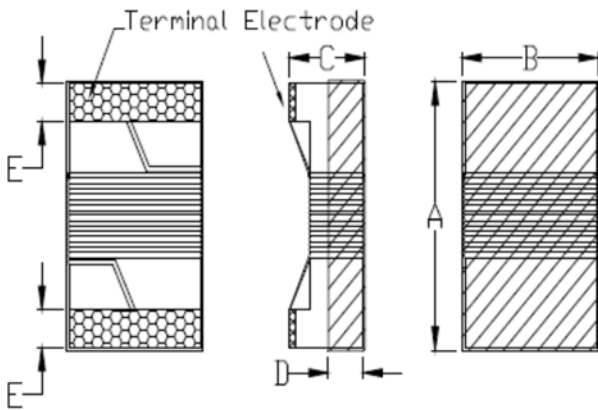


FEATRLRES

- 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
SWI0402	1.09±0.1	0.68±0.1	0.56±0.1	0.2±0.1	0.23±0.1

ELECTRICAL CHARACTERISTICS

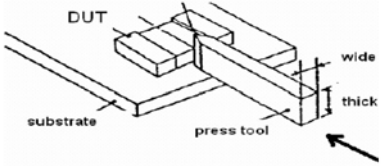
Part Number	Inductance (nH)	Tolerance	Q min.	Test Frequency (Hz)	Rated Current (mA) max..	DCR (Ω) max.	SRF (GHz) min.
SWI0402F-1N0JPR	1.0±5%	S.J	16	0.1V/250M	1360	0.045	12.7
SWI0402F-1N9JPR	1.9±5%	S.J	16	0.1V/250M	1040	0.070	11.30
SWI0402F-2N0JPR	2.0±5%	S.J	16	0.1V/250M	1040	0.070	11.10
SWI0402F-2N2JPR	2.2±5%	S.J	19	0.1V/250M	960	0.070	10.80
SWI0402F-2N4JPR	2.4±5%	S.J	15	0.1V/250M	790	0.068	10.50
SWI0402F-2N7JPR	2.7±5%	S.J	16	0.1V/250M	640	0.120	10.40
SWI0402F-3N3JPR	3.3±5%	S.J	19	0.1V/250M	840	0.066	7.00
SWI0402F-3N6JPR	3.6±5%	S.J	19	0.1V/250M	840	0.066	6.80
SWI0402F-3N9JPR	3.9±5%	S.J	19	0.1V/250M	840	0.066	6.00
SWI0402F-4N3JPR	4.3±5%	S.J	18	0.1V/250M	700	0.091	6.00
SWI0402F-4N7JPR	4.7±5%	S.J	15	0.1V/250M	640	0.130	4.77
SWI0402F-5N1JPR	5.1±5%	S.J	20	0.1V/250M	800	0.083	4.80
SWI0402F-5N6JPR	5.6±5%	S.J	20	0.1V/250M	760	0.083	4.80
SWI0402F-6N2JPR	6.2±5%	J.K	20	0.1V/250M	760	0.083	4.80
SWI0402F-6N8JPR	6.8±5%	J.K	20	0.1V/250M	680	0.083	4.80
SWI0402F-7N5JPR	7.5±5%	J.K	22	0.1V/250M	680	0.100	4.80

SWI0402F-8N2JPR	8.2±5%	J.K	22	0.1V/250M	680	0.100	4.40
SWI0402F-8N7JPR	8.7±5%	J.K	18	0.1V/250M	480	0.200	4.10
SWI0402F-9N0JPR	9.0±5%	J.K	22	0.1V/250M	680	0.100	4.16
SWI0402F-9N1JPR	9.1±5%	J.K	22	0.1V/250M	680	0.100	4.16
SWI0402F-9N5JPR	9.5±5%	J.K	18	0.1V/250M	480	0.200	4.00
SWI0402F-10NJPR	10±5%	J.K	21	0.1V/250M	480	0.200	3.90
SWI0402F-11NJPR	11±5%	J.K	24	0.1V/250M	640	0.120	3.68
SWI0402F-12NJPR	12±5%	J.K	24	0.1V/250M	640	0.120	3.60
SWI0402F-13NJPR	13±5%	J.K	24	0.1V/250M	440	0.210	3.45
SWI0402F-15NJPR	15±5%	J.K	24	0.1V/250M	560	0.170	3.28
SWI0402F-16NJPR	16±5%	J.K	24	0.1V/250M	560	0.220	3.10
SWI0402F-18NJPR	18±5%	J.K	25	0.1V/250M	420	0.230	3.10
SWI0402F-19NJPR	19±5%	J.K	24	0.1V/250M	480	0.200	3.04
SWI0402F-20NJPR	20±5%	J.K	25	0.1V/250M	420	0.25	3.00
SWI0402F-22NJPR	22±5%	J.K	25	0.1V/250M	400	0.30	2.80
SWI0402F-23NJPR	23±5%	J.K	22	0.1V/250M	400	0.30	2.72
SWI0402F-24NJPR	24±5%	J.K	25	0.1V/250M	400	0.30	2.70
SWI0402F-27NJPR	27±5%	J.K	24	0.1V/250M	400	0.30	2.48
SWI0402F-30NJPR	30±5%	J.K	25	0.1V/250M	400	0.35	2.35
SWI0402F-33NJPR	33±5%	J.K	24	0.1V/250M	400	0.40	2.35
SWI0402F-36NJPR	36±5%	J.K	24	0.1V/250M	320	0.44	2.32
SWI0402F-39NJPR	39±5%	J.K	25	0.1V/250M	200	0.55	2.10
SWI0402F-40NJPR	40±5%	J.K	24	0.1V/250M	320	0.44	2.24
SWI0402F-43NJPR	43±5%	J.K	25	0.1V/250M	100	0.81	2.03
SWI0402F-47NJPR	47±5%	J.K	20	0.1V/250M	150	0.83	2.10
SWI0402F-51NJPR	51±5%	J.K	25	0.1V/250M	100	0.82	1.75
SWI0402F-56NJPR	56±5%	J.K	22	0.1V/250M	100	0.97	1.76
SWI0402F-68NJPR	68±5%	J.K	22	0.1V/250M	100	1.12	1.62
SWI0402F-82NJPR	82±5%	J.K	20	0.1V/250M	50	1.55	1.26
SWI0402F-R10JPR	100±5%	J.K	20	0.1V/250M	30	2.00	1.16

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

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: ≥ 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°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 407"> <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.