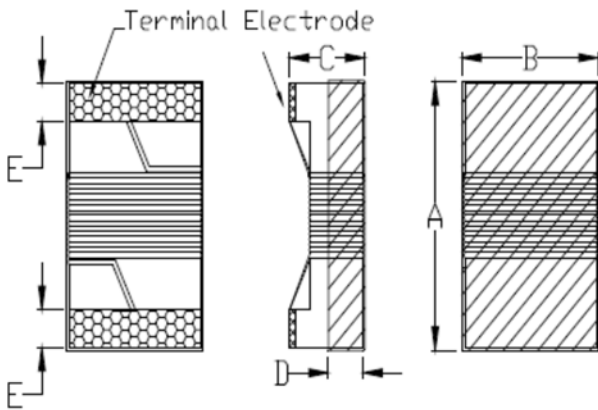


FEATRLRES

- 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)



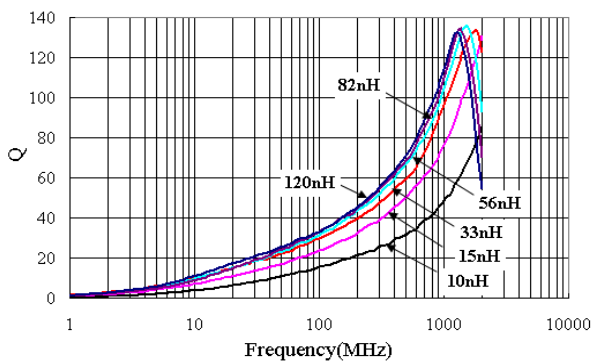
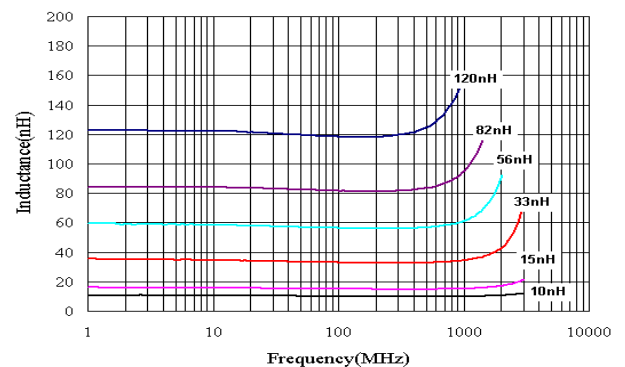
Size	A	B	C	D	E
SWI0603	1.8max	1.2max	1.2max	0.38ref.	0.35±0.1

ELECTRICAL CHARACTERISTICS

Part Number	Inductance (nH)	Tolerance	Test Frequency (Hz)	Q	Rated Current	DCR	SRF
				min.	(mA) max..	(Ω) max.	(MHz) min.
SWI0603F-2N0C	2.0±0.2nH	C,S	0.1V/250M	13	700	0.07	8000
SWI0603F-3N9C	3.9±0.2nH	C,S	0.1V/250M	22	700	0.07	6900
SWI0603F-4N7C	4.7±0.2nH	C,J,K	0.1V/250M	20	700	0.12	5800
SWI0603F-6N8C	6.8±0.2nH	C,J,K	0.1V/250M	27	700	0.08	5800
SWI0603F-8N2C	8.2±0.2nH	C,J,K	0.1V/250M	30	700	0.13	4200
SWI0603F-10NJ	10±5%	J,K	0.1V/250M	31	700	0.13	4800
SWI0603F-12NJ	12±5%	J,K	0.1V/250M	35	700	0.13	4000
SWI0603F-15NJ	15±5%	J,K	0.1V/250M	35	700	0.13	4000
SWI0603F-18NJ	18±5%	J,K	0.1V/250M	35	700	0.16	3100
SWI0603F-22NJ	22±5%	J,K	0.1V/250M	38	700	0.23	3000
SWI0603F-24NJ	24±5%	J,K	0.1V/250M	38	700	0.13	2800
SWI0603F-27NJ	27±5%	J,K	0.1V/250M	40	600	0.14	2800
SWI0603F-33NJ	33±5%	J,K	0.1V/250M	40	600	0.22	2300
SWI0603F-39NJ	39±5%	J,K	0.1V/250M	40	600	0.30	2200
SWI0603F-47NJ	47±5%	J,K	0.1V/200M	38	600	0.35	2000
SWI0603F-56NJ	56±5%	J,K	0.1V/200M	38	600	0.37	1900

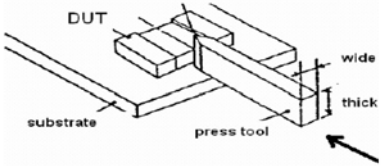
SWI0603F-68NJ	68±5%	J,K	0.1V/200M	37	600	0.43	1700
SWI0603F-72NJ	72±5%	J,K	0.1V/150M	34	400	0.42	1700
SWI0603F-82NJ	82±5%	J,K	0.1V/150M	34	400	0.71	1700
SWI0603F-R10J	100±5%	J,K	0.1V/150M	34	400	0.78	1400
SWI0603F-R12J	120±5%	J,K	0.1V/150M	32	300	0.84	1300
SWI0603F-R15J	150±5%	J,K	0.1V/150M	28	280	0.96	990
SWI0603F-R18J	180±5%	J,K	0.1V/100M	25	240	1.52	990
SWI0603F-R22J	220±5%	J,K	0.1V/100M	25	200	2.02	900
SWI0603F-R27J	270±5%	J,K	0.1V/100M	24	170	2.36	900
SWI0603F-R33J	330±5%	J,K	0.1V/100M	24	185	3.40	700
SWI0603F-R39J	390±5%	J,K	0.1V/100M	24	100	3.60	900

- 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℃ (Including self - temperature rise)	
Storage temperature	1. -10~+40℃,50~60%RH (Product with taping) 2. -40~+125℃ (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-020DClassification Reflow Profiles) Temperature : 125 $\pm 2^{\circ}\text{C}$ (Inductor) Applied current : rated current Duration : 1000 ± 12 hrs Measured at room temperature after placing for 24 ± 2 hrs
Load Humidity		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles) Humidity : 85 ± 2 % R.H, Temperature : 85 $\pm 2^{\circ}\text{C}$ 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 at50 $^{\circ}\text{C}$ 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-020DClassification Reflow Profiles) Condition for 1 cycle Step1 : -40 $\pm 2^{\circ}\text{C}$ 30 ± 5 min Step2 : 25 $\pm 2^{\circ}\text{C}$ ≤ 0.5 min Step3 : 125 $\pm 2^{\circ}\text{C}$ 30 ± 5 min 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 $\pm 10\%$ Testing Time : 12 hours(20 minutes, 12 cycles each of 3 orientations).
Bending		Shall be mounted on a FR4 substrate of the following dimensions: ≥ 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 $\pm 15\%$ 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 ± 1 sec ◦

		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.