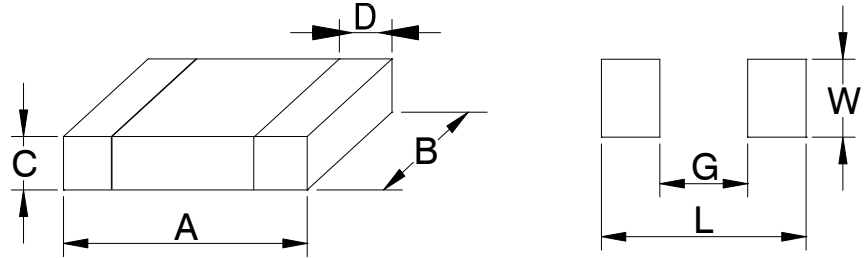


ECZ Series

Multilayer Ferrite Chip Beads For GHz Noise

TRIGON
COMPONENTS



FEATURES

- Internal silver printer layers and magnetic shielded structures to minimize crosstalk
- Perfect effect for EMI suppression at high frequency ($\geq 1\text{GHz}$)
- Low DC resistance suitable for large current signals
- Two types material and wide range of impedance values for various applications

Dimension (mm/inch)

Type	A	B	C	D
100505	1.0 ± 0.15 (0.039 \pm 0.006)	0.5 ± 0.15 (0.020 \pm 0.006)	0.5 ± 0.15 (0.020 \pm 0.006)	0.1 (MIN.) (0.004)
160808	1.6 ± 0.15 (0.063 \pm 0.006)	0.8 ± 0.15 (0.031 \pm 0.006)	0.8 ± 0.15 (0.031 \pm 0.006)	0.3 ± 0.2 (0.012 \pm 0.008)

Inductor

APPLICATIONS

- High frequency noise suppression in electric equipments such as computer and its peripheral devices, DVD camera, LCD TV ,communication equipments, OA equipments, etc.

Dimension (mm/inch)

Type	L	W	G
100505	1.4 (0.055)	0.5 (0.020)	0.5 (0.020)
160808	2.1 (0.083)	0.7 (0.028)	0.7 (0.028)

ORDERING CODE

ECZ 160808 U 121 T
(1) (2) (3) (4) (5)

- (1) Multilayer Ferrite Chip – High Frequency Series
- (2) Dimensions: Length(A) x Width(B) x High
- (3) Material Code: U, G
- (4) Impedance: 3-digit IEC Code.
- (5) Package: T=Tape & Reel.

ECZ Series

Multilayer Ferrite Chip Beads For GHz Noise

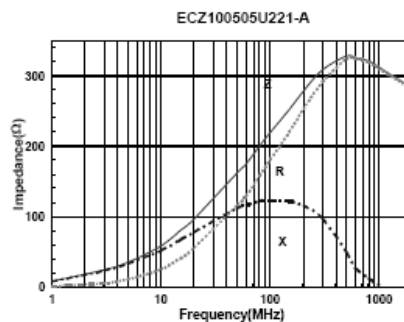
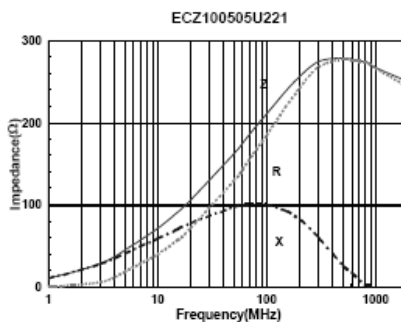
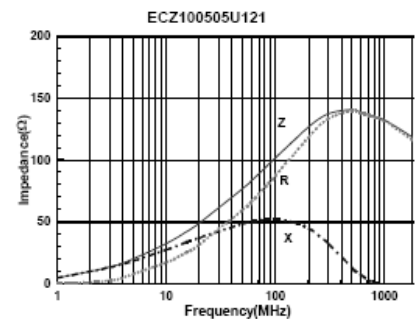
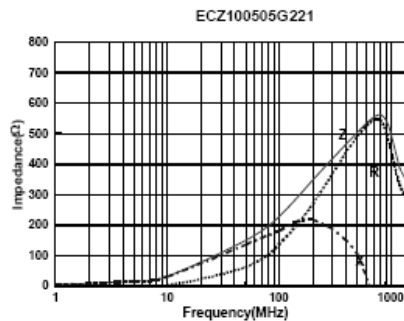
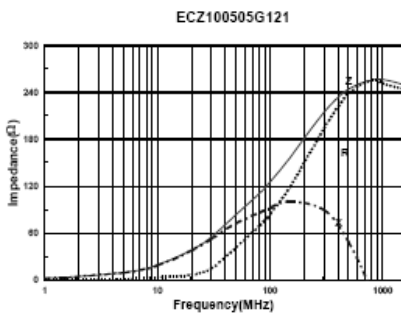
TRIGON
COMPONENTS

ECZ (For GHz Noise)

Part Number	Impedance (Ω) @ 100MHz	Impedance (Ω) @ 1GHz Min	DC Resistance (Ω)MAX.	Rated Current (mA) MAX.
ECZ100505G121	120 \pm 25%	100	0.25	600
ECZ100505G221	220 \pm 25%	300	0.38	500
ECZ100505U121	120 \pm 25%	100	0.25	600
ECZ100505U221	220 \pm 25%	200	0.38	500
ECZ100505U221A	220 \pm 25%	250	0.25	700
ECZ160808G151	150 \pm 25%	200	0.20	800
ECZ160808G151A	150 \pm 25%	200	0.07	1500
ECZ160808G221	220 \pm 25%	300	0.25	600
ECZ160808G221A	220 \pm 25%	300	0.12	1200
ECZ160808G331	330 \pm 25%	500	0.30	500
ECZ160808G331A	330 \pm 25%	500	0.15	900
ECZ160808G391	390 \pm 25%	600	0.18	700
ECZ160808G471	470 \pm 25%	700	0.32	500
ECZ160808G471A	470 \pm 25%	700	0.22	700
ECZ160808G601	600 \pm 25%	1000	0.35	500
ECZ160808G601A	600 \pm 25%	1000	0.24	700
ECZ160808G102	1000 \pm 25%	1300	0.90	150
ECZ160808U101	100 \pm 25%	100	0.20	800
ECZ160808U221	220 \pm 25%	220	0.25	600
ECZ160808U331	330 \pm 25%	300	0.30	500
ECZ160808U471	470 \pm 25%	400	0.32	500
ECZ160808U601	600 \pm 25%	450	0.35	500
ECZ160808U102	1000 \pm 25%	750	0.90	150

MSL Rating: 1

Inductor

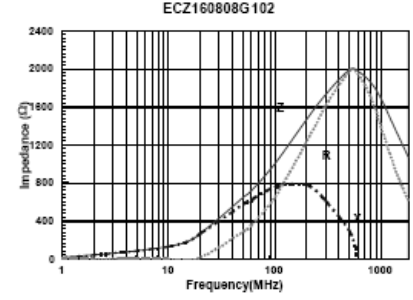
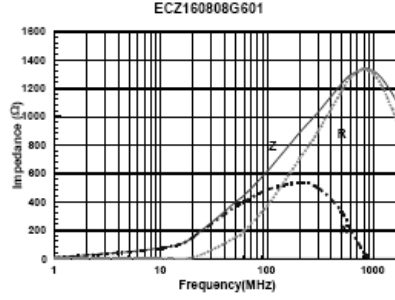
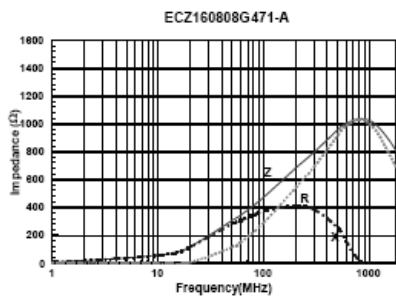
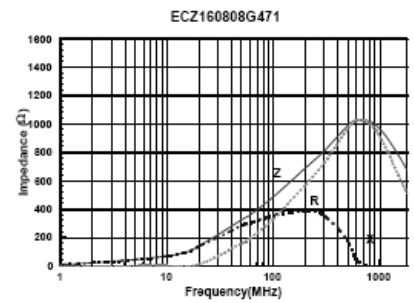
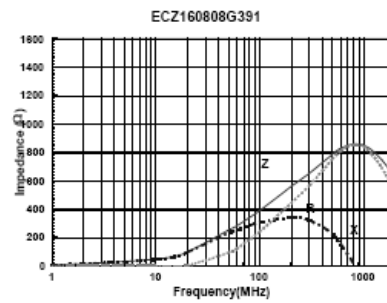
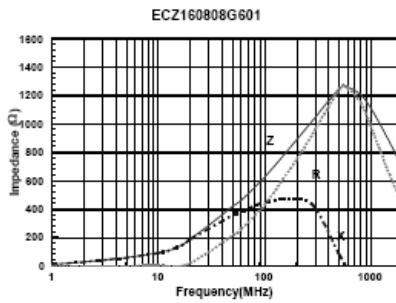
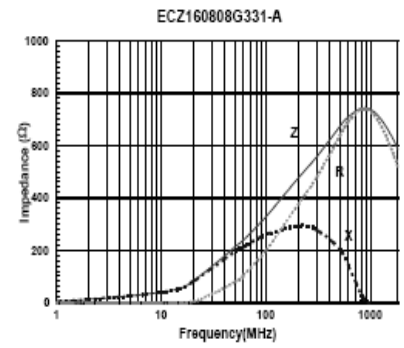
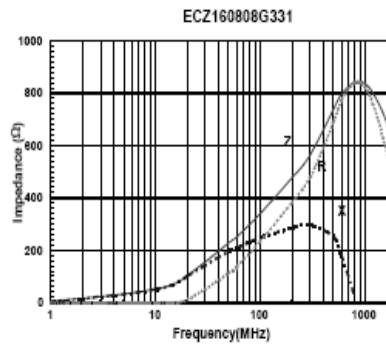
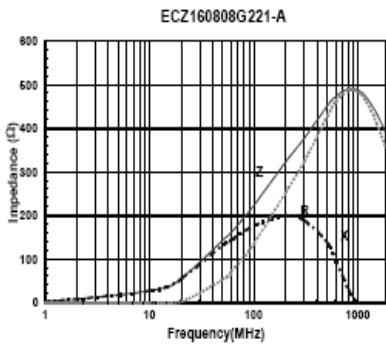
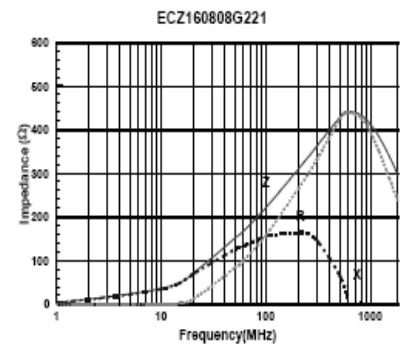
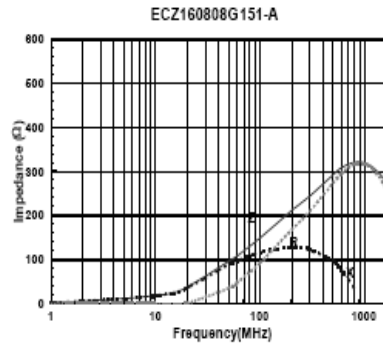
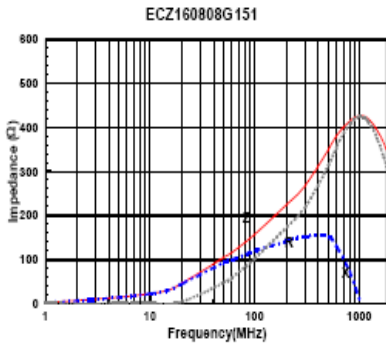


ECZ Series

Multilayer Ferrite Chip Beads For GHz Noise

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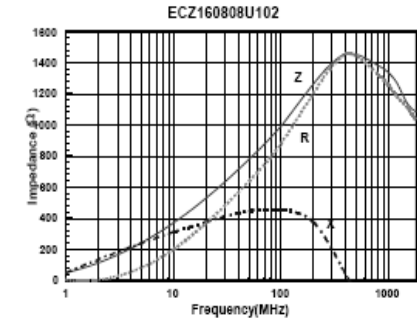
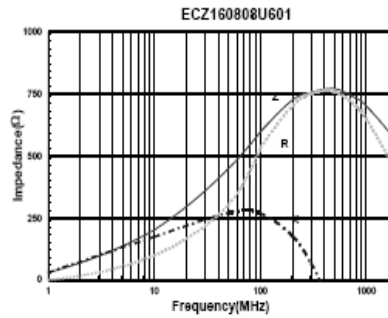
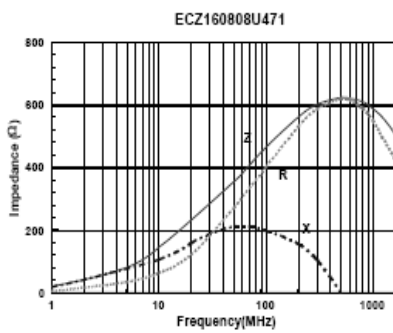
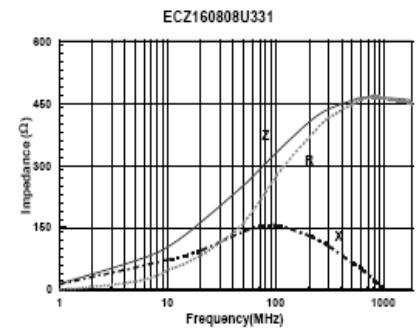
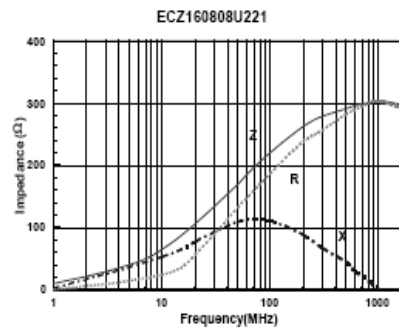
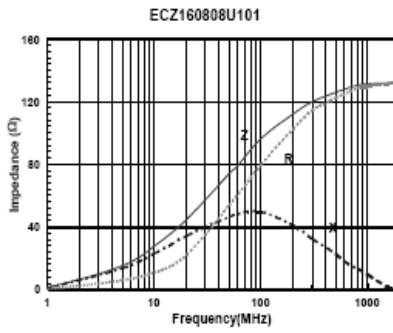
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ECZ Series

Multilayer Ferrite Chip Beads For GHz Noise

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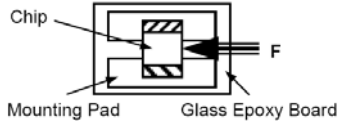
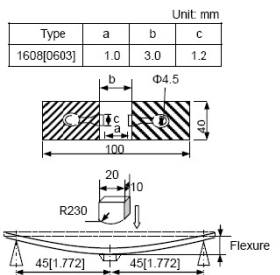
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Reliability Test

Test Item	Performance	Test condition
Operation temperature range	-55°C to +125°C	
Storage temperature and humidity range	20°C Max., 65%±5%RH Max	
Soldering heat resistance	1. No Visible mechanical damage. 2. Wetting shall exceed 95% coverage. 3. Impedance ±20% of the initial value.	1. Solder: Sn/3.0Ag/0.5Cu 2. Solder temperature: 260±3°C 3. Flux: 25% Resin and 75% ethanol in weight 4. Duration: 5 sec. 5. Shall be stabilized at normal condition for 2 hours before measuring
Solderability	1. No Visible mechanical damage. 2. Wetting shall exceed 95% coverage.	1. Solder: Sn/3.0Ag/0.5Cu 2. Solder temperature: 240±2°C 3. Flux: 25% Resin and 75% ethanol in weight 4. Duration: 3 sec.
Terminal strength	No removal or split of the termination or other defects shall occur. 	1. Solder the bead to the testing jig (glass epoxy board shown in left) using eutectic solder. Then applies a force in the direction of the arrow. 2. 5N force for 1608 series. 3. Duration: 10±1s. 4. Speed: 1.0 mm/s
Bending strength	No mechanical damage.	1. Solder the bead to the testing jig (glass epoxy board shown in left) using eutectic solder. Then applies a force in the direction of the arrow. 2. Flexure: 2 mm. 3. Pressurizing speed: 0.5mm/sec. 4. Duration: 30sec 

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Multilayer Ferrite Chip Beads For GHz Noise

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High temperature resistance	<ol style="list-style-type: none"> No mechanical damage. Impedance: Within $\pm 20\%$ of the initial value 	<ol style="list-style-type: none"> Temperature: $125\pm 2^\circ\text{C}$ Testing time: 1000 ± 24 hours. Shall be stabilized at normal condition for 2 hours before measuring.
Humidity resistance	<ol style="list-style-type: none"> Appearance: ferrite shall not be damaged. Impedance: Within $\pm 20\%$ of the initial value. 	<p>Humidity: 90 to 95% RH. Testing time: 1008 ± 12 hours. Measurement: After placing for 24 hours min.</p>
Thermal shock	<ol style="list-style-type: none"> No mechanical damage. Impedance: Within $\pm 20\%$ of the initial value 	<ol style="list-style-type: none"> Temperature: -55°C for 30min to 125°C for 30 min. Cycle: 100 cycles Shall be stabilized at normal condition for 2 hours before measuring
Low temperature storage life test	<ol style="list-style-type: none"> No mechanical damage. Impedance: Within $\pm 20\%$ of the initial value 	<ol style="list-style-type: none"> Temperature: $-55\pm 2^\circ\text{C}$ Testing time: 1000 ± 24 hours. Shall be stabilized at normal condition for 2 hours before measuring

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Multilayer Ferrite Chip Beads For GHz Noise

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APPLICATION NOTES

Storage:

To prevent the damage of solderability of terminations, the following storage conditions are recommended:

Ambient temperature less than 40°C. Relative humidity less than 20% ~ 70% RH.

No harmful gases containing sulfur acid, ammonia, hydrogen sulfide or chlorine.

Packaging should not be opened until the capacitors are required for use. If opened, the pack should be re-sealed as soon as is practicable. Taped product should be stored out of direct sunlight, which might promote a deterioration in tape or adhesion performance. The capacitors should be used within 6 months. Checked the Solderability before use.

Handling:

Chip Capacitors are dense, hard brittle and abrasive materials. They are liable to suffer mechanical damage, in the form of cracks or chips. Chip capacitors should be handled with care to avoid contamination or damage. The use of vacuum picks up or plastic tweezers is recommended for manual placement. Tape and reeled packages are suitable for automatic pick and placement machine.

Preheat:

In order to minimize the risk of thermal shock during soldering, a carefully controlled preheat is required. The rate of preheat should not exceed 4°C per second and the final preheat temperature should be within 50°C of the soldering temperature for small chips such as 1808 etc..

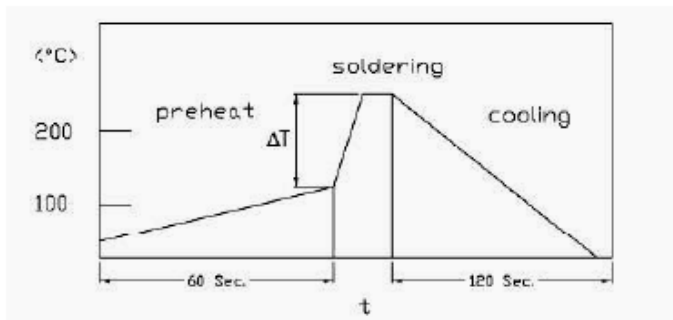
Soldering:

Use mildly activated rosin RA and RMA fluxes, do not use activated flux. The amount of solder in each solder joint should be controlled to prevent the damage of chip capacitors caused by the stress between solder, chips and substrate.

Hand soldering with temperature-controlled iron not exceeding 30 watts and diameter of tip less than 1.2mm is recommended, tip of iron should not contact the ceramic body directly, and the temperature of iron should be set to not more than 260°C.

For bigger chips such as 1808 etc. wave soldering and hand soldering are not recommended.

Recommended soldering profiles as following:



Cooling:

After soldering, cool the chips and the substrate gradually to room temperature. Natural cooling in air is recommended to minimize stress in the solder joint. A cooling rate not exceeding 4°C per second should be used when cooling is necessary.

Cleaning

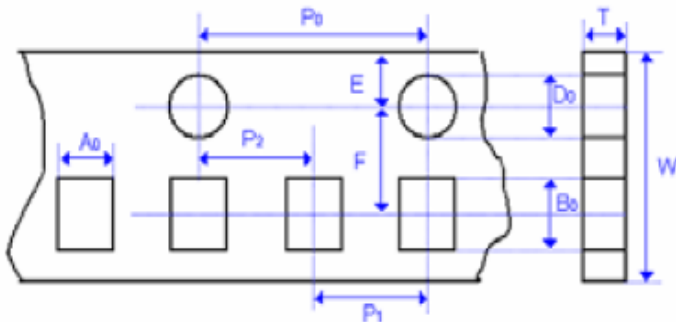
All flux residue must be removed by using suitable electronic-grade vapor-cleaning solvents to eliminate contaminations that could cause electrolytic surface corrosion. Good results can be obtained by using ultrasonic cleaning of the solvent. The choice of the proper system is dependent upon many factors such as component mix, flux, solder paste and assembly method. The ability of the cleaning system to remove flux residues and contamination from under the chips is very important.

ECZ Series

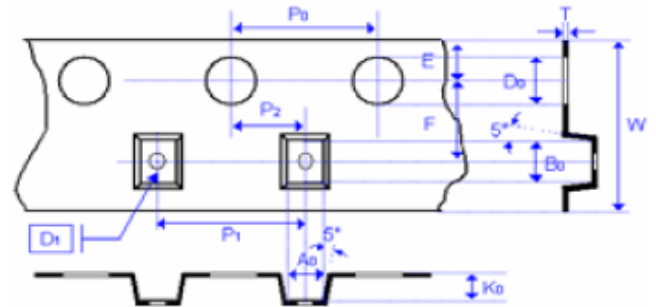
Multilayer Ferrite Chip Beads For GHz Noise

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Packing



The dimension of paper tape



The dimension of plastic tape

Tape and Reel Dimensions

size	0402	0603	0805			1206			1210			1812	
Thickn ess	N	S, X	A	B	C, D, I	B	C, J, D	G,P	C, D	G, K	M	D, K	M
A0	0.62 ±0.05	1.02 ±0.05	1.50±0.1	1.5±0.1	<1.57	2.00±0.1	<1.85	<1.95	<2.97	<2.97	<2.97	<3.81	<3.81
B0	1.12 ±0.05	1.82 ±0.05	2.30±0.1	2.30±0.1	<2.40	3.50±0.1	<3.46	<3.67	<3.73	<3.73	<3.73	<5.30	<5.30
T	0.60 ±0.05	0.95 ±0.05	0.75 ±0.05	0.95 ±0.05	0.23 ±0.05	0.95 ±0.05	0.23 ±0.05	0.23 ±0.05	0.23 ±0.05	0.23 ±0.05	0.23 ±0.05	0.25 ±0.05	0.25 ±0.05
K0	-	-	-	-	<2.50	-	<2.50	<2.50	<2.50	<2.50	<3.00	<2.50	<3.00
W	8.00±0.1	8.00±0.1	8.00±0.1	8.00±0.1	8.00±0.1	8.00±0.1	8.00±0.1	8.00±0.1	8.00±0.1	8.00±0.1	8.00±0.1	12.0±0.2	12.0±0.2
P0	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1
10xP0	40.0±0.1	40.0±0.1	40.0±0.1	40.0±0.1	40.0±0.1	40.0±0.1	40.0±0.1	40.0±0.1	40.0±0.1	40.0±0.1	40.0±0.1	40.0±0.1	40.0±0.1
P1	2.00 ±0.05	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	4.00±0.1	8.00±0.1	8.00±0.1
P2	2.00 ±0.05	2.00 ±0.05	2.00 ±0.05	2.00 ±0.05	2.00 ±0.05	2.00 ±0.05	2.00 ±0.05	2.00 ±0.05	2.00 ±0.05	2.00 ±0.05	2.00 ±0.05	2.00 ±0.05	2.00 ±0.05
D0	1.55 ±0.05	1.55 ±0.05	1.55 ±0.05	1.55 ±0.05	1.50 ±0.05	1.50 ±0.05	1.50 ±0.05	1.50 ±0.05	1.50 ±0.05	1.50 ±0.05	1.50 ±0.05	1.50 ±0.05	1.50 ±0.05
D1	-	-	-	-	1.00±0.1	-	1.00±0.1	1.00±0.1	1.00±0.1	1.00±0.1	1.00±0.1	1.50±0.1	1.50±0.1
E	1.75 ±0.05	1.75 ±0.05	1.75 ±0.05	1.75 ±0.05	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1	1.75±0.1
F	3.50 ±0.05	3.50 ±0.05	3.50 ±0.05	3.50 ±0.05	3.50 ±0.05	3.50 ±0.05	3.50 ±0.05	3.50 ±0.05	3.50 ±0.05	3.50 ±0.05	3.50 ±0.05	5.50 ±0.05	5.50 ±0.05

Bar Code

TRIGON	
CP/No: ***** 	RoHS Compliant
P/No: ECZ ***** 	
Description: Multilayer Ferrite Chip Beads	LOT NO: XXXXXXXX
Q/ty: ****PCS 	D/C:***** D/O: PO*****
Made in China	