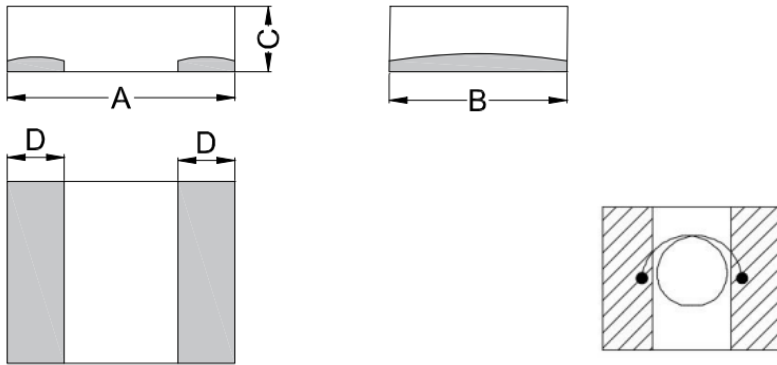


Features

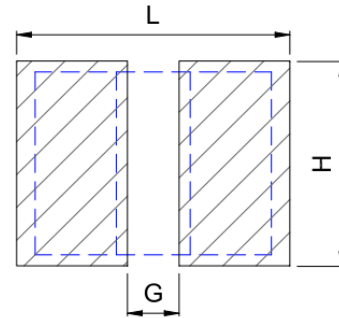
- Low loss realized with low DCR.
- High performance realized by metal dust core.
- Ultra low buzz noise, due to composite construction.
- 100% Lead(Pb)-Free and RoHS compliant.

CONFIGLRATIONS & DIMENSIONS (unit in mm)



Series	A	B	C	D
HIM303020	3.0±0.2	3.0±0.2	1.8±0.3	1.0±0.2

Recommend PC Board Pattern



L	G	H
3.0	0.9	3.2

Note:

- 1.PCB layout is referred to standard IPC-7351B
- 2.The above PCB layout reference only.
- 3.Recommend solder paste thickness at 0.10mm and above.

ELECTRICAL CHARACTERISTICS

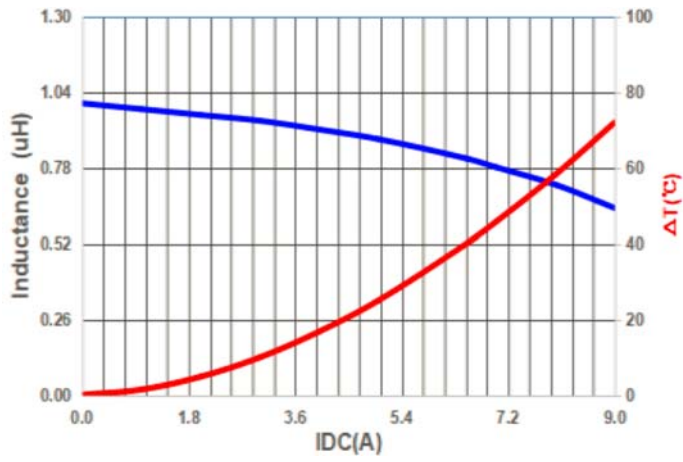
Part Number	Inductance L0 A(uH)±20%	Irms(A)		Isat (A)		DCR (mΩ)	
		Typ	Max	Typ	Max	Typ	Max
HIM303020-1R0M	1.00	6.5	6.0	8.0	7.3	14	20
HIM303020-1R5M	1.50	6.3	5.8	7.0	6.5	19	25
HIM303020-2R2M	2.20	4.7	4.3	6.0	5.5	37	45

Note:

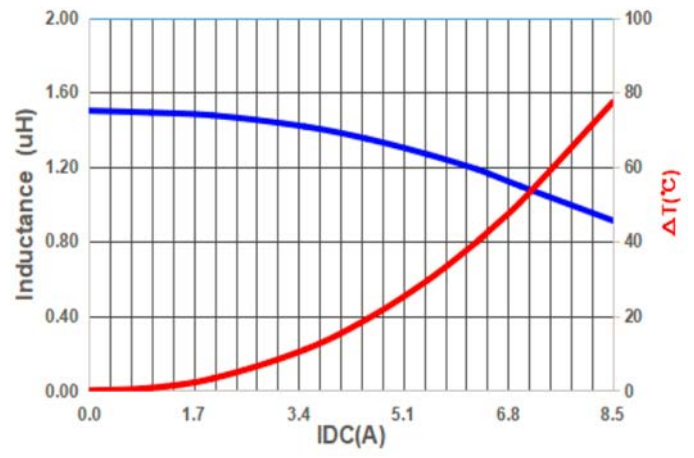
- 1.Test frequency : L_s : 1MHz /1.0V.
- 2.All test data referenced to 25°C ambient.
- 3.Testing Instrument(or equ) : Agilent 4284A,E4991A,4339B,KEYSIGHT E4980A/AL,chroma3302,3250,16502.
- 4.Heat Rated Current (Irms) will cause the coil temperature rise approximately ΔT of 40°C
- 5.Saturation Current (Isat) will cause L0 to drop approximately 30%.
- 6.The part temperature (ambient + temp rise) should not exceed 150°C under worst case operating conditions.Circuit design,component,PCB trace size and thickness,airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
- 7.Irms Testing : Temperature rise is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components.Therefore temperature rise should be verified in application conditions.
- 8.Rated DC current: The lower value of Irms and Isat.

Typical Performance Curves

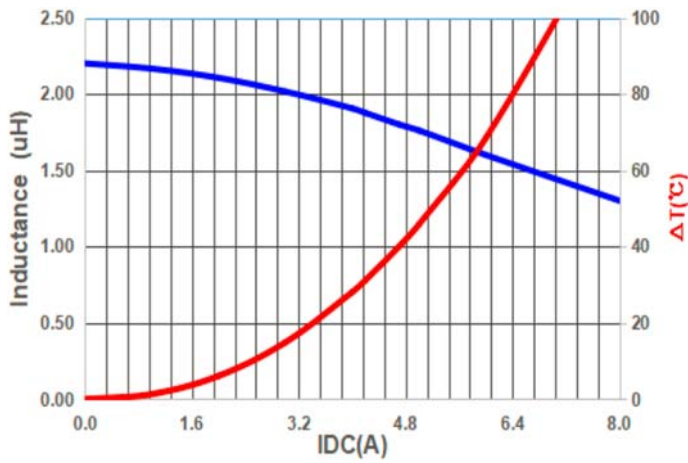
HIM3020-1R0M



HIM3020-1R5M

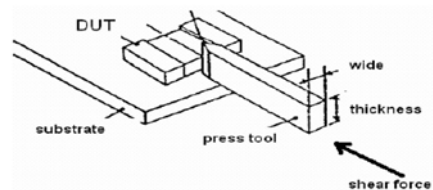


HIM3020-2R2M



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△L30%	Saturation DC Current (Isat) will cause L0 to drop △L(%)															
Heat Rated Current (Irms)	Approximately △T40℃	Heat Rated Current (Irms) will cause the coil temperature rise △T(℃). 1.Applied the allowed DC current 2.Temperature measured by digital surface thermometer															
Reliability Test																	
Life Test	Appearance : No damage. 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-020DClassification Reflow Profiles) Temperature : 125±2℃(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-020DClassification 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		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles 1. Baked at50℃ for 25hrs, measured at room temperature after placing for 4 hrs. 2. Raise temperature to 65±2℃ 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25℃ in 2.5hrs. 3. Raise temperature to 65±2℃ 90-100%RH in 2.5hrs, and keep 3 hours, cool down to 25℃ in 2.5hrs, keep at 25℃ for 2 hrs then keep at -10℃ for 3 hrs 4. Keep at 25℃ 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℃ 30±5min Step2 : 25±2℃ ≤0.5min Step3 : 125±2℃ 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><tr><td>Type</td><td>Peak value (g's)</td><td>Normal duration (D) (ms)</td><td>Wave form</td><td>Velocity change (Vi)ft/sec</td></tr><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></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
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													
Solder ability	More than 95% of the terminal electrode should be covered with solder °	Preheat: 150℃, 60sec. ° Solder: Sn96.5% Ag3% Cu0.5% Temperature: 245±5℃ ° Flux for lead free: Rosin. 9.5% ° Dip time: 4±1sec ° Depth: completely cover the termination															

Resistance to Soldering Heat		<p>Depth: completely cover the termination</p> <table><tr><th>Temperature(°C)</th><th>Time(s)</th><th>Temperature ramp/immersion and emersion rate</th><th>Number of heat cycles</th></tr><tr><td>260 ±5 (solder temp)</td><td>10 ±1</td><td>25mm/s ±6 mm/s</td><td>1</td></tr></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	<p>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</p>	<p>Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles</p> <p>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.</p> 								

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