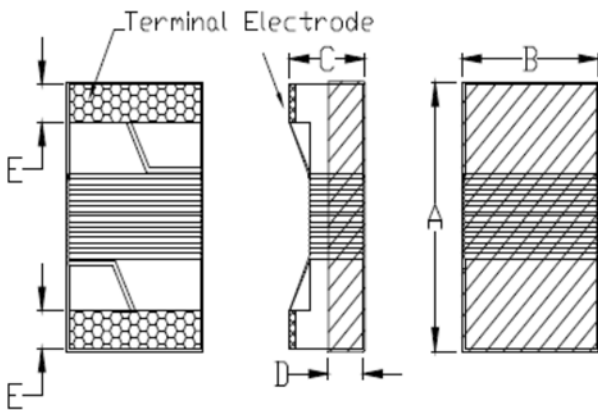


FEATRLRES

- 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	E
SWF2012	2.4max	1.6max	1.4max	0.51ref.	0.44±0.1

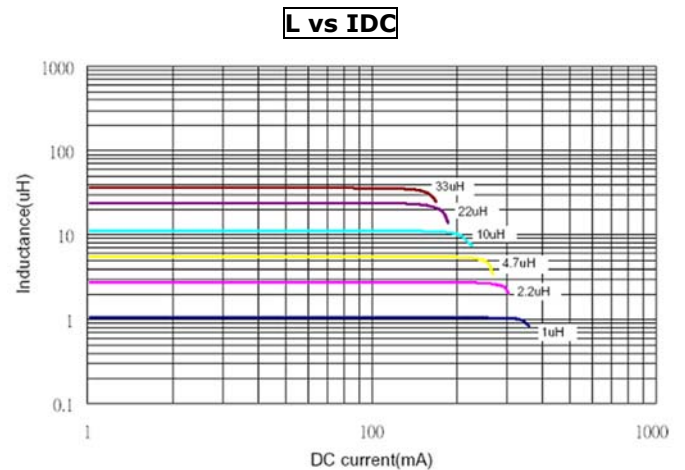
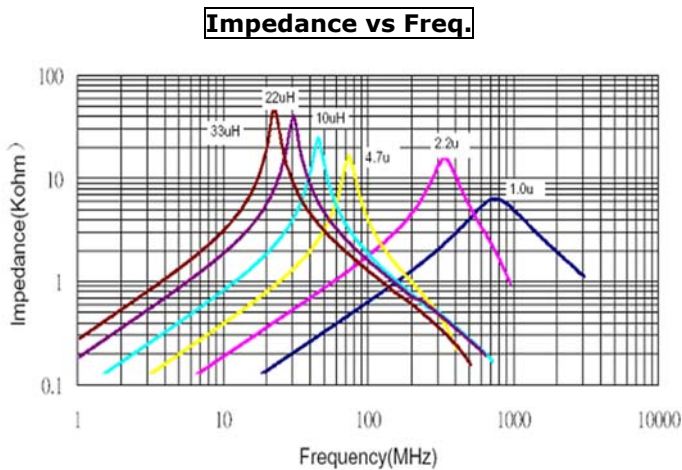
ELECTRICAL CHARACTERISTICS

Part Number	Inductance (uH)	Tolerance	Test Frequency (Hz)	Q min.	Test Frequency (MHz)	SRF (MHz) min.	DCR(Ω) max.	Rated Current
SWF2012CF-R47K	0.47±10%	K,M	0.5V/7.96M	10	7.96	750	0.20	720
SWF2012CF-R56K	0.56±10%	K,M	0.5V/7.96M	10	7.96	730	0.21	665
SWF2012CF-R68K	0.68±10%	K,M	0.5V/7.96M	10	7.96	670	0.28	565
SWF2012CF-R82K	0.82±10%	K,M	0.5V/7.96M	10	7.96	650	0.31	545
SWF2012CF-1R0K	1.00±10%	K,M	0.5V/7.96M	10	7.96	615	0.34	525
SWF2012CF-1R2K	1.20±10%	K,M	0.5V/7.96M	10	7.96	550	0.39	473
SWF2012CF-1R5K	1.50±10%	K,M	0.5V/7.96M	10	7.96	520	0.45	300
SWF2012CF-1R8K	1.80±10%	K,M	0.5V/7.96M	10	7.96	500	0.48	230
SWF2012CF-2R2K	2.20±10%	K,M	0.5V/7.96M	10	7.96	420	0.67	215
SWF2012CF-2R7K	2.70±10%	K,M	0.5V/7.96M	10	7.96	410	0.74	140
SWF2012CF-3R3K	3.30±10%	K,M	0.5V/7.96M	10	7.96	385	0.81	95
SWF2012CF-3R9K	3.90±10%	K,M	0.5V/7.96M	10	7.96	372	0.88	57
SWF2012CF-4R7K	4.70±10%	K,M	0.5V/7.96M	10	7.96	345	0.99	51
SWF2012CF-5R6K	5.60±10%	K,M	0.5V/7.96M	10	7.96	335	1.06	44
SWF2012CF-6R8K	6.80±10%	K,M	0.5V/7.96M	10	7.96	315	1.21	39

SWF2012CF-8R2K	8.20±10%	K,M	0.5V/7.96M	10	7.96	295	1.33	33
SWF2012CF-100K	10.0±10%	K,M	0.5V/2.52M	10	2.52	260	1.79	30
SWF2012CF-120K	12.0±10%	K,M	0.5V/2.52M	10	2.52	250	1.98	27
SWF2012CF-150K	15.0±10%	K,M	0.5V/2.52M	10	2.52	215	2.68	22
SWF2012CF-180K	18.0±10%	K,M	0.5V/2.52M	10	2.52	195	3.12	20
SWF2012CF-220K	22.0±10%	K,M	0.5V/2.52M	10	2.52	180	3.48	18
SWF2012CF-270K	27.0±10%	K,M	0.5V/2.52M	10	2.52	170	3.84	16
SWF2012CF-330K	33.0±10%	K,M	0.5V/2.52M	10	2.52	145	4.34	15

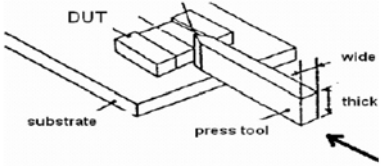
- NOTE: K=±10%,L=±15%,M=±20%
- Rated current: based on temperature rise test
- In compliance with EIA 595

Impedance vs Frequency,DC Bias Characteristics(Typical)



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-020D Classification Reflow Profiles) Temperature : $125\pm 2^\circ\text{C}$ (Inductor) Applied current : rated current Duration : 1000 \pm 12hrs Measured at room temperature after placing for 24 \pm 2 hrs															
Load Humidity		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020D Classification Reflow Profiles) Humidity : $85\pm 2 \times \text{R.H.}$, 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 \pm 2 hrs															
Moisture Resistance		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020D Classification 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-020D Classification 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 \pm 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: ≥ 0.805 inch(2012mm):40x100x1.2mm < 0.805 inch(2012mm):40x100x0.8mm Bending depth: ≥ 0.805 inch(2012mm):1.2mm < 0.805 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															
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: $245\pm 5^\circ\text{C}$ <table border="1" data-bbox="1018 1854 1455 1989"> <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
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		Flux for lead free: Rosin. 9.5% ° Dip time: 4±1sec ° Depth: completely cover the termination Depth: completely cover the termination								
Resistance to Soldering Heat		<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(>0.805:1kg , <=0.805:0.5kg)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.