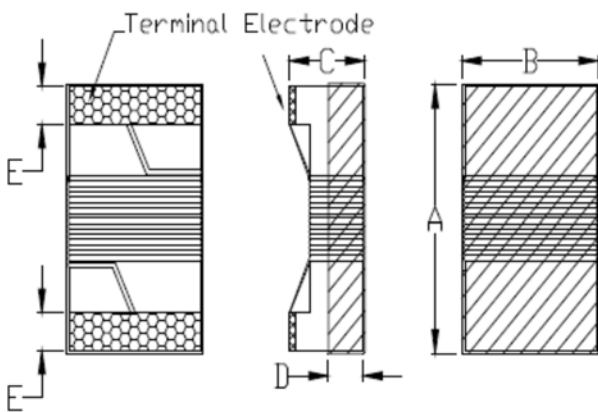


FEATRLRES

- Ceramic core wire wound construction.
- No batch to batch variations in inductance
- High Reliability due to ceramic wire wound construction.
- High frequency application.
- Small footprint as well as low profile.
- 100% Lead(Pb) & Halogen-Free and RoHS compliant

CONFIGLRATIONS & DIMENSIONS (unit in mm)



Size	A	B	C	D	E
SWI1008	2.92max	2.79max	2.2max	1.2ref.	0.55±0.1

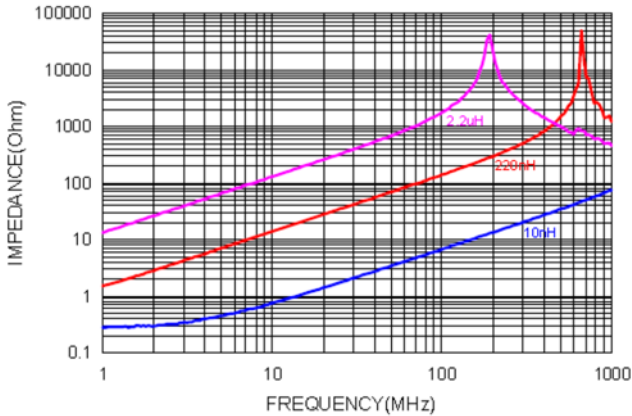
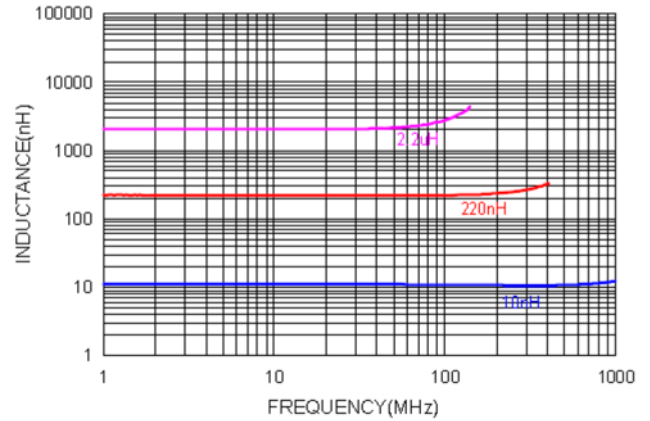
ELECTRICAL CHARACTERISTICS

Part Number	Inductance (nH)	Tolerance	Test Frequency (Hz)	Q min.	Rated Current (mA)	DCR (Ω) max.	SRF (MHz) min.
SWI1008UF-10NG	10±2%	G, J, K	0.1V/50M	50/500	1000	0.08	4100
SWI1008UF-12NG	12±2%	G, J, K	0.1V/50M	50/500	1000	0.09	3300
SWI1008UF-15NG	15±2%	G, J, K	0.1V/50M	50/500	1000	0.18	2500
SWI1008UF-18NG	18±2%	G, J, K	0.1V/50M	50/350	1000	0.11	2500
SWI1008UF-22NG	22±2%	G, J, K	0.1V/50M	55/350	1000	0.12	2400
SWI1008UF-27NG	27±2%	G, J, K	0.1V/50M	55/350	1000	0.13	1600
SWI1008UF-33NG	±2%	G, J, K	0.1V/50M	60/350	1000	0.14	1600
SWI1008UF-39NG	39±2%	G, J, K	0.1V/50M	60/350	1000	0.15	1500
SWI1008UF-47NG	47±2%	G, J, K	0.1V/50M	65/350	1000	0.16	1500
SWI1008UF-56NG	56±2%	G, J, K	0.1V/50M	65/350	1000	0.18	1300
SWI1008UF-68NG	68±2%	G, J, K	0.1V/50M	65/350	1000	0.20	1300
SWI1008UF-82NG	82±2%	G, J, K	0.1V/50M	60/350	1000	0.22	1000
SWI1008UF-R10G	100±2%	G, J, K	0.1V/25M	60/350	650	0.56	1000
SWI1008UF-R12G	120±2%	G, J, K	0.1V/25M	60/350	650	0.63	950
SWI1008UF-R15G	150±2%	G, J, K	0.1V/25M	45/100	580	0.70	850

SWI1008UF-R18G	180±2%	G, J,K	0.1V/25M	45/100	620	0.77	750
SWI1008UF-R22G	220±2%	G, J,K	0.1V/25M	45/100	500	0.84	700
SWI1008UF-R27G	270±2%	G, J,K	0.1V/25M	45/100	500	0.91	600
SWI1008UF-R33G	330±2%	G, J,K	0.1V/25M	45/100	450	1.05	570
SWI1008UF-R39G	390±2%	G, J,K	0.1V/25M	45/100	470	1.12	500
SWI1008UF-R47G	470±2%	G, J,K	0.1V/25M	45/100	470	1.19	450
SWI1008UF-R56G	560±2%	G, J,K	0.1V/25M	45/100	400	1.33	415
SWI1008UF-R62G	620±2%	G, J,K	0.1V/25M	45/100	300	1.40	375
SWI1008UF-R68G	680±2%	G, J,K	0.1V/25M	45/100	400	1.47	375
SWI1008UF-R75G	750±2%	G, J,K	0.1V/25M	45/100	360	1.54	360
SWI1008UF-R82G	820±2%	G, J,K	0.1V/25M	45/100	400	1.61	350
SWI1008UF-R91G	910±2%	G, J,K	0.1V/25M	35/50	380	1.68	320
SWI1008UF-1R0G	1000±2%	G, J,K	0.1V/25M	35/50	370	1.75	290
SWI1008UF-1R2G	1200±2%	G, J,K	0.1V/7.9M	35/50	310	2.00	250
SWI1008UF-1R5G	1500±2%	G, J,K	0.1V/7.9M	28/50	330	2.23	200
SWI1008UF-1R8G	1800±2%	G, J,K	0.1V/7.9M	28/50	300	2.60	160
SWI1008UF-2R2G	2200±2%	G, J,K	0.1V/7.9M	28/50	280	2.80	160
SWI1008UF-2R7G	2700±2%	G, J,K	0.1V/7.9M	22/25	290	3.20	140
SWI1008UF-3R3G	3300±2%	G, J,K	0.1V/7.9M	22/25	290	3.40	110
SWI1008UF-3R9G	3900±2%	G, J,K	0.1V/7.9M	20/25	260	3.6	100
SWI1008UF-4R7G	4700±2%	G, J,K	0.1V/7.9M	18/7.9	200	4	32
SWI1008UF-5R6G	5600±2%	G, J,K	0.1V/7.9M	18/7.9	200	4.0	25
SWI1008UF-6R8G	6800±2%	G, J,K	0.1V/7.9M	18/7.9	200	4.9	21
SWI1008UF-8R2G	8200±2%	G, J,K	0.1V/7.9M	16 /7.9	170	6.0	16
SWI1008UF-100G	10000±2%	G, J,K	0.1V/2.52M	15/7.9	170	8.0	14
SWI1008UF-R15G	150±2%	G, J,K	0.1V/25M	45/100	580	0.70	850
SWI1008UF-R18G	180±2%	G, J,K	0.1V/25M	45/100	620	0.77	750
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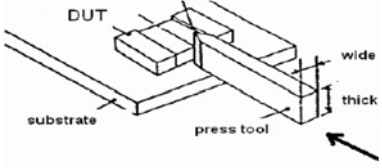
SWI1008UF-1R2G	1200±2%	G, J, K	0.1V/7.9M	35/50	310	2.00	250
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- NOTE: Tolerance C = ± 0.2%, S = ± 0.3%, G = ± 2%, J = ± 5%, K = ± 10%
- Rated Current: 15°C rise above 25°C ambient.

Impedance v.s. Frequency Characteristics

Inductance v.s. Frequency Characteristics


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 Δ L30%	Saturation DC Current (Isat) will cause L0 to drop Δ L(%)
Heat Rated Current (Irms)	Approximately Δ T40°C	Heat Rated Current (Irms) will cause the coil temperature rise Δ T(°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°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 * R.H, Temperature : 85°C \pm 2°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-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
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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							
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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.