SMD Type Ultra High Current Power Inductors

SMPI 1004HW-SERIES-K01

1. Features

1. Lowest height in this package footprint.
2. Shielded construction.
3. Lowest DCR/µH, in this package size.
4. Handles high transient current spikes without saturation.
5. Ultra low buzz noise, due to composite construction.
6. Frequency up to 5MHz.
7. 100% Lead(Pb)-Free and RoHS compliant.

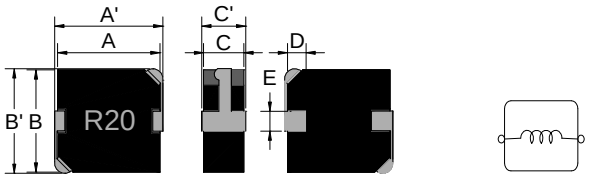
Halogen-free

Pb-free

2. Applications

1. PDA/Notebook/Desktop/VGA Card/Server applications.
2. High current POL converters.
3. Low profile, high current power supplies.
4. Battery powered devices.
5. DC/DC converters in distributed power systems.
6. DC/DC converter for Field Programmable Gate Array (FPGA).

3. Dimensions



Series	A(mm)	A'(mm)	B(mm)	B'(mm)	C(mm)	C'(mm)	D(mm)	E(mm)
SMPI 1004	10.2±0.5	11.8 max.	10.0±0.5	10.5 max.	4.0 max.	4.2 max.	2.2±0.5	2.9±0.5

4. Part Numbering

SMPI	1004	HW	-	R20	M	-	K01
A	B	C		D	E		F

A: Series
B: Dimension — AxC
C: Type
D: Inductance — R20=0.20 uH
E: Inductance Tolerance — M=±20%
F: Control S/N

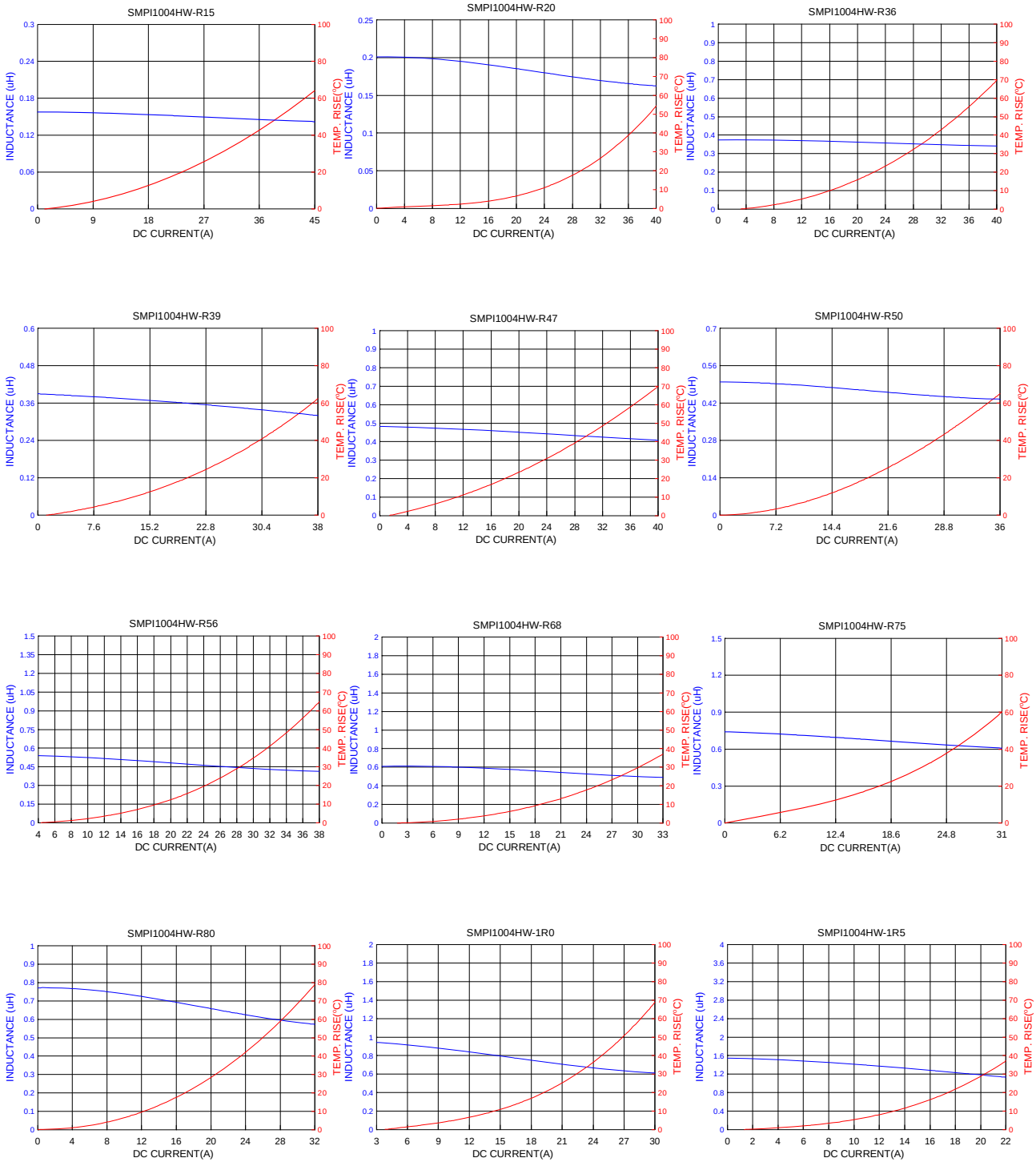
5. Specification

Part Number	Thickness C(mm) max.	Inductance L0 (uH)±20% @ 0 Adc	I rms (A) typ.	I sat (A) typ.	DCR (mΩ) max.
SMPI 1004HW-R15M-K01	4.0	0.15	34	45	1.3
SMPI 1004HW-R20M-K01	4.0	0.20	32	40	1.0
SMPI 1004HW-R36M-K01	4.0	0.36	28	40	1.4
SMPI 1004HW-R39M-K01	4.0	0.39	24	38	1.4
SMPI 1004HW-R47M-K01	4.0	0.47	26	38	1.6
SMPI 1004HW-R50M-K01	4.0	0.50	23	36	1.9
SMPI 1004HW-R56M-K01	4.0	0.56	25	36	1.9
SMPI 1004HW-R68M-K01	4.0	0.68	23	32	2.4
SMPI 1004HW-R75M-K01	4.0	0.75	22	31	2.5
SMPI 1004HW-R80M-K01	4.0	0.80	21	30	3.0
SMPI 1004HW-1R0M-K01	4.0	1.0	20	28	3.5
SMPI 1004HW-1R2M-K01	4.0	1.2	18	22	4.7
SMPI 1004HW-1R5M-K01	4.0	1.5	12	20	7.5
SMPI 1004HW-1R7M-K01	4.0	1.7	15	20	7.5
SMPI 1004HW-2R2M-K01	4.0	2.2	11.5	16.5	8.56
SMPI 1004HW-2R5M-K01	4.0	2.5	11.5	16.0	8.70
SMPI 1004HW-3R3M-K01	4.0	3.3	10.0	14.0	10.0
SMPI 1004HW-3R9M-K01	4.0	3.9	9.0	15.0	12.0
SMPI 1004HW-4R7M-K01	4.0	4.7	8.00	13.0	13.5
SMPI 1004HW-5R6M-K01	4.0	5.6	7.00	12.0	16.0
SMPI 1004HW-6R8M-K01	4.0	6.8	6.5	11	24.0
SMPI 1004HW-8R2M-K01	4.0	8.2	5.00	8.0	32.5
SMPI 1004HW-100M-K01	4.0	10	5.00	9.0	35
SMPI 1004HW-150M-K01	4.0	15	5.00	7.0	57
SMPI 1004HW-220M-K01	4.0	22	3.5	6.0	61.5
SMPI 1004HW-330M-K01	4.0	33	3.00	5.0	86.5
SMPI 1004HW-470M-K01	4.0	47	2.00	3.0	160

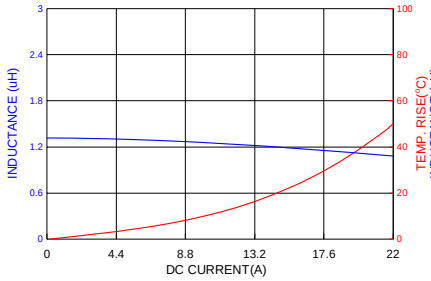
Note:

1. Test frequency :L0:100KHz / 1.0Vdc
2. All test data referenced to 20℃ ambient.
3. Testing Instrument : 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 △T40℃ without core loss.
5. Saturation Current (Isat) will cause L0 to drop approximately 20%
6. The part temperature (ambient + temp rise) should not exceed 125℃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.

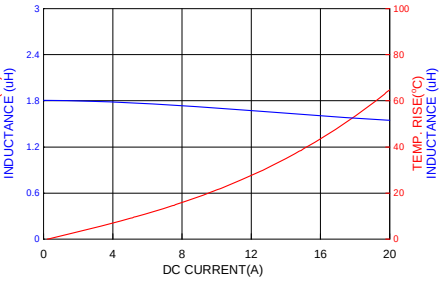
6. Typical Performance Curves



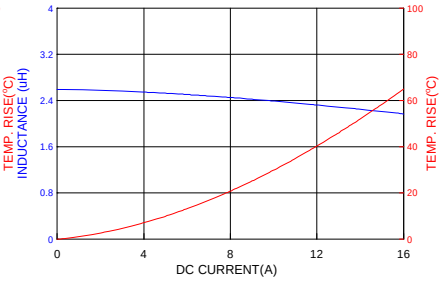
SMPI1004HW-1R2



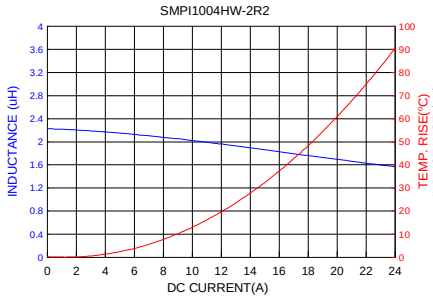
SMPI1004HW-1R7



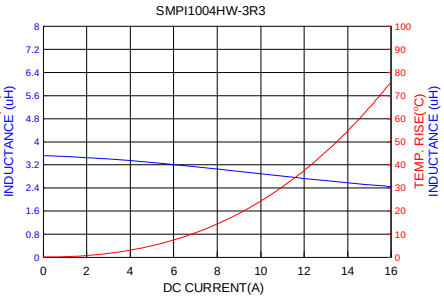
SMPI1004HW-2R5



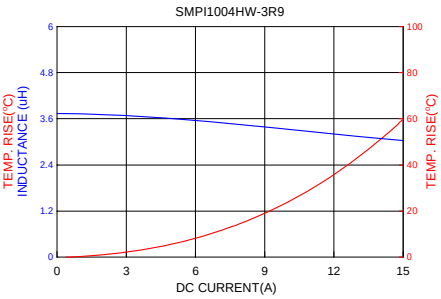
SMPI1004HW-2R2



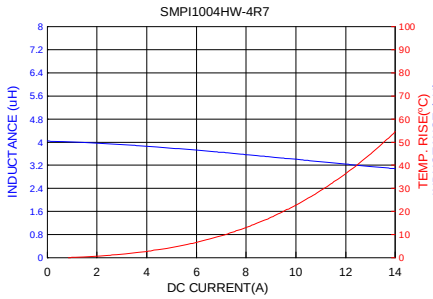
SMPI1004HW-3R3



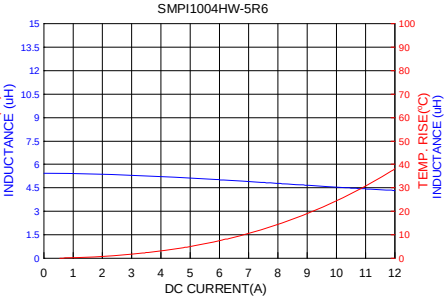
SMPI1004HW-3R9



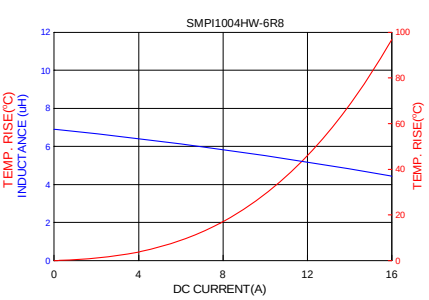
SMPI1004HW-4R7



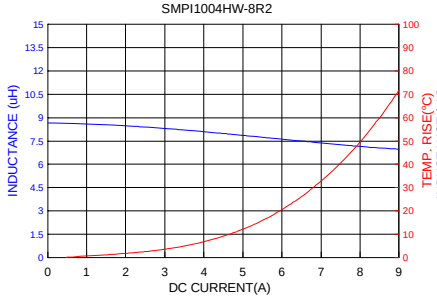
SMPI1004HW-5R6



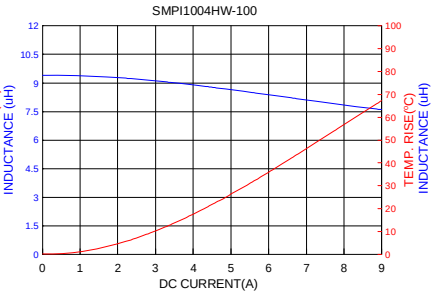
SMPI1004HW-6R8



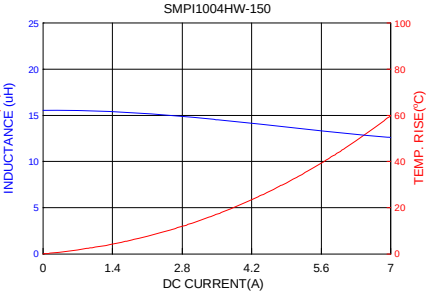
SMPI1004HW-8R2



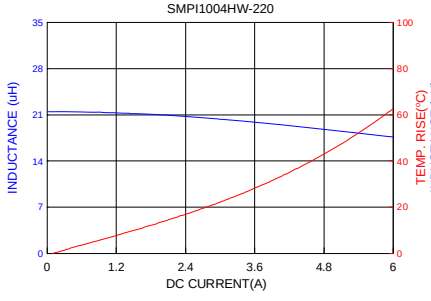
SMPI1004HW-100



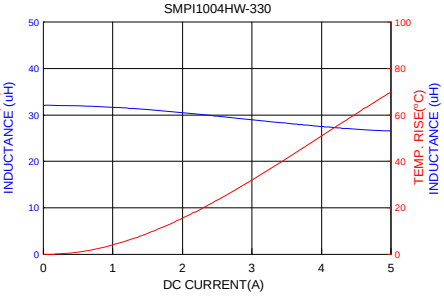
SMPI1004HW-150



SMPI1004HW-220



SMPI1004HW-330



SMPI1004HW-470