

FEATRLRES

- Carbonyl Powder.
- Compact design.
- High current , low DCR , high efficiency.
- Very low acoustic noise and very low leakage flux noise.
- High reliability.
- 100% Lead(Pb)-Free and RoHS compliant.

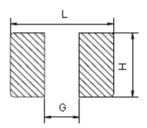
APPLICATIONS

- Note PC power system , incl. IMVP-6
- DC/DC converter .

CONFIGRLRATIONS & DIMENSIONS (unit in mm)

A 1.0

Recommended Land pattern



Туре	A	В	С	D	E	L	G	Н
HMPL0315H	3.5±0.2	3.2±0.2	1.3±0.2	0.7 ± 0.2	1.2±0.2	4.1	1.9	1.45

Note:

- 1. The above PCB layout reference only.
- 2. Recommend solder paste thickness at 0.12mm and above.



ELECTRICAL CHARACTERISTICS

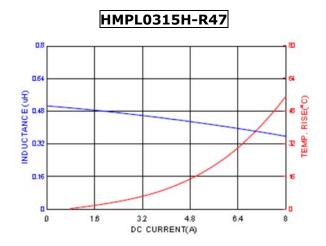
Part Number	Inductance L0 (uH)±20% @ 0 A	I rms (A) Typ.	I sat (A) Typ.	DCR(mΩ) Typ.@25℃	DCR(mΩ) Max.@25℃
HMPL0315H-R47MG	0.47	5.5	8.0	23.3	28
HMPL0315H-1R0MG	1.00	3.6	5.8	41	50
HMPL0315H-1R5MG	1.50	3.4	4.0	64	77
HMPL0315H-2R2MG	2.20	3.2	3.8	82	98
HMPL0315H-3R3MG	3.30	2.5	3.2	170	205
HMPL0315H-4R7MG	4.70	1.9	2.8	220	264
HMPL0315H-5R6MG	5.60	1.7	2.3	265	318
HMPL0315H-6R8MG	6.80	1.5	2.0	290	348
HMPL0315H-8R2MG	8.20	1.3	1.8	390	468
HMPL0315H-100MG	10.0	1.2	1.6	435	522

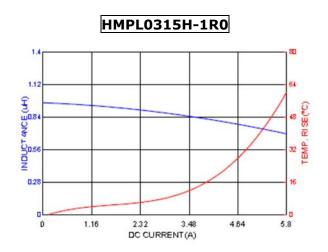
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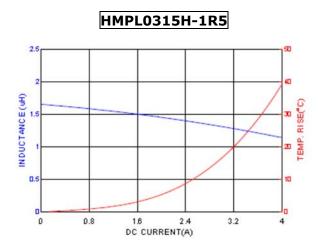
- 1.Test frequency : Ls : 100KHz /1.0V. 2.All test data referenced to 25°C ambient.
- 3.Testing Instrument(or equ): L: HP4284A,CH11025,CH3302,CH1320,CH1320S LCR METER / Rdc:CH16502,Agilent33420A MICRO OHMMETER.
- 4.Heat Rated Current (Irms) will cause the coil temperature rise approximately $\,\Delta T$ of 40 $\!^{\circ}\!\!C$
- 5. Saturation Current (Isat) will cause L0 to drop approximately 20%.
- 6. The part temperature (ambient + temp rise) should not exceed 125° 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. Special inquiries besides the above common used types can be met on your requirement.

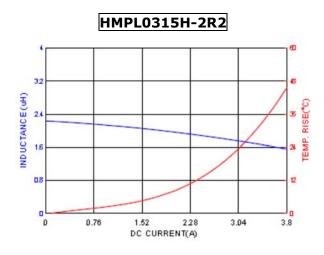


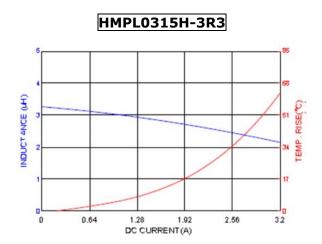
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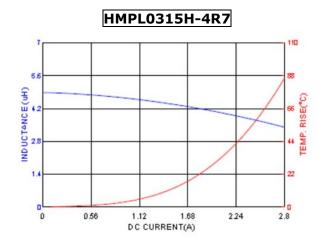




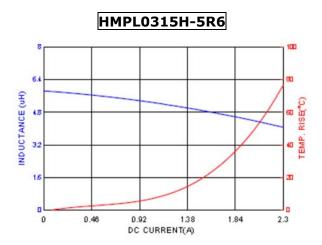


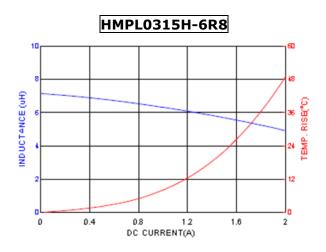


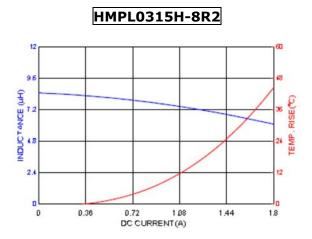


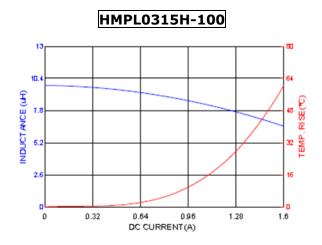












Reliability and Test Condition

Item	Performance	Test Condition		
Operating temperature	-40~+125℃ (Including self - temperature rise)			
Storage temperature	110~+40°C,50~60%RH (Product with taping) 240~+125°C (on board)			
Electrical Performance Test				
Inductance	Refer to standard electrical characteristics list.	HP4284A,CH11025,CH3302,CH1320,CH1320S LCR Meter.		
DCR	Refer to standard electrical characteristics 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 $\triangle T(C)$. 1.Applied the allowed DC current 2.Temperature measured by digital surface thermometer		
Reliability Test				
		Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-020DClassification Reflow Profiles)		
		Temperature : 125±2°C (Inductor)		
Life Test		Applied current : rated current		
		Duration: 1000±12hrs		
	Appearance : No damage.	Measured at room temperature after placing for 24±2 hrs		



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Duration : 1000ths Ain, with 100% racked current Measurement on 100% racked current Measurement on 100% racked current Measurement on 100% racked current Proceedings of the Procedings of the Proce			Temperature : 85°C ±2°C			
Persontiance (In the content of the		lexceed the specification value	Duration: 1000hrs Min. with 100% rated current			
OCODO-Selfacilitation referoiv Position			Measured at room temperature after placing for 24±2 hrs			
1. Blacked aSIOC to OFFICE recogniture for 65/20 QB 0009/Refs in 2.5hs, and keep for the form of the						
Motiture Resistance 2. Raise Interperature to 65:22 (0.9-100/88H in 2.5 hrs, and leep hours, condition to 65:22 (0.9-100/88H			Profiles 1. Baked at50℃ for 25hrs, measured at room temperature after placing			
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4. Keep at 25°C 8-109/RRH for 15m and vibrate at the frequency of 10 to 55°C bit 20 10 Hz, manual state at the frequency of 10 to 55°C bit 20 10 Hz, manual state at the frequency of 10 to 55°C bit 20 10 Hz, manual state at the frequency of 10 to 55°C bit 20 10 Hz, manual state at the frequency of 10 to 55°C bit 20 10 Hz, manual state at the frequency of 10 to 50°C bit 20 Hz, manual state at the frequency of 10 to 50°C bit 20 Hz, manual state at the frequency of 2000 Condition for 1 cycle and 50°C bit 30°C bit						
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Calculation			room temperature after placing for 1~2 hrs.			
Thermal shock Reflow Profiles Condition for 1 cycle Shept 1: 40:272 30:56mm Shep2 : 25:522 0.05mm Shep2 : 25:			Preconditioning: Run through IR reflow for 2 times.(IPC/JEDEC J-STD-			
Thermal shock Sept. 1-49.22 _ 30.5min Stept. 2-52.2 _ 30.5min Stept. 2-52.2 _ 30.5min Stept. 2-52.2 _ 30.5min Stept. 3-52.2 _ 30.5min Stept. 2-52.2 _ 30.5min Stept. 2-52.2 _ 30.5min Stept. 2-52.2 _ 30.5min Stept. 2-52.2 _ 30.5min Stept. 3-52.2 _ 30.5min S						
Sep2 : 2562°C ± 0.5min Skp2 : 125s2°C 30.5min	Thermal					
Step3 : 125-2°C 304-5min Number of cycles : 300 Measured and and non-temperature after placing for 2412 has Oxiolitation Prequency: 10 - 28 - 1014; for 20 minutes Equipment : 104-104 non-temperature after placing for 2412 has Oxiolitation Prequency: 10 - 28 - 1014; for 20 minutes Equipment : 104-104 non-temperature after placing for 2412 has Oxiolitation Prequency: 10 - 28 - 1014; for 20 minutes Equipment : 104-104 non-temperature after placing for 2412 has Oxiolitation Prequency: 10 - 28 - 1014; for 20 minutes Equipment : 104-104 non-temperature after placing for 2412 has Oxiolitations in the second of 3 orientalions). Bending Appearance : No damage. Impediance : within: 15% of initial value Inductance : within: 15% of initial valu	shock		Step1: -40±2°C 30±5min			
Number of cycles : 500 Measured at room responsative after placing for 2412 hrs			Step2 : 25±2°C ≤0.5min			
Measured at room temperature after placing for 24±2 hrs			Step3 : 125±2°C 30±5min			
Vibration Seculation Frequency 10 - 2K - 10Hz for 20 minutes Equipment 1 Wibration Cheeker Total Amplitudes 1.52mm+10%			· ·			
Shock Shock Appearance : No damage. Impedance : within 15% of initial value Resistance to Soldering Heat			· · · · · · · · · · · · · · · · · · ·			
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Testing Time : 12 hours/20 minutes, 12 cycles each of 3 orientations).	Vibration		• •			
Shall be mounted on a FR4 substrate of the component of t						
Bending Appearance : No damage. Impedance : within:15% of initial value Inductance : within:15% of initial value Q: Shall not exceed the specification value. RDC : within :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, Prehaat: 150°C, 60sec. Solder: Sn86.5% Ag3% Cu0.5% Temperature: 24.555°C Flux for lead free: Rosin: 9.5% Diptime 41sec Depth: completely cover the termination Depth: completely cover the termination Depth: completely cover the termination Temperature('C) Time(s) Temperature Temperature						
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exceed the specification value e	- Cuchgai		1001			
substrate			wide wide			
substrate			1			
press tool			substrate			
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Note: When there are questions concerning measurement result: measurement shall be made after 48 ± 2 hours of recovery under the standard condition.