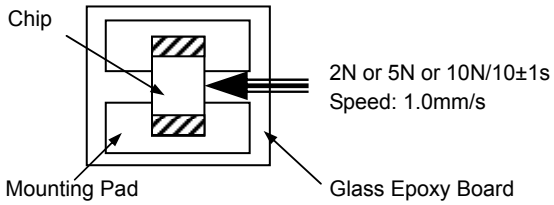
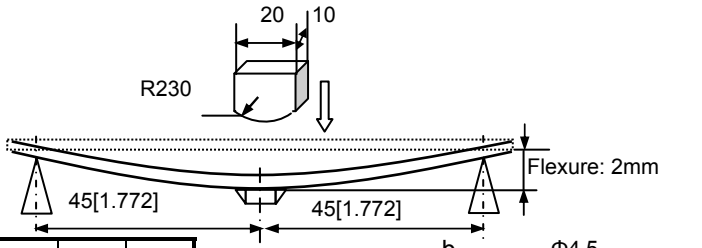
Packing	
T	Tape & Reel

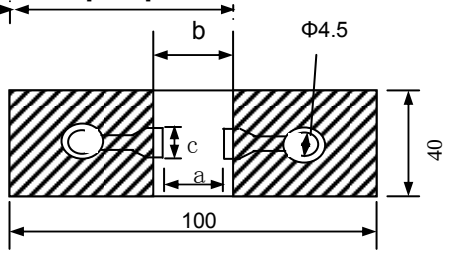
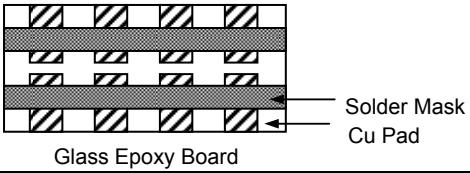
Electrical Characteristics

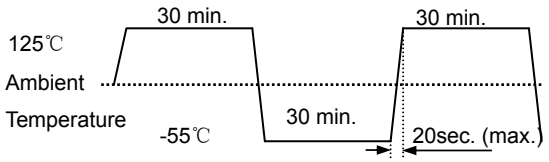
Part Number	Impedance（Ω）	Test frequency (MHz)	DC Resistance （Ω） max	Rated Current (mA) max
CVB3225P301T	300±25%	100MHz	0.008	5000



RELIABILITY AND TEST CONDITIONS

<table>
<tr><th>Items</th><th>Requirements</th><th>Test Methods and Remarks</th></tr>
<tr><td>1. Operating Temperature Range</td><td colspan="2">-55℃ to +125℃</td></tr>
<tr><td>2. Storage Temperature Range</td><td colspan="2">-55℃ to +125℃</td></tr>
<tr><td>3. Terminal Strength</td><td>No removal or split of the termination or other defects shall occur.</td><td>① Solder the chip to the testing jig (glass epoxy board shown as the following figure) using eutectic solder. Then apply a force in the direction of the arrow.
② 2N force for 0603 series.
③ 5N force for 1005 and 1608 series.
④ 10N force for 2010, 2012, 3216,4516 and 4030 series.
⑤ Keep time: 10±1s
 
</td></tr>
<tr><td rowspan="2">4. Resistance to Flexure</td><td>No visible mechanical damage.</td><td>① Solder the chip to the test jig (glass epoxy board) using a eutectic solder. Then apply a force in the direction shown as the following figure.
② Flexure: 2mm
③ Pressurizing Speed: 0.5mm/sec
④ Keep time: ≥30 sec</td></tr>
<tr><td colspan="2"> 

Unit: mm [inch]
<table>
<tr><th>Type</th><th>a</th><th>b</th><th>c</th></tr>
<tr><td>0603[0201]</td><td>0.25</td><td>0.8</td><td>0.3</td></tr>
<tr><td>1005[0402]</td><td>0.4</td><td>1.5</td><td>0.5</td></tr>
<tr><td>1608[0603]</td><td>1.0</td><td>3.0</td><td>1.2</td></tr>
<tr><td>2012[0805]</td><td>1.2</td><td>4.0</td><td>1.65</td></tr>
<tr><td>3216[1206]</td><td>2.2</td><td>5.0</td><td>2.0</td></tr>
<tr><td>4030[1612]</td><td>1.9</td><td>6.1</td><td>3.2</td></tr>
<tr><td>4516[1806]</td><td>2.8</td><td>8.5</td><td>2.0</td></tr>
</table>

</td></tr>
<tr><td>5. Vibration</td><td>① No visible mechanical damage.
② Impedance change: Within ±20%.</td><td>① Solder the chip to the testing jig (glass epoxy board shown as the following figure) using eutectic solder.
② The chip shall be subjected to a simple harmonic motion having total amplitude of 1.5 mm, the frequency being varied uniformly between the approximate limits of 10 and 55 Hz.
③ The frequency range from 10 to 55 Hz and return to 10 Hz shall be traversed in approximately 1 minute. This motion shall be applied for a period of 2 hours in each 3 mutually perpendicular directions (total of 6 hours).
 
</td></tr>
</table>

Items	Requirements	Test Methods and Remarks
6. Dropping	① No visible mechanical damage. ② Impedance change: Within ±20%.	① Drop chip bead 10 times on a concrete floor from a height of 100 cm.
7. Temperature	① Impedance change should be within ±20% of initial value measuring at 20℃.	① Temperature range:-55℃ to +125℃ Reference temperature: +20℃
8. Solderability	① No visible mechanical damage. ② Wetting shall be exceeded 75% coverage for 0603 series, and 95% coverage for the other.	① Solder temperature: 240±2℃ ② Duration: 3 sec ③ Solder: Sn/3.0Ag/0.5Cu ④ Flux: 25% Resin and 75% ethanol in weight
9. Resistance to Soldering Heat	① No visible mechanical damage. ② Wetting shall be exceeded 75% coverage for 0603 series, and 95% coverage for the other ③ Impedance change: Within ±20%.	① Solder temperature: 260±3℃ ② Duration: 5 sec ③ Solder: Sn/3.0Ag/0.5Cu ④ Flux: 25% Resin and 75% ethanol in weight ⑤ The chip shall be stabilized at normal condition for 1~2 hours before measuring.
10. Thermal Shock	① No visible mechanical damage. ② Impedance change: Within ±20%.	① Temperature and time: -55℃ for 30±3 min →125℃ for 30±3min ② Transforming interval: Max. 20 sec ③ Tested cycle: 100 cycles ④ The chip shall be stabilized at normal condition for 1~2 hours before measuring. 
11. Resistance to Low Temperature	① No visible mechanical damage. ② Impedance change: Within ±20%.	① Temperature: -55±2℃ ② Duration: 1000^{+24} hours ③ The chip shall be stabilized at normal condition for 1~2 hours before measuring.
12. Damp Heat (Steady States)	① No visible mechanical damage. ② Impedance change: Within ±20%.	① Temperature: 60±2℃ ② Humidity: 90% to 95% RH ③ Duration: 1000^{+24} hours ④ The chip shall be stabilized at normal condition for 1~2 hours before measuring.
13. Loading Under Damp Heat	① No visible mechanical damage. ② Impedance change: Within ±20%.	① Temperature: 60±2℃ ② Humidity: 90% to 95% RH ③ Duration: 1000^{+24} hours ④ Applied current: Rated current ⑤ The chip shall be stabilized at normal condition for 1~2 hours before measuring.
14. Loading at High Temperature (Life Test)	① No visible mechanical damage. ② Impedance change: Within ±20%.	① Temperature: 125±2℃ ② Duration: 1000^{+24} hours ③ Applied current: Rated current. ④ The chip shall be stabilized at normal condition for 1~2 hours before measuring.