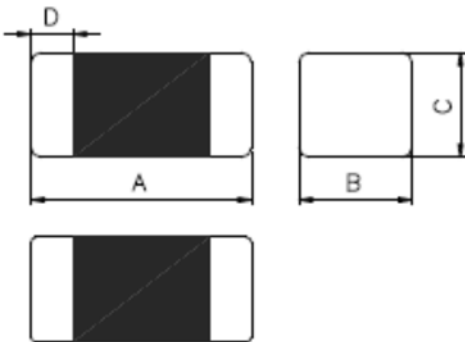


FEATRLRES

- 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
FCM2012	2.0±0.2	1.25±0.2	$\frac{0.85\pm0.2}{1.25\pm0.2}$	0.30±0.20

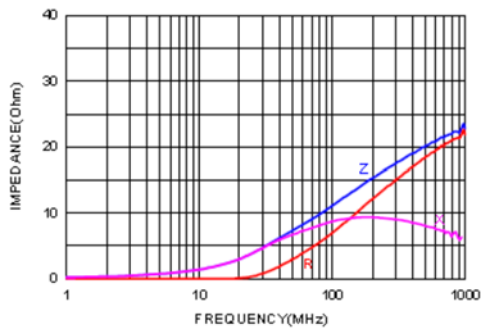
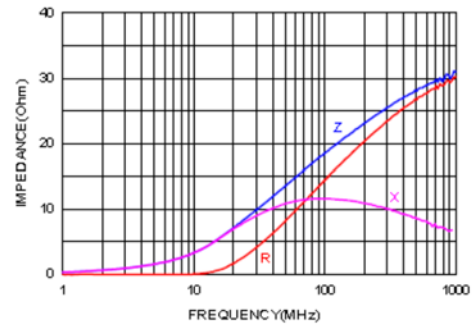
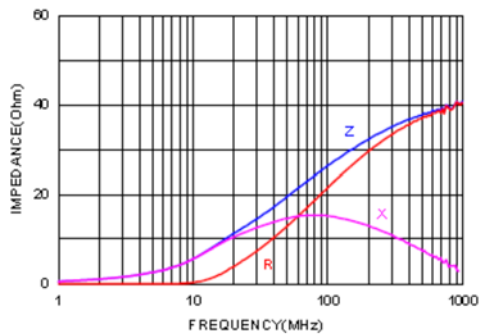
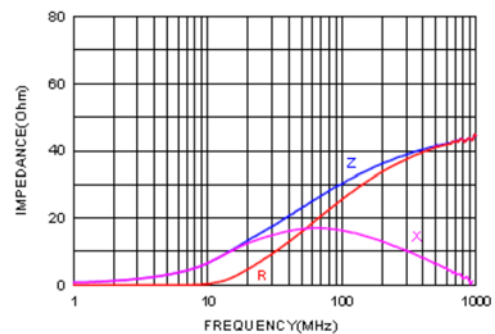
ELECTRICAL CHARACTERISTICS

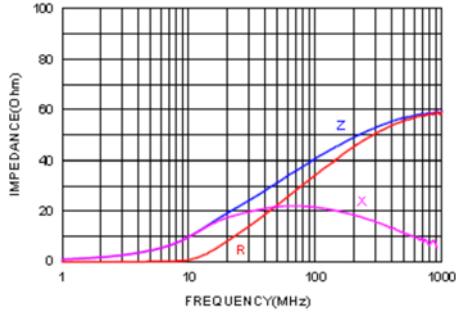
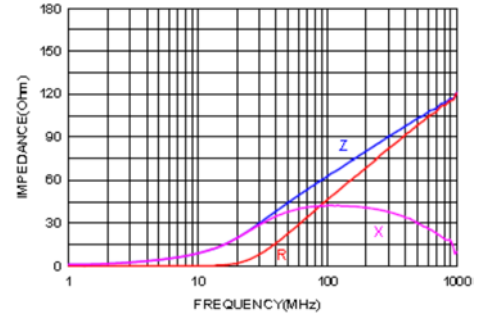
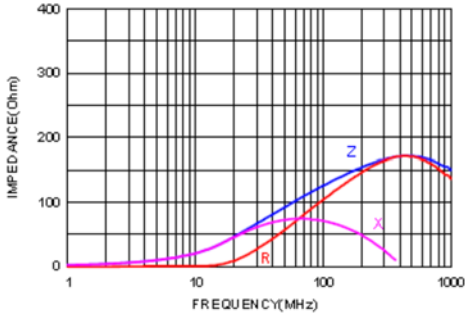
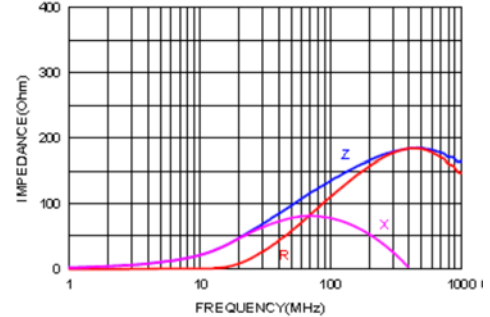
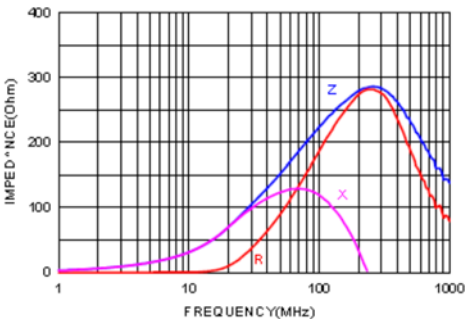
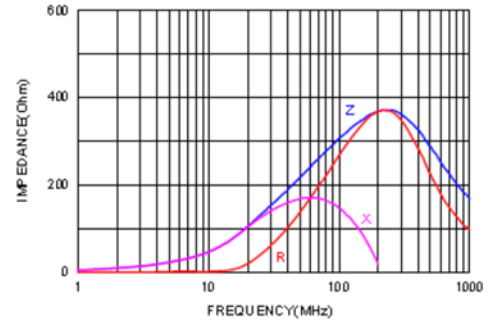
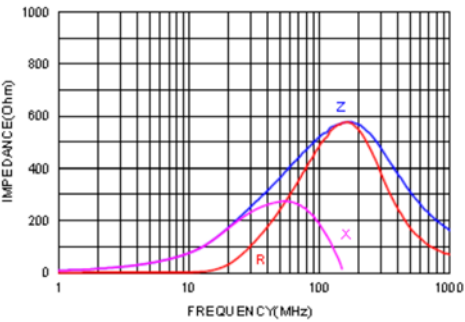
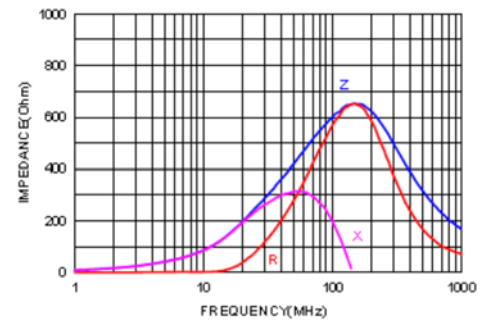
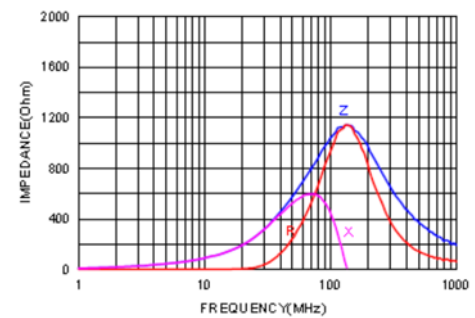
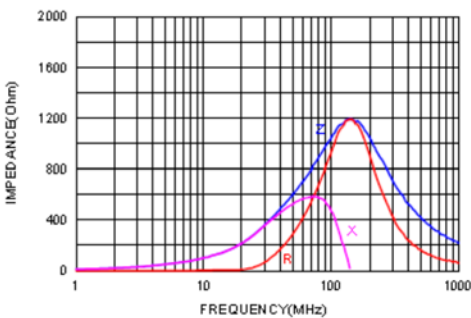
Number	Thickness C size (mm)	Impedance (Ω)	Test Frequency (MHz)	DC Resistance (Ω) max.	Rated Current (mA) max.
FCM2012KF-110T09	0.85±0.2	11±25%	100	0.10	900
FCM2012KF-170T06	0.85±0.2	17±25%	100	0.10	600
FCM2012KF-260T06	0.85±0.2	26±25%	100	0.10	600
FCM2012KF-300T06	0.85±0.2	30±25%	100	0.10	600
FCM2012KF-400T06	0.85±0.2	40±25%	100	0.10	600
FCM2012KF-600T09	0.85±0.2	60±25%	100	0.10	900
FCM2012KF-121T08	0.85±0.2	120±25%	100	0.20	800
FCM2012KF-151T08	0.85±0.2	150±25%	100	0.20	800
FCM2012KF-221T07	0.85±0.2	220±25%	100	0.30	750
FCM2012KF-301T07	0.85±0.2	300±25%	100	0.30	700
FCM2012KF-471T07	0.85±0.2	470±25%	100	0.35	700
FCM2012KF-601T05	0.85±0.2	600±25%	100	0.40	500
FCM2012KF-102T04	0.85±0.2	1000±25%	100	0.45	400

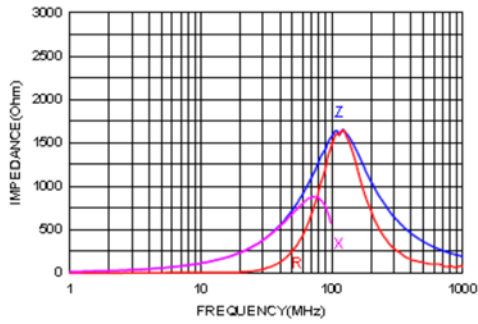
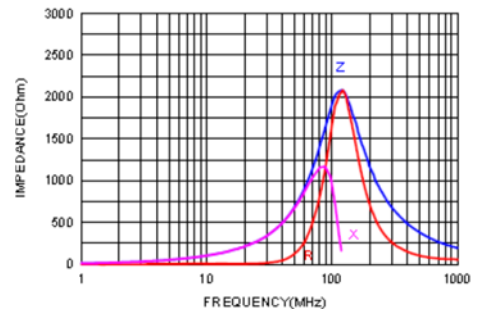
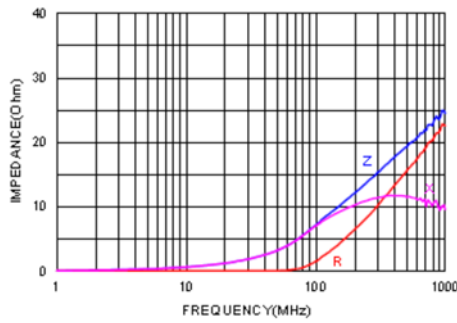
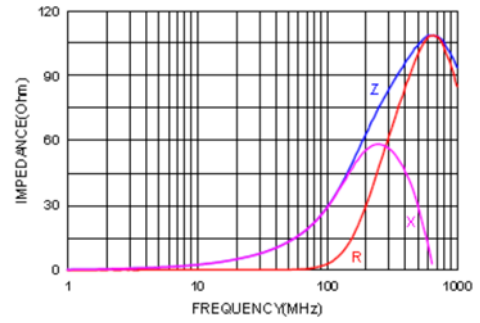
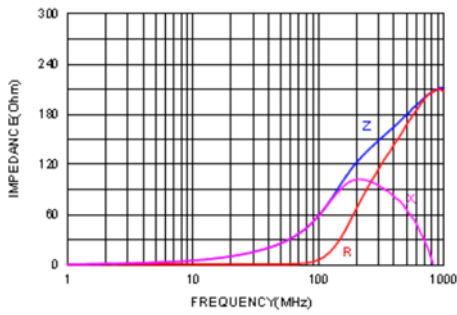
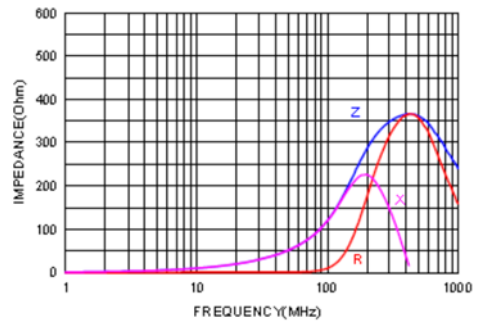
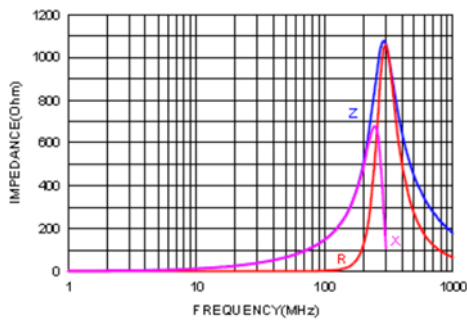
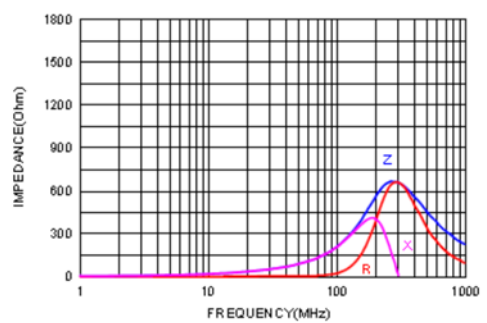
FCM2012HF-102T04	0.85±0.2	1000±25%	100	0.45	400
FCM2012HF-152T03	0.85±0.2	1500±25%	100	0.50	350
FCM2012HF-202T02	0.85±0.2	2000±25%	100	0.60	250
FCM2012NF-070T06	0.85±0.2	7±25%	100	0.10	600
FCM2012CF-300T07	0.85±0.2	30±25%	100	0.20	700
FCM2012CF-600T07	0.85±0.2	60±25%	100	0.20	700
FCM2012CF-121T06	0.85±0.2	120±25%	100	0.25	600
FCM2012CF-151T06	0.85±0.2	150±25%	100	0.25	600
FCM2012CF-221T04	0.85±0.2	220±25%	100	0.30	400
FCM2012CF-301T04	0.85±0.2	300±25%	100	0.35	400
FCM2012CF-471T04	1.25±0.2	470±25%	100	0.40	400
FCM2012CF-601T03	1.25±0.2	600±25%	100	0.45	300
FCM2012CF-102T02	1.25±0.2	1000±25%	100	0.50	200

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

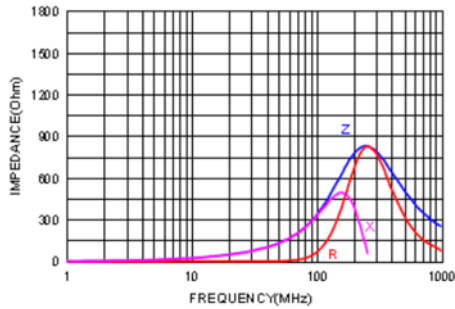
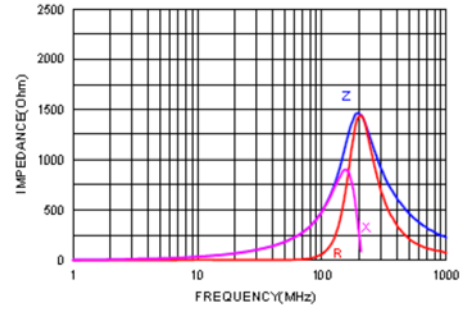
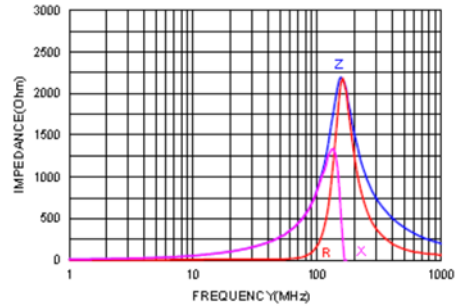
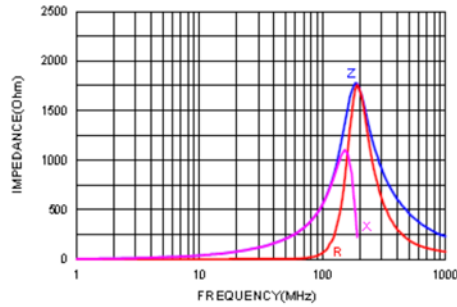
Impedance Frequency Characteristics(Typical)

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FCM2012KF-170

FCM2012KF-260

FCM2012KF-300

FCM2012KF-400
FCM2012KF-600


FCM2012KF-121

FCM2012KF-151

FCM2012KF-221

FCM2012KF-151

FCM2012KF-221

FCM2012KF-301

FCM2012KF-471

FCM2012KF-601


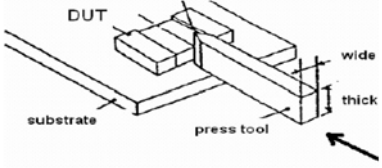
FCM2012KF-102

FCM2012HF-102

FCM2012HF-152

FCM2012HF-202

FCM2012NF-070

FCM2012CF-300

FCM2012CF-600

FCM2012CF-121

FCM2012CF-301

FCM2012CF-471



FCM2012CF-601

FCM2012CF-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 ΔL 30%	Saturation DC Current (Isat) will cause L0 to drop ΔL (%)
Heat Rated Current (Irms)	Approximately ΔT 40°C	Heat Rated Current (Irms) will cause the coil temperature rise ΔT (°C). 1.Applied the allowed DC current 2.Temperature measured by digital surface thermometer
Reliability Test		
Life Test	Appearance : No damage.	Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles) Temperature : 125±2°C (Inductor) Applied current : rated current Duration : 1000±12hrs Measured at room temperature after placing for 24±2 hrs
Load Humidity	Inductance : within±10% of initial value Q : Shall not exceed the specification value. RDC : within ±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) Humidity : 85±2 * R.H, Temperature : 85°C ±2°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±2°C 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25°C in 2.5hrs. 3. Raise temperature to 65±2°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±2°C 30±5min Step2 : 25±2°C ≤0.5min Step3 : 125±2°C 30±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:1.52mm±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):40x100x1.2mm <0805 inch(2012mm):40x100x0.8mm Bending depth: >=0805 inch(2012mm):1.2mm <0805 inch(2012mm):0.8mm duration of 10 sec.															
Shock	Appearance : No damage. Impedance : within±15% of initial value Inductance : within±10% of initial value Q : Shall not exceed the specification value. RDC : within ±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±5°C Flux for lead free: Rosin. 9.5% Dip time: 4±1sec Depth: completely cover the termination															
Resistance to Soldering Heat		Depth: completely cover the termination <table border="1"> <thead> <tr> <th>Temperature(°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>25mm/s ±6 mm/s</td> <td>1</td> </tr> </tbody> </table>	Temperature(°C)	Time(s)	Temperature ramp/immersion and emersion rate	Number of heat cycles	260 ±5 (solder temp)	10 ±1	25mm/s ±6 mm/s	1							
Temperature(°C)	Time(s)	Temperature ramp/immersion and emersion rate	Number of heat cycles														
260 ±5 (solder temp)	10 ±1	25mm/s ±6 mm/s	1														
Terminal Strength	Appearance : No damage. Impedance : within±15% of initial value Inductance : within±10% of initial value Q : Shall not exceed the specification value. RDC : within ±15% of initial value and shall not exceed the specification value e	Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles With the component mounted on a PCB with the device to be tested, apply a force(>0805:1kg , <=0805:0.5kg)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. 															

Note : When there are questions concerning measurement result : measurement shall be made after 48 ± 2 hours of recovery under the standard condition.