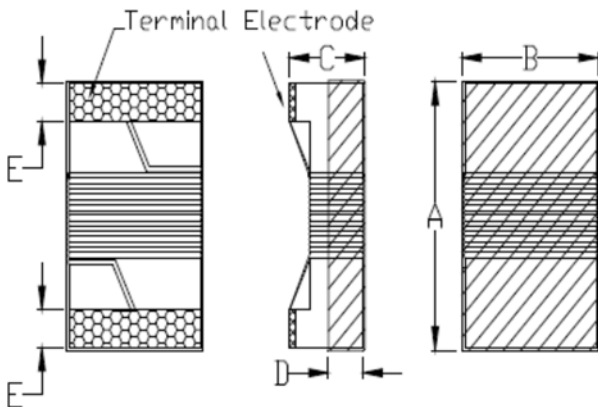


## FEATRLRES

- Ferrite core wire wound construction.
- High Reliability due to wire wound type construction.
- Small footprint as well as low profile.
- Application for Signal Use.
- 100% Lead(Pb) & Halogen-Free and RoHS compliant.

## CONFIGLRATIONS & DIMENSIONS ( unit in mm )



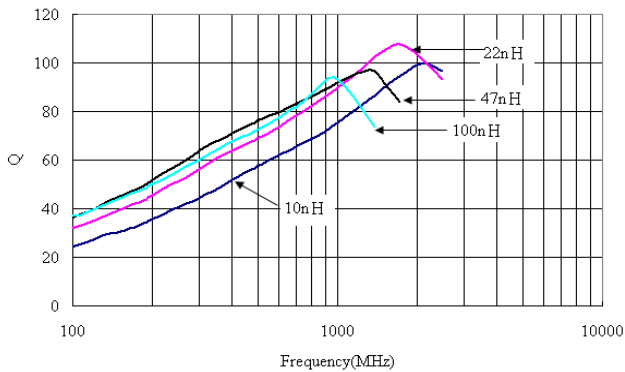
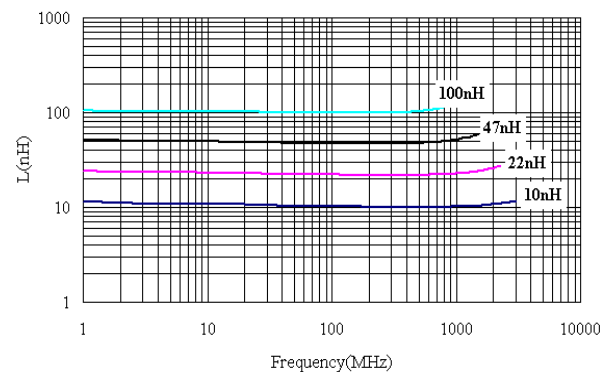
Size	A	B	C	D	E
SWI0805	2.4max	1.6max	1.4max	0.51ref.	0.44±0.1

## ELECTRICAL CHARACTERISTICS

Part Number	Inductance (nH)	Tolerance	Test Frequency (Hz)	Q min.	Rated Current (mA) max.	DCR (Ω) max.	SRF (MHz) min.
SWI0805F-2N0C	2.0±0.2nH	C,S	0.1V/250M	70/1500	800	0.03	8000
SWI0805F-3N9C	3.9±0.2nH	C,S	0.1V/250M	70/1500	800	0.04	5750
SWI0805F-4N7C	4.7±0.2nH	C,S	0.1V/250M	70/1500	800	0.04	5750
SWI0805F-6N8C	6.8±0.2nH	C,J,K	0.1V/250M	70/1500	800	0.06	5500
SWI0805F-7N5C	7.5±0.2nH	C,J,K	0.1V/250M	70/1000	800	0.06	4500
SWI0805F-8N2C	8.2±0.2nH	C,J,K	0.1V/250M	70/1000	800	0.06	4700
SWI0805F-10NJ	10±5%	J,K	0.1V/250M	70/1000	600	0.08	4200
SWI0805F-12NJ	12±5%	J,K	0.1V/250M	80/1000	600	0.08	4000
SWI0805F-15NJ	15±5%	J,K	0.1V/250M	80/1000	600	0.10	3400
SWI0805F-18NJ	18±5%	J,K	0.1V/250M	80/1000	600	0.10	3300
SWI0805F-22NJ	22±5%	J,K	0.1V/250M	60/500	600	0.12	2600
SWI0805F-24NJ	24±5%	J,K	0.1V/250M	60/500	600	0.12	2000
SWI0805F-27NJ	27±5%	J,K	0.1V/250M	60/500	600	0.12	2500
SWI0805F-33NJ	33±5%	J,K	0.1V/250M	60/500	600	0.13	2050
SWI0805F-36NJ	36±5%	J,K	0.1V/250M	65/500	600	0.13	1700
SWI0805F-39NJ	39±5%	J,K	0.1V/250M	65/500	600	0.15	2000

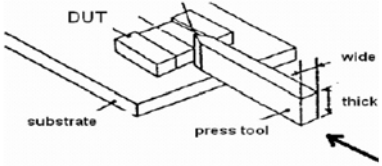
SWI0805F-43NJ	43±5%	J,K	0.1V/200M	65/500	600	0.15	1650
SWI0805F-47NJ	47±5%	J,K	0.1V/200M	65/500	600	0.17	1650
SWI0805F-56NJ	56±5%	J,K	0.1V/200M	65/500	600	0.19	1550
SWI0805F-68NJ	68±5%	J,K	0.1V/200M	60/500	500	0.22	1450
SWI0805F-82NJ	82±5%	J,K	0.1V/150M	55/500	400	0.40	1300
SWI0805F-R10J	100±5%	J,K	0.1V/150M	55/500	400	0.52	1200
SWI0805F-R11J	110±5%	J,K	0.1V/150M	55/500	400	0.52	1200
SWI0805F-R12J	120±5%	J,K	0.1V/150M	50/250	400	0.55	1100
SWI0805F-R15J	150±5%	J,K	0.1V/150M	50/250	400	0.73	920
SWI0805F-R18J	180±5%	J,K	0.1V/100M	50/250	400	0.88	870
SWI0805F-R22J	220±5%	J,K	0.1V/100M	50/250	340	1.18	850
SWI0805F-R24J	240±5%	J,K	0.1V/100M	48/250	330	1.20	690
SWI0805F-R27J	270±5%	J,K	0.1V/100M	48/250	310	1.36	650
SWI0805F-R33J	330±5%	J,K	0.1V/100M	40/250	300	1.40	600
SWI0805F-R39J	390±5%	J,K	0.1V/100M	25/250	290	1.50	560
SWI0805F-R47J	470±5%	J,K	0.1V/50M	25/100	250	1.76	375
SWI0805F-R56J	560±5%	J,K	0.1V/25M	23/100	210	1.90	340
SWI0805F-R62J	620±5%	J,K	0.1V/25M	23/100	205	2.00	220
SWI0805F-R68J	680±5%	J,K	0.1V/25M	23/100	200	2.15	200
SWI0805F-R75J	750±5%	J,K	0.1V/25M	20/100	185	2.25	200
SWI0805F-R82J	820±5%	J,K	0.1V/25M	20/100	170	2.50	200
SWI0805F-1R0J	1000±5%	J,K	0.1V/25M	15/50	170	2.60	100

- NOTE: Tolerance C = ± 0.2%, S = ± 0.3%, G = ± 2%, J = ± 5%, K = ± 10%
- Rated Current: 15°C rise above 25°C ambient.

**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 : $25\pm 2^\circ\text{C}$ $\leq 0.5$ 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: $\geq 0805$ inch(2012mm):40x100x1.2mm $< 0805$ inch(2012mm):40x100x0.8mm Bending depth: $\geq 0805$ 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															
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: $245\pm 5^\circ\text{C}$ <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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SMD	50	11	Half-sine	11.3													
Lead	50	11	Half-sine	11.3													

		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" data-bbox="1023 293 1453 409"> <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.