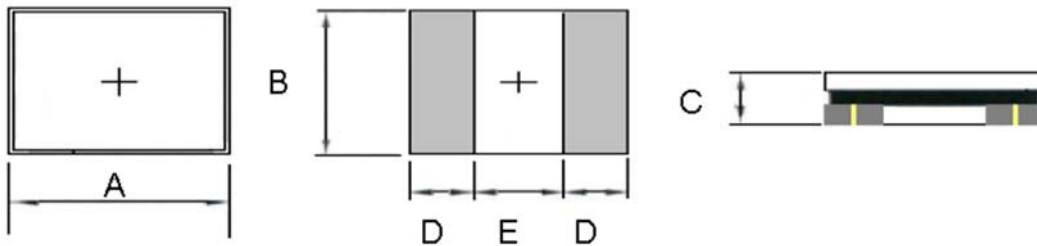


FEATRLRES

- This specification applies Low Profile Power Inductors.
- 100% Lead(Pb) & Halogen-Free and RoHS compliant.

CONFIGLRATIONS & DIMENSIONS (unit in mm)



Type	A	B	C	D	E
HNR252008MF	2.50-0.1/+0.3	2.0-0.05/+0.35	0.80 max.	0.85 ref.	0.80 ref.

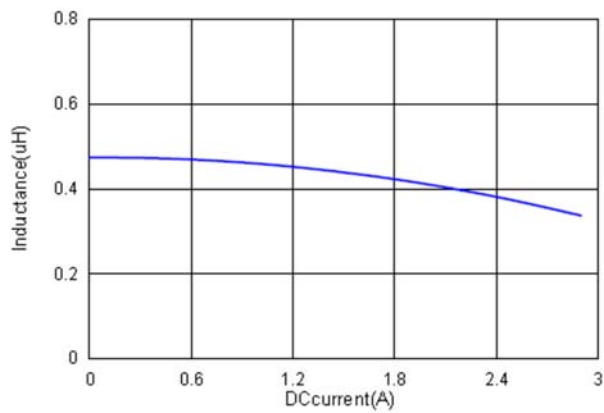
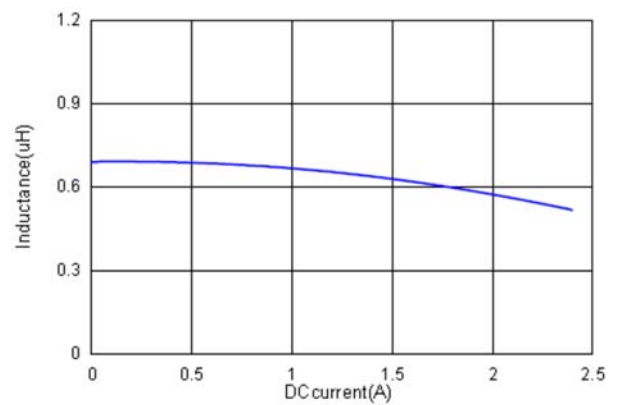
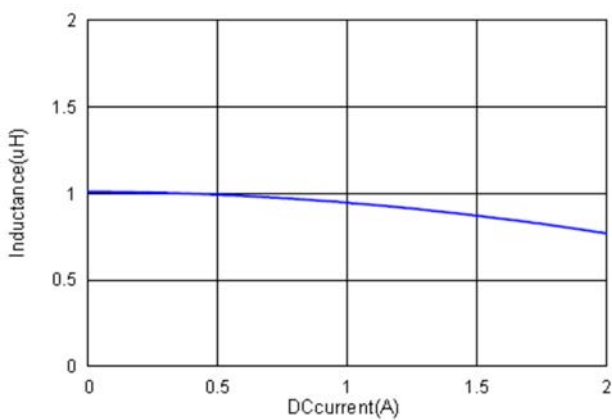
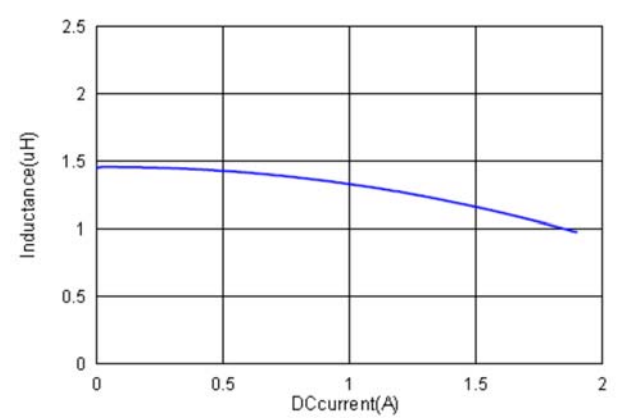
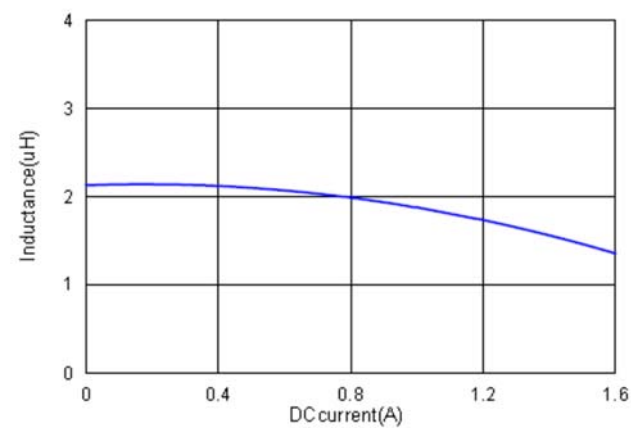
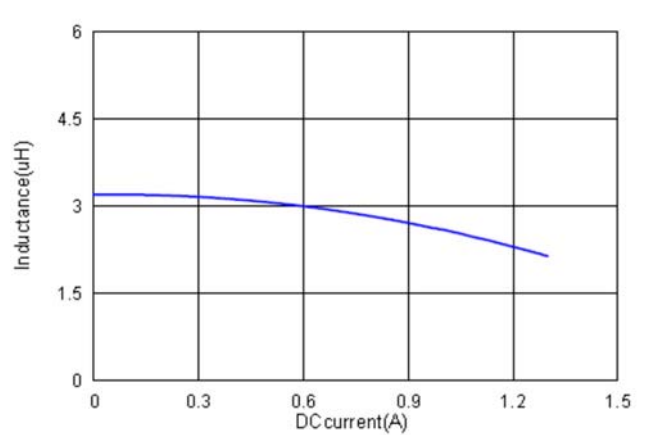
ELECTRICAL CHARACTERISTICS

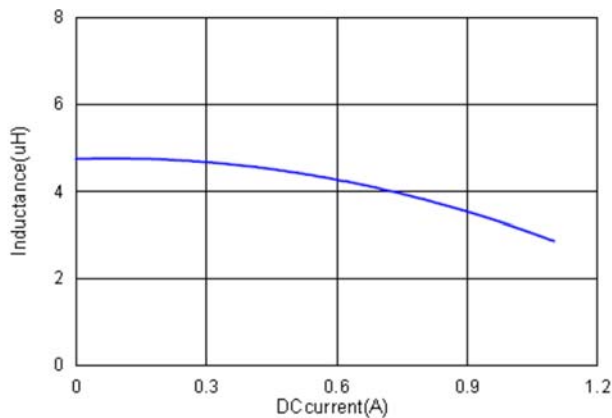
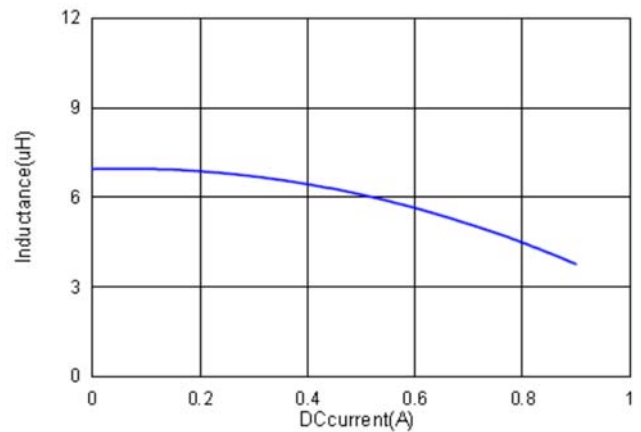
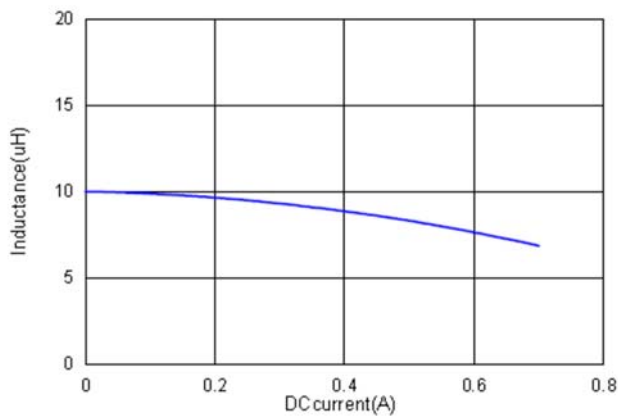
Part Number	Inductance (uH)±20%	Test Frequency	I rms (A)		I sat (A)		DCR (Ω)	
			Typ	Max	Typ	Max	Typ	Max
HNR252008MF-R47M	0.47	0.1V/1M	1.45	1.25	2.50	2.20	0.080	0.096
HNR252008MF-R68M	0.68	0.1V/1M	1.35	1.15	2.05	1.80	0.100	0.120
HNR252008MF-1R0M	1.00	0.1V/1M	1.20	1.05	1.75	1.50	0.120	0.145
HNR252008MF-1R5M	1.50	0.1V/1M	1.05	0.95	1.65	1.45	0.170	0.200
HNR252008MF-2R2M	2.20	0.1V/1M	0.95	0.85	1.40	1.20	0.210	0.250
HNR252008MF-3R3M	3.30	0.1V/1M	0.85	0.75	1.10	0.95	0.300	0.360
HNR252008MF-4R7M	4.70	0.1V/1M	0.70	0.63	0.90	0.80	0.400	0.480
HNR252008MF-6R8M	6.80	0.1V/1M	0.55	0.50	0.75	0.65	0.670	0.800
HNR252008MF-100M	10.0	0.1V/1M	0.45	0.41	0.55	0.50	0.930	1.110

Isat : Based on inductance change ($\Delta L/L_0$: $\leq -30\%$) @ ambient temp. 25℃

Irms : Based on temperature rise (ΔT : 40℃ typ.)

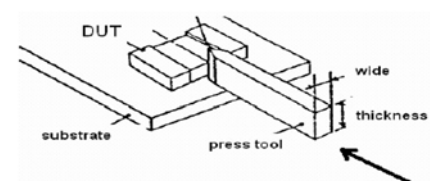
TYPICALELECTRICALCHARACTERISTICS:

HNR252008MF-R47

HNR252008MF-R68

HNR252008MF-1R0

HNR252008MF-1R5

HNR252008MF-2R2

HNR252008MF-3R3


HNR252008MF-4R7

HNR252008MF-6R8

HNR252008MF-100


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.	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	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 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		Depth: completely cover the termination <table><tr><td>Temperature(℃C)</td><td>Time(s)</td><td>Temperature ramp/immersion and emersion rate</td><td>Number of heat cycles</td></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	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.