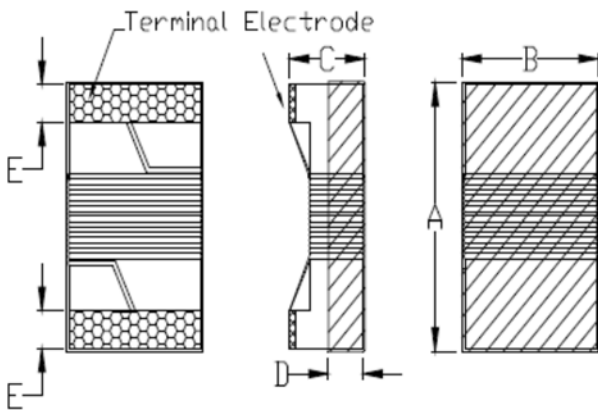


## FEATRLRES

- 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 )



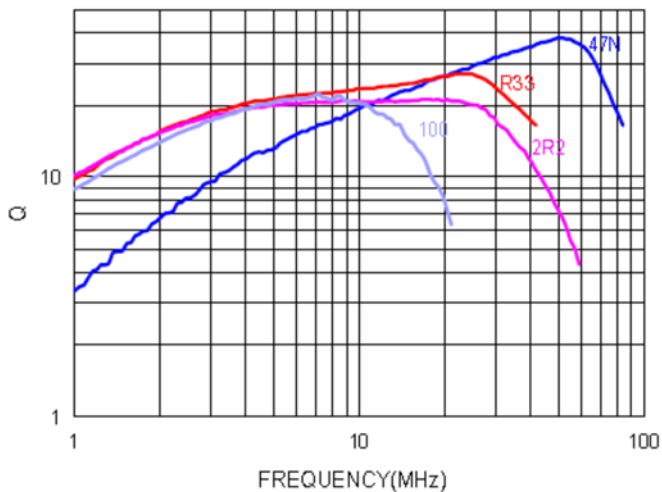
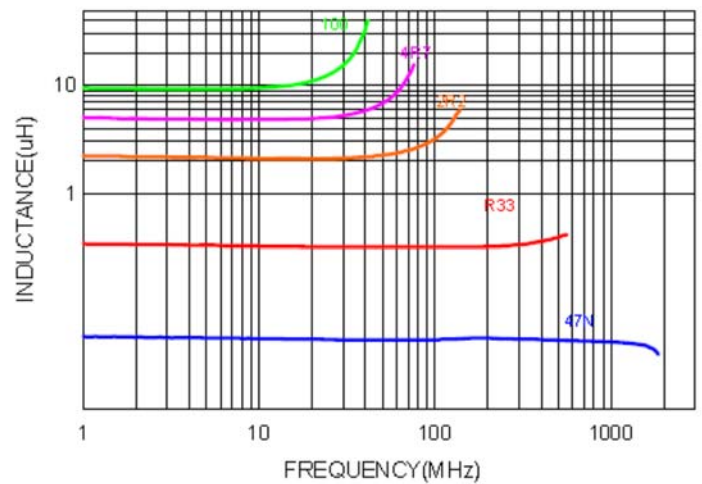
Size	A	B	C	D	E
SWF1608	1.65±0.15	1.15±0.15	1.05±0.15	0.381ref.	0.35±0.1

## ELECTRICAL CHARACTERISTICS

Part Number	Inductance (uH)	Tolerance	Test Frequency (Hz)	Q min.	Test Frequency (MHz)	SRF (MHz) min.	DCR(Ω) max.	Rated Current
SWF1608LF-47NK	0.047±10%	K	0.5V/7.9M	17	7.9	1700	0.075	1500
SWF1608LF-72NK	0.072±10%	K	0.5V/7.9M	17	7.9	1700	0.12	1500
SWF1608LF-R10K	0.1±10%	K	0.5V/7.9M	17	7.9	1500	0.12	1500
SWF1608LF-R15K	0.15±10%	K	0.5V/7.9M	17	7.9	1350	0.15	1450
SWF1608LF-R18K	0.18±10%	K	0.5V/7.9M	17	7.9	1150	0.15	1400
SWF1608LF-R33K	0.33±10%	K	0.5V/7.9M	17	7.9	850	0.46	900
SWF1608LF-R39K	0.39±10%	K	0.5V/7.9M	17	7.9	810	0.51	1100
SWF1608LF-R47K	0.47±10%	K	0.5V/7.9M	17	7.9	720	0.62	1050
SWF1608LF-R56K	0.56±10%	K	0.5V/7.9M	17	7.9	600	0.44	850
SWF1608LF-R68K	0.68±10%	K	0.5V/7.9M	17	7.9	600	0.52	850
SWF1608LF-R82K	0.82±10%	K	0.5V/7.9M	17	7.9	480	0.69	750
SWF1608LF-R91K	0.91±10%	K	0.5V/7.9M	17	7.9	330	0.76	670
SWF1608LF-1R0K	1.00±10%	K	0.5V/7.9M	17	7.9	310	0.81	600
SWF1608LF-1R2K	1.2±10%	K	0.5V/7.9M	17	7.9	270	0.87	550
SWF1608LF-1R5K	1.5±10%	K	0.5V/7.9M	17	7.9	270	1.06	540

SWF1608LF-1R8K	1.8±10%	K	0.5V/7.9M	17	7.9	230	1.1	520
SWF1608LF-2R2K	2.2±10%	K	0.5V/7.9M	17	7.9	130	1.2	500
SWF1608LF-2R7K	2.7±10%	K	0.5V/7.9M	17	7.9	105	1.5	480
SWF1608LF-3R3K	3.3±10%	K	0.5V/7.9M	17	7.9	84	1.5	440
SWF1608LF-3R9K	3.9±10%	K	0.5V/7.9M	17	7.9	80	1.6	430
SWF1608LF-4R7J	4.7±5%	J,K	0.5V/7.9M	18	7.9	69	2.1	420
SWF1608LF-5R6J	5.6±5%	J,K	0.5V/7.9M	18	7.9	65	2.6	350
SWF1608LF-6R8J	6.8±5%	J,K	0.5V/7.9M	19	7.9	55	3.1	330
SWF1608LF-7R8J	7.8±5%	J,K	0.5V/7.9M	17	7.9	47	3.5	320
SWF1608LF-8R2J	8.2±5%	J,K	0.5V/7.9M	17	7.9	42	3.8	300
SWF1608LF-100J	10±5%	J,K	0.5V/7.9M	19	7.9	40	4.8	270

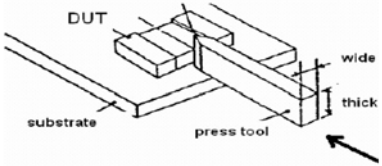
- NOTE: K=±10%,L=±15%,M=±20%
- Rated current: based on temperature rise test
- In compliance with EIA 595

**Q vs Freq.**

**L vs Freq.**


## 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)	
<b>Electrical Performance Test</b>		
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
<b>Reliability Test</b>		
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 $50^\circ\text{C}$ 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 $25^\circ\text{C}$ 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 $25^\circ\text{C}$ in 2.5hrs, keep at $25^\circ\text{C}$ for 2 hrs then keep at $-10^\circ\text{C}$ for 3 hrs 4. Keep at $25^\circ\text{C}$ 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 : $25 \pm 2^\circ\text{C}$ $\leq$ 0.5min 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: 1.52mm $\pm$ 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: $\geq 0.805$ inch(2012mm): 40x100x1.2mm < 0.805 inch(2012mm): 40x100x0.8mm Bending depth: $\geq 0.805$ 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: $150^\circ\text{C}$ , 60sec. Solder: Sn96.5% Ag3% Cu0.5% Temperature: $245 \pm 5^\circ\text{C}$ Flux for lead free: Rosin. 9.5% Dip time: 4 $\pm$ 1sec.

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

		Depth: completely cover the termination								
Resistance to Soldering Heat		Depth: completely cover the termination <table border="1" data-bbox="1023 277 1453 394"> <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-020Classification 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.