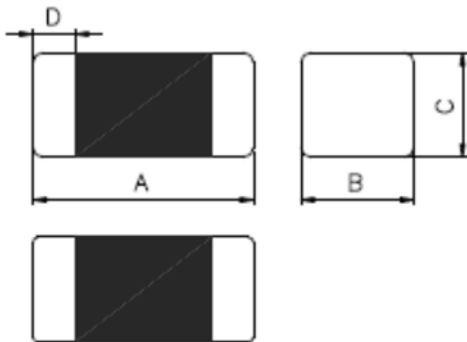


FEATRLRES

- Monolithic inorganic material construction.
- Closed magnetic circuit avoids crosstalk.
- S.M.T. type.
- Suitable for reflow soldering.
- Shapes and dimensions follow E.I.A. spec.
- Available in various sizes.
- Excellent solder ability and heat resistance.
- High reliability.
- 100% Lead(Pb) & Halogen-Free and RoHS compliant.

CONFIGLRATIONS & DIMENSIONS (unit in mm)



Size	A	B	C	D
FCM1608	1.60±0.15	0.80±0.15	0.80±0.15	0.30±0.20

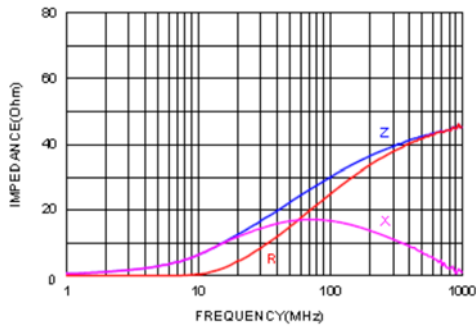
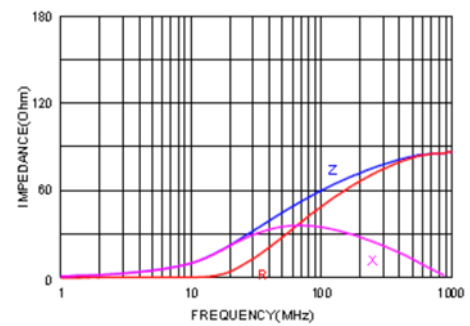
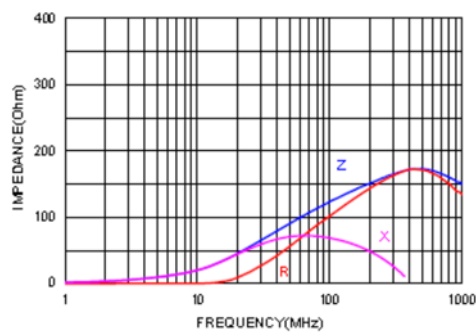
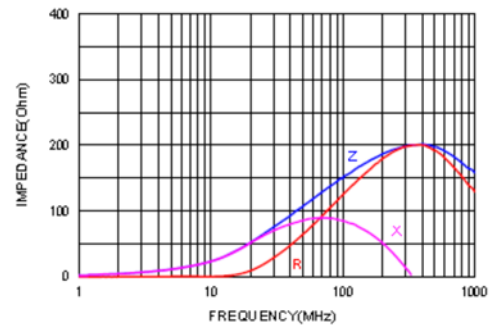
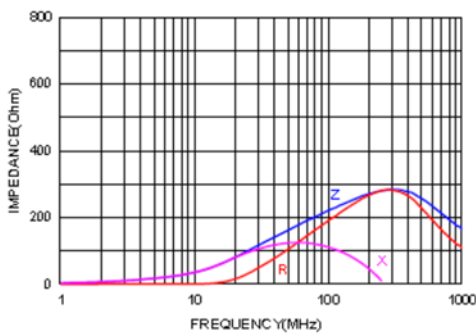
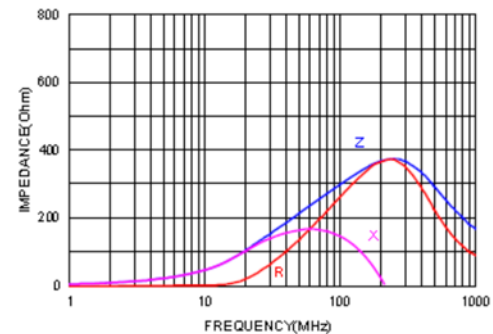
ELECTRICAL CHARACTERISTICS

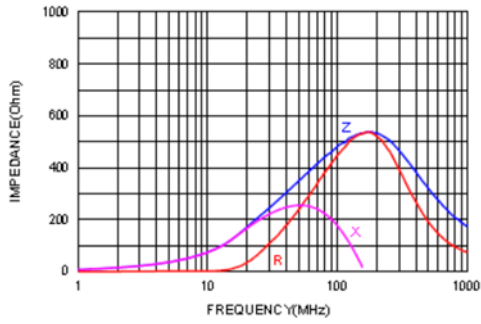
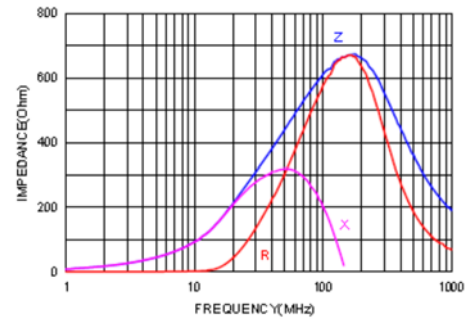
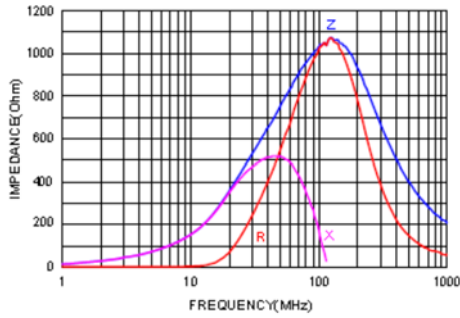
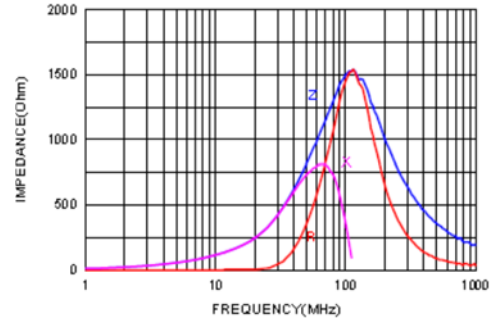
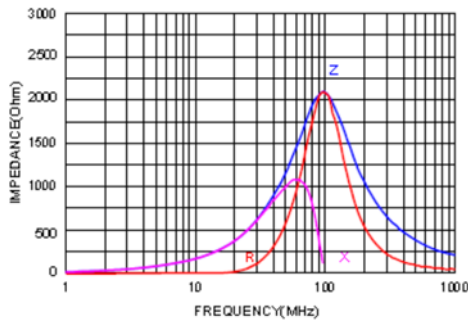
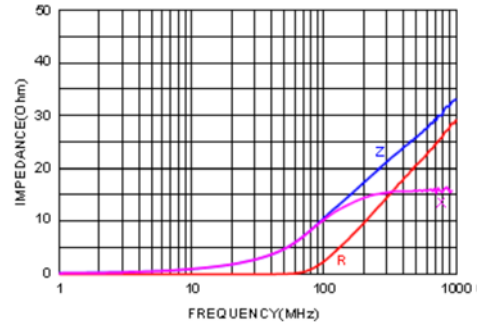
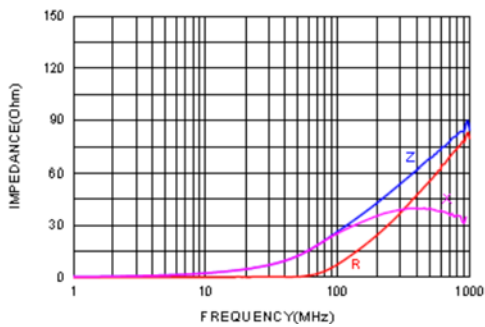
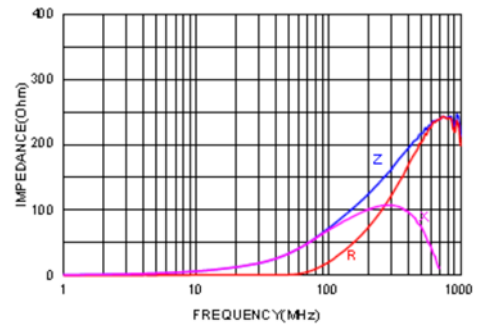
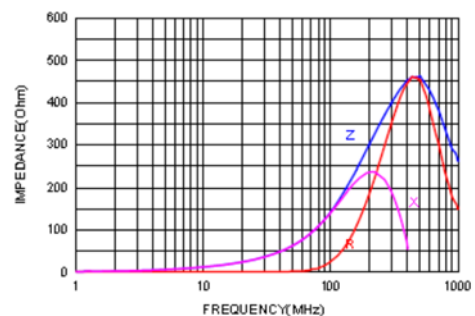
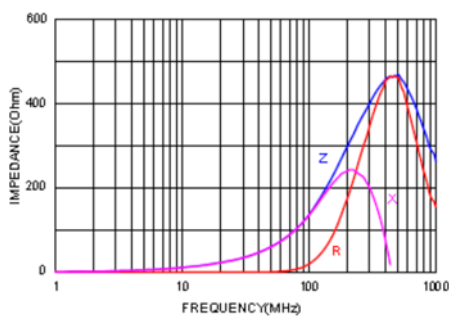
Number	Impedance (Ω)	Test Frequency (MHz)	DC Resistance (Ω)	Rated Current (mA)
			max.	max.
FCM1608KF-300T07	30±25%	100	0.20	700
FCM1608KF-600T07	60±25%	100	0.20	700
FCM1608KF-121T06	120±25%	100	0.25	600
FCM1608KF-151T06	150±25%	100	0.25	600
FCM1608KF-221T05	220±25%	100	0.30	550
FCM1608KF-301T05	300±25%	100	0.35	500
FCM1608KF-471T03	470±25%	100	0.45	350
FCM1608KF-601T03	600±25%	100	0.50	350
FCM1608KF-102T02	1000±25%	100	0.70	200
FCM1608HF-152T02	1500±25%	100	1.00	200
FCM1608HF-202T01	2000±25%	100	1.20	150
FCM1608CF-100T07	10±25%	100	0.20	700
FCM1608CF-300T06	30±25%	100	0.25	600

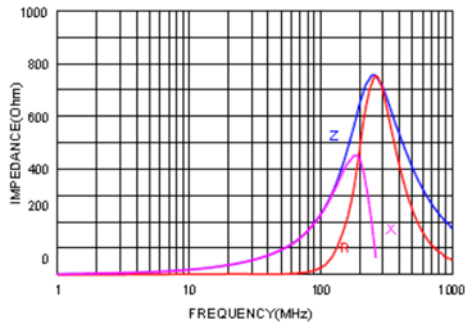
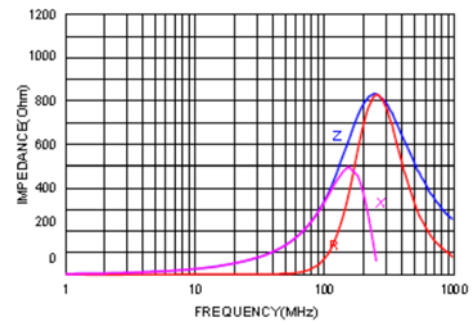
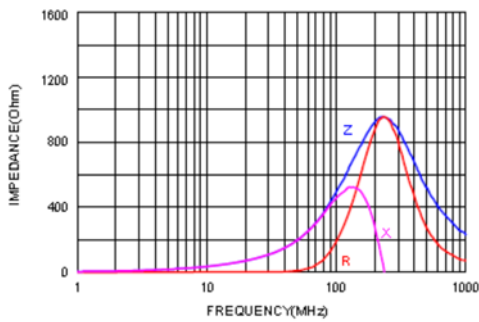
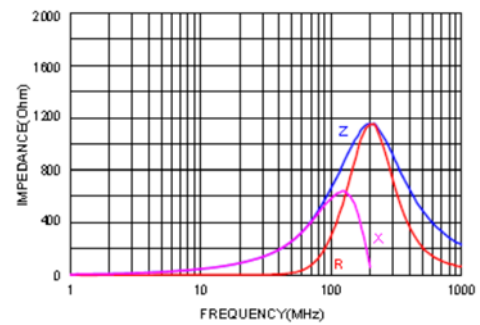
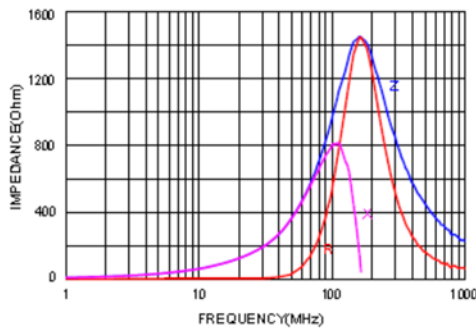
FCM1608CF-600T06	60±25%	100	0.30	600
FCM1608CF-121T03	120±25%	100	0.40	300
FCM1608CF-151T03	150±25%	100	0.40	300
FCM1608CF-221T02	220±25%	100	0.60	250
FCM1608CF-301T02	300±25%	100	0.80	200
FCM1608CF-471T02	470±25%	100	0.85	200
FCM1608CF-601T01	600±25%	100	1.20	150
FCM1608CF-102T00	1000±25%	100	1.50	80

- Rated current: based on temperature rise test
- In compliance with EIA 595

Impedance Frequency Characteristics(Typical)

FCM1608KF-300

FCM1608KF-600

FCM1608KF-121

FCM1608KF-151

FCM1608KF-221

FCM1608KF-301

FCM1608KF-471
FCM1608KF-601

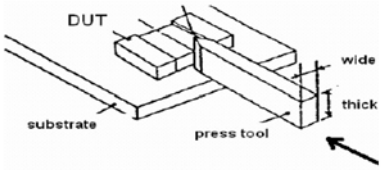

FCM1608KF-102

FCM1608HF-152

FCM1608HF-202

FCM1608CF-100

FCM1608CF-300

FCM1608CF-600

FCM1608CF-121

FCM1608CF-151


FCM1608CF-221

FCM1608CF-301

FCM1608CF-471

FCM1608CF-601

FCM1608CF-102


Reliability and Test Condition

Item	Performance	Test Condition
Operating temperature	-40~+125°C (Including self - temperature rise)	
Storage temperature	1. -10~+40°C ,50~60%RH (Product with taping) 2. -40~+125°C (on board)	
Electrical Performance Test		

Inductance	Refer to standard electrical characteristics list.	HP4284A,CH11025,CH3302,CH1320,CH1320S LCR Meter.															
DCR		CH16502,Agilent33420A Micro-Ohm Meter.															
Saturation Current (Isat)	Approximately $\Delta L30\%$	Saturation DC Current (Isat) will cause L0 to drop $\Delta L(\%)$															
Heat Rated Current (Irms)	Approximately $\Delta T40^{\circ}\text{C}$	Heat Rated Current (Irms) will cause the coil temperature rise $\Delta T(^{\circ}\text{C})$. 1.Applied the allowed DC current 2.Temperature measured by digital surface thermometer															
Reliability Test																	
Life Test	Appearance : No damage. Inductance : within $\pm 10\%$ of initial value Q : Shall not exceed the specification value. RDC : within $\pm 15\%$ of initial value and shall not exceed the specification value	Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles) Temperature : $125\pm 2^{\circ}\text{C}$ (Inductor) Applied current : rated current Duration : 1000 ± 12 hrs Measured at room temperature after placing for 24 ± 2 hrs															
Load Humidity		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles) Humidity : $85\pm 2\% \text{ R.H.}$ Temperature : $85^{\circ}\text{C} \pm 2^{\circ}\text{C}$ Duration : 1000hrs Min. with 100% rated current Measured at room temperature after placing for 24 ± 2 hrs															
Moisture Resistance		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles) 1. Baked at 50°C for 25hrs, measured at room temperature after placing for 4 hrs. 2. Raise temperature to $65\pm 2^{\circ}\text{C}$ 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25°C in 2.5hrs. 3. Raise temperature to $65\pm 2^{\circ}\text{C}$ 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25°C in 2.5hrs,keep at 25°C for 2 hrs then keep at -10°C for 3 hrs 4. Keep at 25°C 80-100%RH for 15min and vibrate at the frequency of 10 to 55 Hz to 10 Hz, measure at room temperature after placing for 1~2 hrs.															
Thermal shock		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles) Condition for 1 cycle Step1 : $-40\pm 2^{\circ}\text{C}$ 30 \pm 5min Step2 : $25\pm 2^{\circ}\text{C}$ ≤ 0.5 min Step3 : $125\pm 2^{\circ}\text{C}$ 30 \pm 5min Number of cycles : 500 Measured at room temperature after placing for 24 ± 2 hrs															
Vibration		Oscillation Frequency: 10 ~ 2K ~ 10Hz for 20 minutes Equipment : Vibration checker Total Amplitude: $1.52\text{mm} \pm 10\%$ Testing Time : 12 hours(20 minutes, 12 cycles each of 3 orientations).															
Bending		Shall be mounted on a FR4 substrate of the following dimensions: ≥ 0805 inch(2012mm): $40 \times 100 \times 1.2\text{mm}$ < 0805 inch(2012mm): $40 \times 100 \times 0.8\text{mm}$ Bending depth: ≥ 0805 inch(2012mm): 1.2mm < 0805 inch(2012mm): 0.8mm duration of 10 sec.															
Shock	Appearance : No damage. Impedance : within $\pm 15\%$ of initial value Inductance : within $\pm 10\%$ of initial value Q : Shall not exceed the specification value. RDC : within $\pm 15\%$ of initial value and shall not exceed the specification value	<table border="1"> <thead> <tr> <th>Type</th> <th>Peak value (g/s)</th> <th>Normal duration (D) (ms)</th> <th>Wave form</th> <th>Velocity change (Vi)ft/sec</th> </tr> </thead> <tbody> <tr> <td>SMD</td> <td>50</td> <td>11</td> <td>Half-sine</td> <td>11.3</td> </tr> <tr> <td>Lead</td> <td>50</td> <td>11</td> <td>Half-sine</td> <td>11.3</td> </tr> </tbody> </table>	Type	Peak value (g/s)	Normal duration (D) (ms)	Wave form	Velocity change (Vi)ft/sec	SMD	50	11	Half-sine	11.3	Lead	50	11	Half-sine	11.3
Type	Peak value (g/s)	Normal duration (D) (ms)	Wave form	Velocity change (Vi)ft/sec													
SMD	50	11	Half-sine	11.3													
Lead	50	11	Half-sine	11.3													
Solder ability	More than 95% of the terminal electrode should be covered with solder.	Preheat: 150°C , 60sec. Solder: Sn96.5% Ag3% Cu0.5% Temperature: $245\pm 5^{\circ}\text{C}$ Flux for lead free: Rosin. 9.5% Dip time: 4 ± 1 sec Depth: completely cover the termination															
Resistance to Soldering Heat		Depth: completely cover the termination <table border="1"> <thead> <tr> <th>Temperature($^{\circ}\text{C}$)</th> <th>Time(s)</th> <th>Temperature ramp/immersion and emersion rate</th> <th>Number of heat cycles</th> </tr> </thead> <tbody> <tr> <td>260 ± 5 (solder temp)</td> <td>10 ± 1</td> <td>$25\text{mm/s} \pm 6 \text{mm/s}$</td> <td>1</td> </tr> </tbody> </table>	Temperature($^{\circ}\text{C}$)	Time(s)	Temperature ramp/immersion and emersion rate	Number of heat cycles	260 ± 5 (solder temp)	10 ± 1	$25\text{mm/s} \pm 6 \text{mm/s}$	1							
Temperature($^{\circ}\text{C}$)	Time(s)	Temperature ramp/immersion and emersion rate	Number of heat cycles														
260 ± 5 (solder temp)	10 ± 1	$25\text{mm/s} \pm 6 \text{mm/s}$	1														

Terminal Strength	Appearance : No damage. Impedance : within $\pm 15\%$ of initial value Inductance : within $\pm 10\%$ of initial value Q : Shall not exceed the specification value. RDC : within $\pm 15\%$ of initial value and shall not exceed the specification value	Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020D Classification Reflow Profiles With the component mounted on a PCB with the device to be tested, apply a force ($>0.805:1\text{kg}$, $\leq 0.805:0.5\text{kg}$) to the side of a device being tested. This force shall be applied for 60 ± 1 seconds. Also the force shall be applied gradually as not to apply a shock to the component being tested. 
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Note : When there are questions concerning measurement result : measurement shall be made after 48 ± 2 hours of recovery under the standard condition.