

SMD POWER COIL-JRPI 1005M SERIES

Reliability and Test Condition

Item	Performance	Test Condition			
Electrical Performance	: Test				
Inductance	Refer to standard electrical characteristics	HP4284A,CH11025,CH3302,CH1320,CH1320S LCR Meter			
DCR	list	CH16502,Agilent33420A Micro-Ohm Meter			
Saturation Current (Isat)	Approximately △L30%.	Saturation DC Current (Isat) will cause L0 to drop △L(%)			
Heat Rated Current (Irms)	Approximately △T40°C	Heat Rated Current (Irms) will cause the coil temperature rise △T(°C) without core loss. 1.Applied the allowed DC current 2.Temperature measured by digital surface thermometer			
Operating Temperature	-40°C~+125°C (Including self - temperature	rise)			
Storage Temperature	110~+40 $^{\circ}$,50~60% RH (Product without ta 240~+125 $^{\circ}$ (on board)	aping)			
Reliability Test					
Life Test		Preconditioning: Run through IR reflow for 2 times. (IPC/JEDEC J-STD-020D Classification Reflow Profiles) Temperature: 125±2°C (Inductor) Applied current: rated current Duration: 1000±12hrs Measured at room temperature after placing for 24±2 hrs			
Load Humidity		Preconditioning: Run through IR reflow for 2 times. (IPC/JEDEC J-STD-020D Classification Reflow Profiles) Humidity: 85±2% R.H Temperature: 85℃±2℃ Duration: 1000hrs Min. with 100% rated current Measured at room temperature after placing for 24±2 hrs			
Moisture Resistance	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	Preconditioning: Run through IR reflow for 2 times. (IPC/JEDEC J-STD-020D Classification Reflow Profiles) 1. Baked at50°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-020D Classification 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)			

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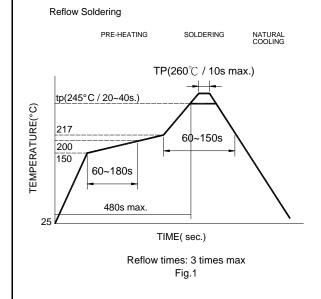
Reliability and Test Condition

Performance	Test Condition					
			Peak value (g's)	Normal duration (D)	Wave	Velocity change
Appearance: No damage. Impedance: within±15% of initial value	-	_	50	11	Half-sine	(Vi)ft/sec 11.3 11.3
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	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					
More than 95% of the terminal electrode should be covered with solder	duration of 10 sec. 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					
	Те	emperature (°C)	e Time (s)	Temporal ramp/im and eme	erature nmersion ersion rate	Number of heat cycles
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	Preconditioning:Run through IR reflow for 2 times (IPC/JEDEC J-STD-020D Classification 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.					
	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 More than 95% of the terminal electrode should be covered with solder 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	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 More than 95% of the terminal electrode should be covered with solder More than 95% of the terminal electrode should be covered with solder Preh Sold Tem Flux Dip to Deption to the should be covered with solder Appearance: No damage. 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Impedance: within±15% of initial value Inductance: within±15% of initial value Q: Shall not exceed the specification value Shall not exceed the specification value Shall be mounted on a Following dimensions: inch(2012mm):40x100x: <0805 inch(2012mm):40x100x: <0805 inch(2012mm):0. duration of 10 sec. More than 95% of the terminal electrode should be covered with solder More than 95% of the terminal electrode should be covered with solder Preheat: 150°C, 60sec Solder: Sn96.5% Ag3% Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±5°C Flux for lead free: Rosin Dip time: 4±1sec Depth: completely cover Temperature: 245±	Appearance : No damage. 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Impedance : within±15% of initial value Inductance : within±15% of initial value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of initial value and shall not exceed the specification value RDC : within ±15% of

Note : When there are questions concerning measurement result measurement shall be made after 48 ± 2 hours Of recovery under the standard condition.

Reliability and Test Condition

Item	Performance	Test Condition			
Soldering and Mou	nting				
Soldering	Mildly activated rosin fluxes are preferred. JANTEK terminations are suitable for all wave and re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.				
Lead Free Solder re-flow:	Recommended temperature profiles for re-flow soldering in Figure 1.				
Soldering Iron:	Products attachment with a soldering iron is discouraged due to the inherent process control limitations. If a soldering iron must be employed the following precautions are recommended. for Iron Soldering in Figure 2. Note: • Preheat circuit and products to 150°C • Never contact the ceramic with the iron tip • Use a 20 watt soldering iron with tip diameter of 1.0mm • 355°C tip temperature (max) • 1.0mm tip diameter (max) • Limit soldering time to 4~5 sec				



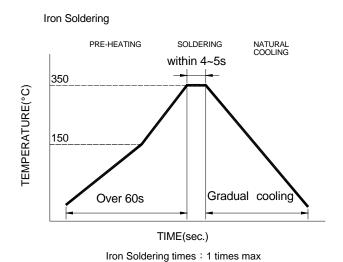


Fig.2