

SUNLEI TECHNOLOGY CORP.

SMD Power chokes- SMPI Series

SMPI series chokes For High Current Use

Features

1. Shielded construction.
2. High current rating up to DC 50Amp
3. High frequency range up to 5.0MHz
4. Ultra low buzz noise, due to composite construction.



Applications

Excellent for power line DC-DC conversion applications used in power switching, personal computers and other handheld electronic equipment.

Product Identification

SMPI 0603 HW- 1R2 M

SMPI: SERIES NAME

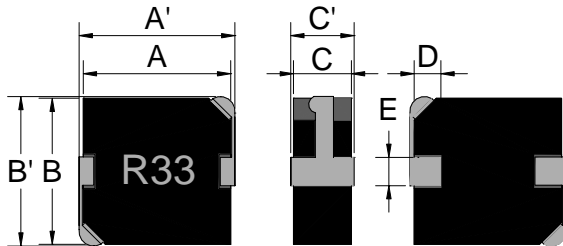
0603: DIMENSION SIZE CODE

HW: TYPE

1R2: INDUCTANCE CODE.

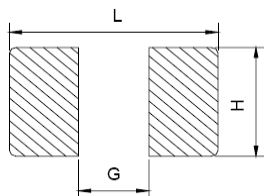
M: TOLERANCE, J=5% K=10% M=20%.

Dimensions (mm)



SERIES	A	A'	B	B'	C	C'	D	E
SMPI0602	6.86±0.5	7.8 max	6.47±0.5	7.0 max	1.8 max	2.0 max	1.6±0.5	2.1±0.5
SMPI0603	6.86±0.5	7.8 max	6.47±0.5	7.0 max	3.0max	3.2 max	1.6±0.5	2.1±0.5
SMPI0604	6.86±0.5	7.8 max	6.47±0.5	7.0 max	4.0 max	4.2 max	1.6±0.5	2.1±0.5
SMP1004	10.7±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
SMP1203	12.7±0.3	13.9max	12.7±0.3	13.5 max	3.5 max	3.7 max	2.5±0.5	3.0±0.5
SMP1205	12.7±0.3	13.9max	12.7±0.3	13.5 max	5.0 max	5.2 max	2.5±0.5	3.0±0.5

RECOMMENDER P.C.B LAYOUT



SERIES	L	H	G
SMPI0602	8.7	3.7	3.5
SMPI0603	8.7	3.7	3.5
SMPI0604	8.7	3.7	3.5
SMP1004	12.4	5.4	4.5
SMP1203	15.0	7.0	4.5
SMP1205	15.0	7.0	4.5

SMPI0602 Series

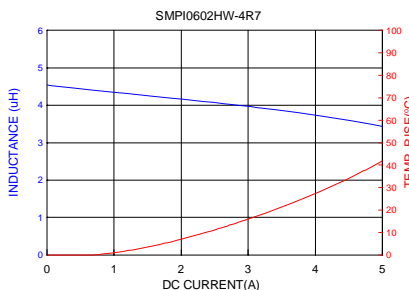
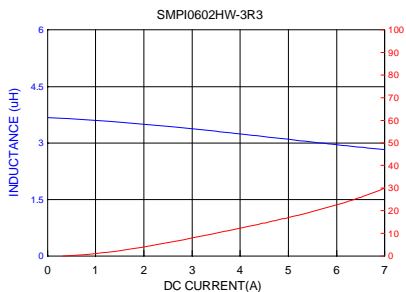
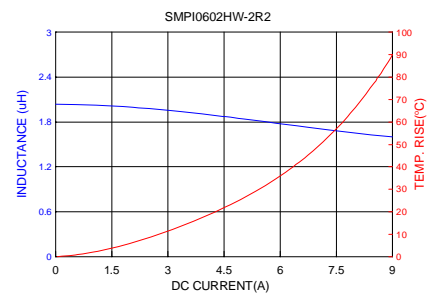
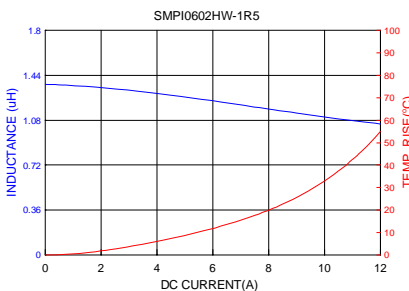
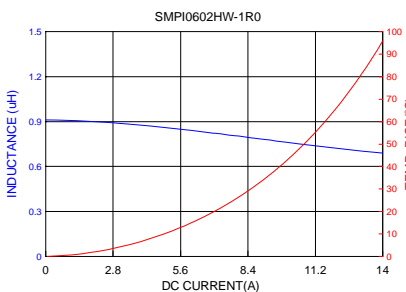
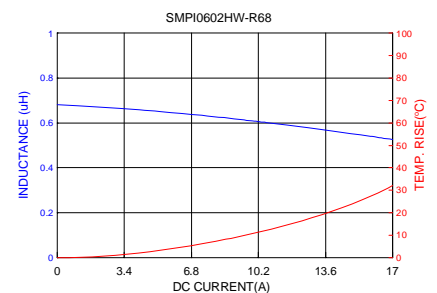
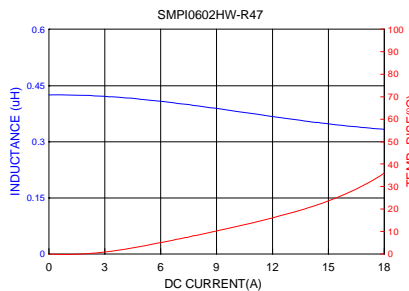
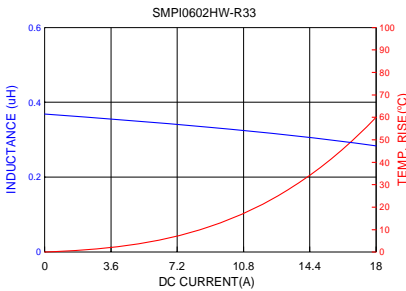
Electrical Characteristics

Part Number	Inductance L0 (uH) \pm 20% @ 0 Adc	I rms (A) typ.	I sat (A) typ.	DCR (m Ω) max.
SMPI0602HW-R33M-K01	0.33	12	18	7
SMPI0602HW-R47M-K01	0.47	11	18	9.3
SMPI0602HW-R68M-K01	0.68	9	17	13.9
SMPI0602HW-1R0M-K01	1	7	14	18
SMPI0602HW-1R5M-K01	1.5	4	12	34
SMPI0602HW-2R2M-K01	2.2	5	9	46
SMPI0602HW-3R3M-K01	3.3	3.25	7	60
SMPI0602HW-4R7M-K01	4.7	3	5	78

Note:

1. Test frequency : L0: 100KHz/1.0Vdc
2. All test data referenced to 20°C 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 $\Delta T=40^{\circ}\text{C}$ without core loss.
5. Saturation Current (Isat) will cause L0 to drop approximately 20% typical.
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.

Typical Performance Curves



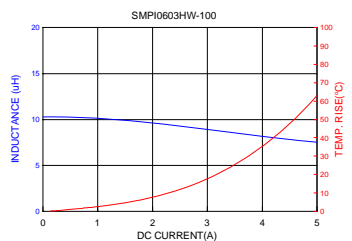
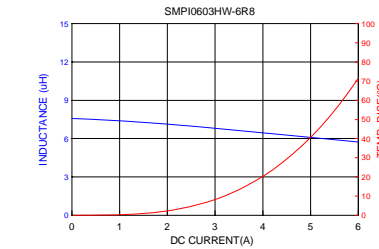
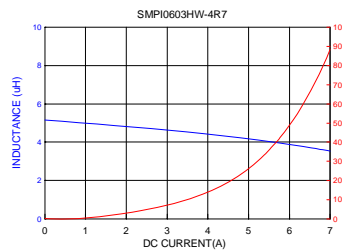
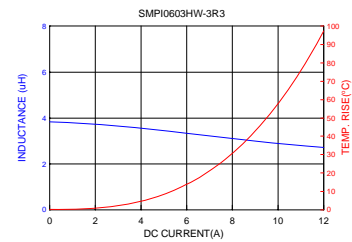
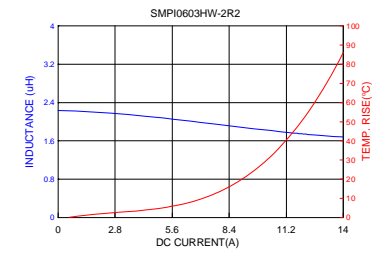
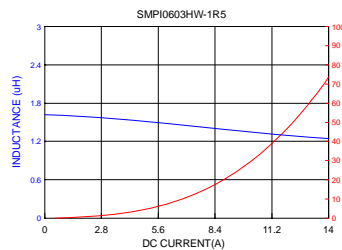
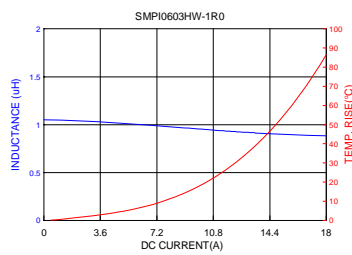
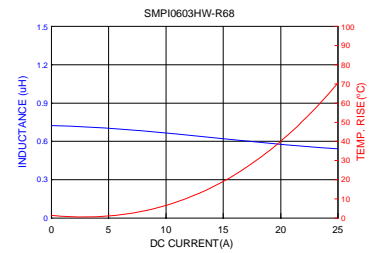
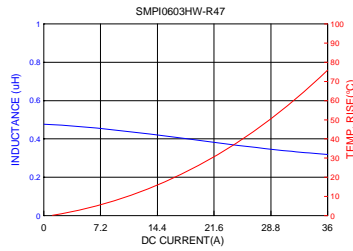
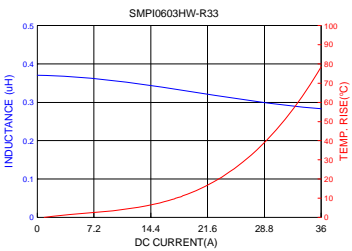
Electrical Characteristics

Part Number	Inductance L0 (uH)±20% @ 0 Adc	I rms (A) typ.	I sat (A) typ.	DCR (mΩ) max.
SMPI 0603HW-R33M-K01	0.33	20	30	3.9
SMPI 0603HW-R47M-K01	0.47	17.5	26	4.2
SMPI 0603HW-R68M-K01	0.68	15.5	23	5.5
SMPI 0603HW-1R0M-K01	1	11	16	10
SMPI 0603HW-1R5M-K01	1.5	9	14	15
SMPI 0603HW-2R2M-K01	2.2	8	12	20
SMPI 0603HW-3R3M-K01	3.3	6	10	30
SMPI 0603HW-4R7M-K01	4.7	5.5	6.5	40
SMPI 0603HW-6R8M-K01	6.8	4.5	6	60
SMPI 0603HW-100M-K01	10	3	4.5	105

Note:

1. Test frequency : L0: 100KHz/1.0Vdc
2. All test data referenced to 20°C ambient.
3. Testing Instrument : L : HP4284A, CH11025, CH3302, CH1320 , CH1320S LCR METER / Rdc: CH16502, Agilent33420A MICRO OHMMETER.
4. Heat Rated Current (I_{rms}) will cause the coil temperature rise approximately $\Delta T=40^{\circ}\text{C}$ without core loss.
5. Saturation Current (I_{sat}) will cause L0 to drop approximately 20% typical.
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.

Typical Performance Curves



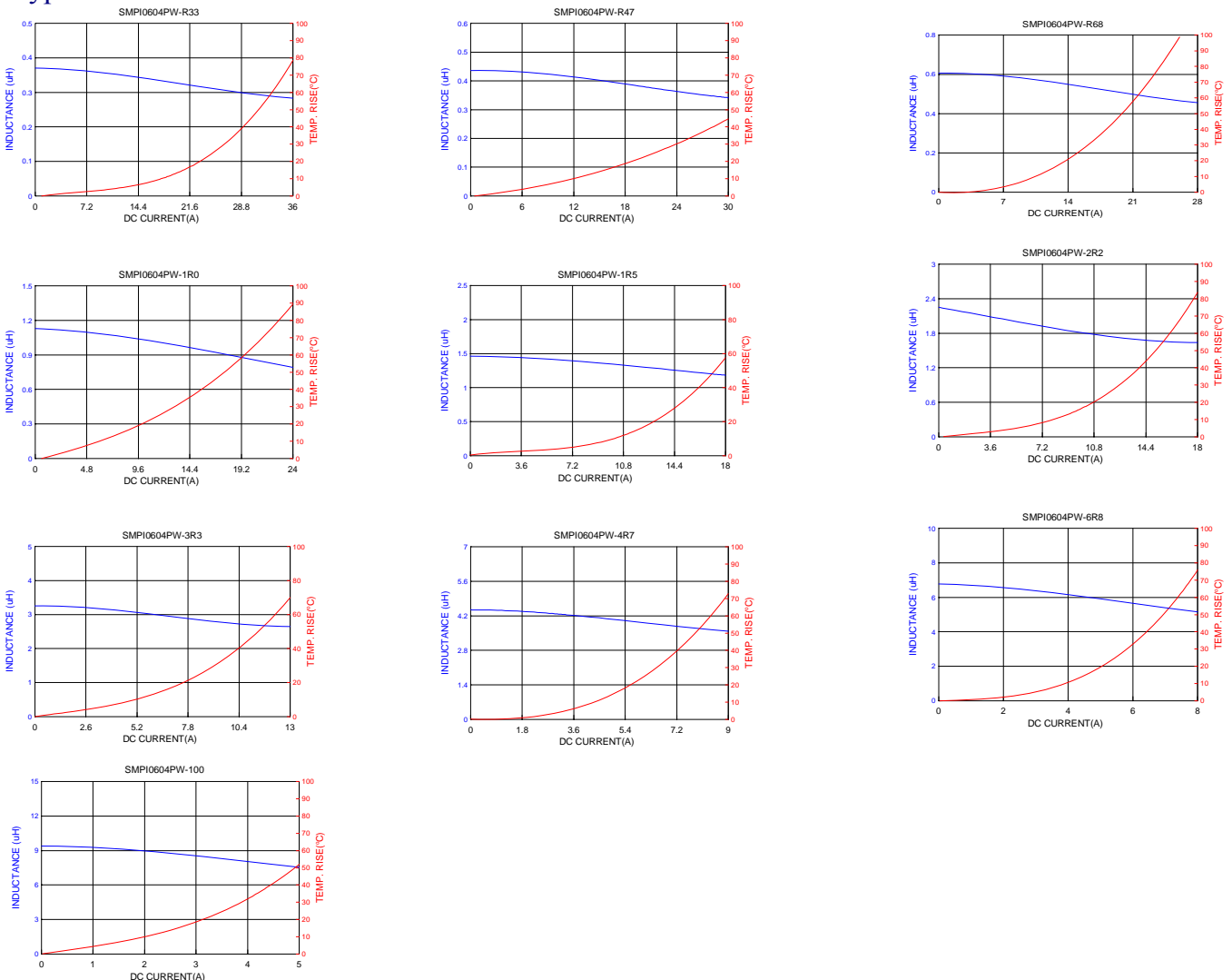
Electrical Characteristics

Part Number	Inductance L0 (uH)±20% @ 0 Adc	I rms (A) typ.	I sat (A) typ.	DCR (mΩ) max.
SMPI 0604PW-R33M-K01	0.33	25	32	1.4
SMPI 0604PW-R47M-K01	0.47	20	30	2.5
SMPI 0604PW-R68M-K01	0.68	17	28	3.8
SMPI 0604PW-1R0M-K01	1	15	20	5.8
SMPI 0604PW-1R5M-K01	1.5	16	18	8.4
SMPI 0604PW-2R2M-K01	2.2	12	14	15
SMPI 0604PW-3R3M-K01	3.3	10	13	18
SMPI 0604PW-4R7M-K01	4.7	7	9	21
SMPI 0604PW-6R8M-K01	6.8	5.5	7	30
SMPI 0604PW-100M-K01	10	4.5	5	60

Note:

1. Test frequency : L0: 100KHz/1.0Vdc
2. All test data referenced to 20°C ambient.
3. Testing Instrument : L: HP4284A, CH11025, CH3302, CH1320 ,CH1320S LCR METER / Rdc: CH16502, Agilent33420A MICRO OHMMETER.
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Typical Performance Curves



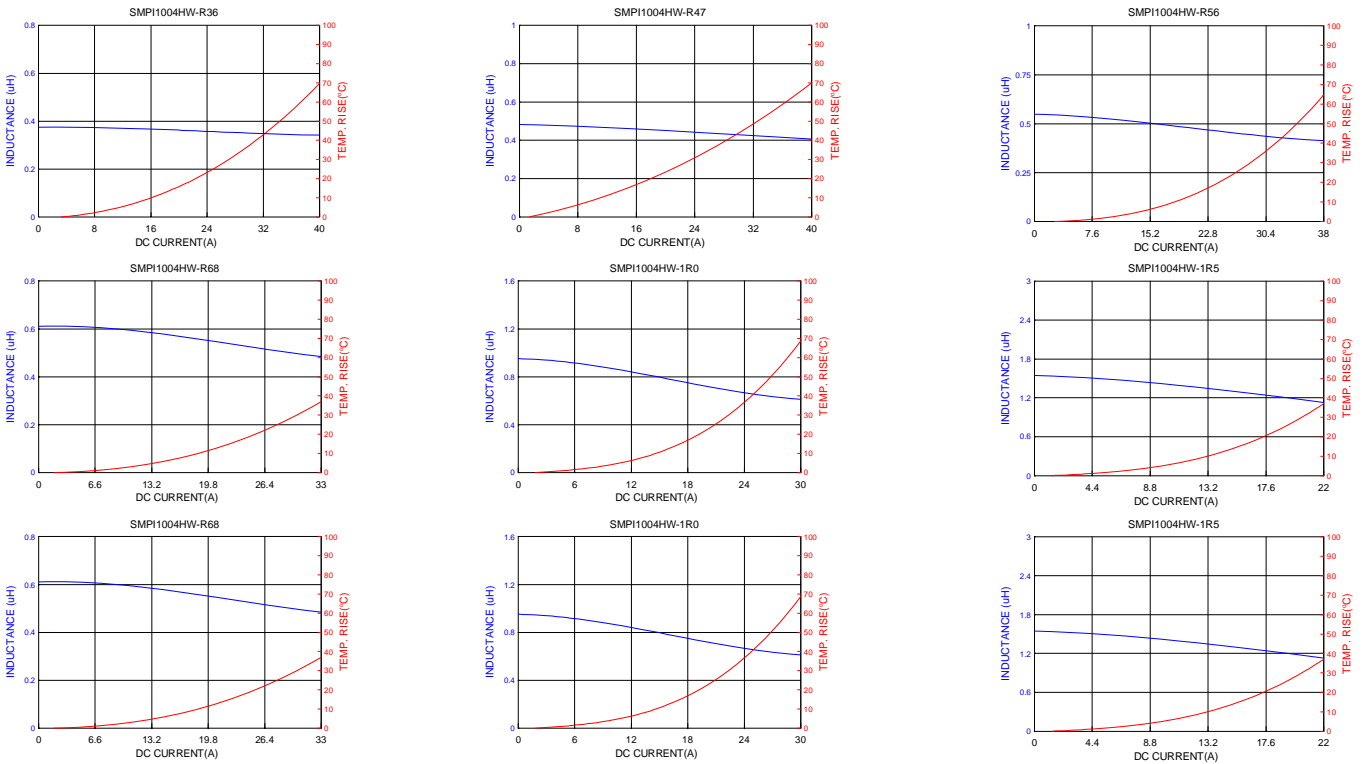
Electrical Characteristics

Part Number	Inductance L0 (uH)±20% @ 0 Adc	I rms (A) typ.	I sat (A) typ.	DCR (mΩ) max.
SMPI 1004HW-R36M-K01	0.36	28	40	1.4
SMPI 1004HW-R47M-K01	0.47	26	38	1.6
SMPI 1004HW-R56M-K01	0.56	25	36	1.9
SMPI 1004HW-R68M-K01	0.68	23	32	2.4
SMPI 1004HW-1R0M-K01	1	20	28	3.5
SMPI 1004HW-1R5M-K01	1.5	12	20	7.5
SMPI 1004HW-2R2M-K01	2.2	11.5	16.5	8.56
SMPI 1004HW-3R3M-K01	3.3	10	14	10
SMPI 1004HW-4R7M-K01	4.7	8	13	13.5
SMPI 1004HW-6R8M-K01	6.8	6.5	11	24
SMPI 1004HW-100M-K01	10	5	9	35

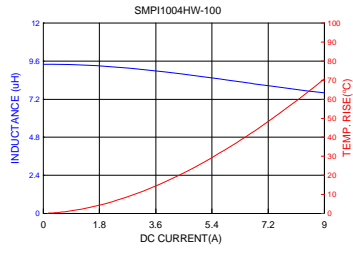
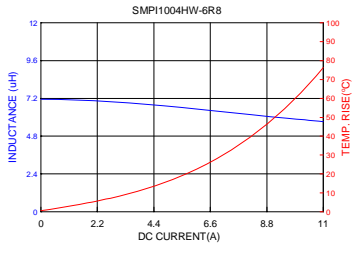
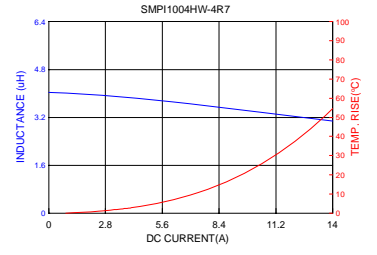
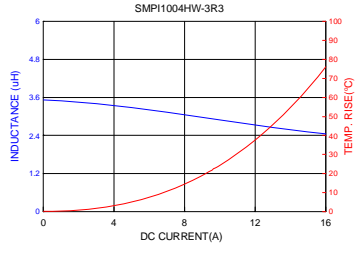
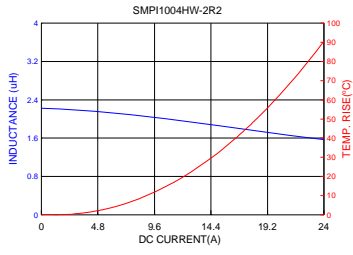
Note:

1. Test frequency : L0: 100KHz/1.0Vdc
2. All test data referenced to 20°C ambient.
3. Testing Instrument : L: HP4284A, CH11025, CH3302, CH1320 ,CH1320S LCR METER / Rdc: CH16502, Agilent33420A MICRO OHMMETER.
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Typical Performance Curves



Typical Performance Curves



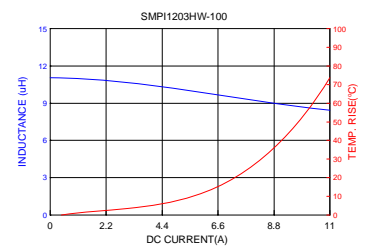
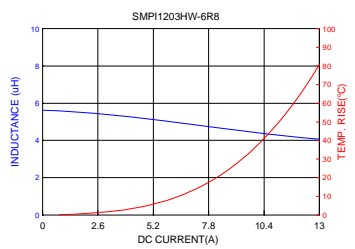
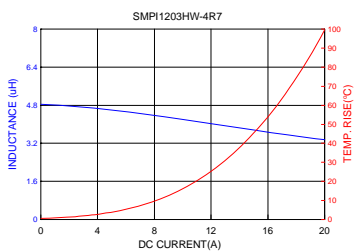
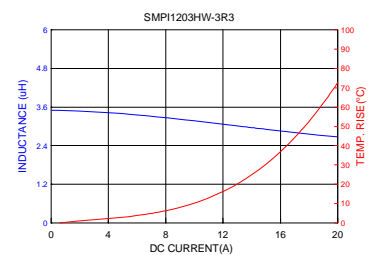
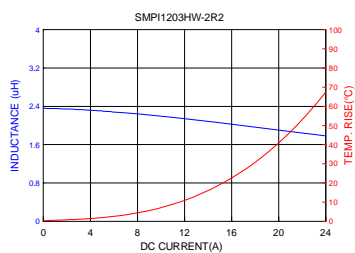
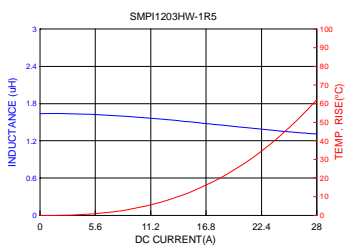
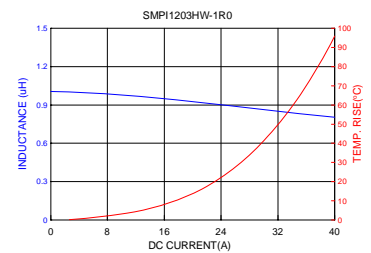
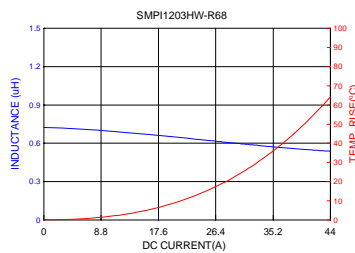
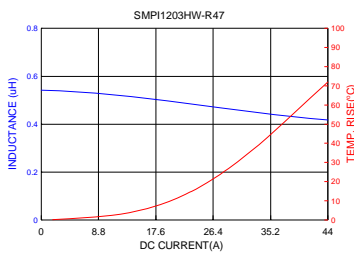
Electrical Characteristics

Part Number	Inductance L0 (uH)±20% @ 0 Adc	I rms (A) typ.	I sat (A) typ.	DCR (mΩ) max.
SMPI 1203HW-R47M-K01	0.47	32	44	2.0
SMPI 1203HW-R68M-K01	0.68	28	40	2.5
SMPI 1203HW-1R0M-K01	1	24	36	3.5
SMPI 1203HW-1R5M-K01	1.5	19	28	5.5
SMPI 1203HW-2R2M-K01	2.2	16	20	8
SMPI 1203HW-3R3M-K01	3.3	12	18	12
SMPI 1203HW-4R7M-K01	4.7	10	16	15
SMPI 1203HW-6R8M-K01	6.8	9	13	22
SMPI 1203HW-100M-K01	10	7	9.5	34

Note:

1. Test frequency : L0: 100KHz/1.0Vdc
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Typical Performance Curves



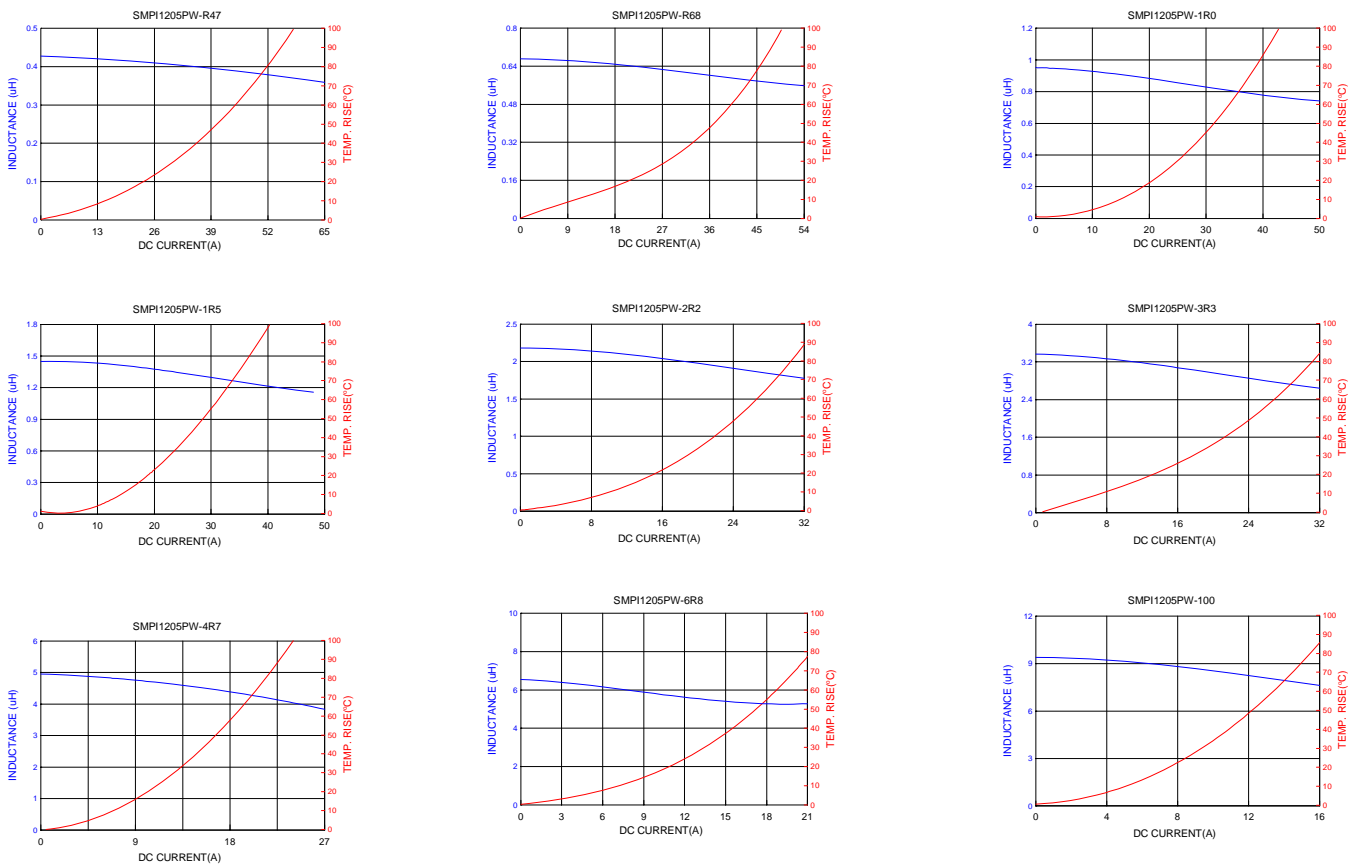
Electrical Characteristics

Part Number	Inductance L0 (uH)±20% @ 0 Adc	I rms (A) typ.	I sat (A) typ.	DCR (mΩ) max.
SMPI 1205PW-R47M-K01	0.47	38	65	1.3
SMPI 1205PW-R68M-K01	0.68	34	54	1.7
SMPI 1205PW-1R0M-K01	1	29	50	2.5
SMPI 1205PW-1R5M-K01	1.5	23	48	4.1
SMPI 1205PW-2R2M-K01	2.2	20	32	5.5
SMPI 1205PW-3R3M-K01	3.3	15	32	9.2
SMPI 1205PW-4R7M-K01	4.7	12	27	15
SMPI 1205PW-6R8M-K01	6.8	11	21	18.5
SMPI 1205PW-100M-K01	10	9	16	25.5

Note:

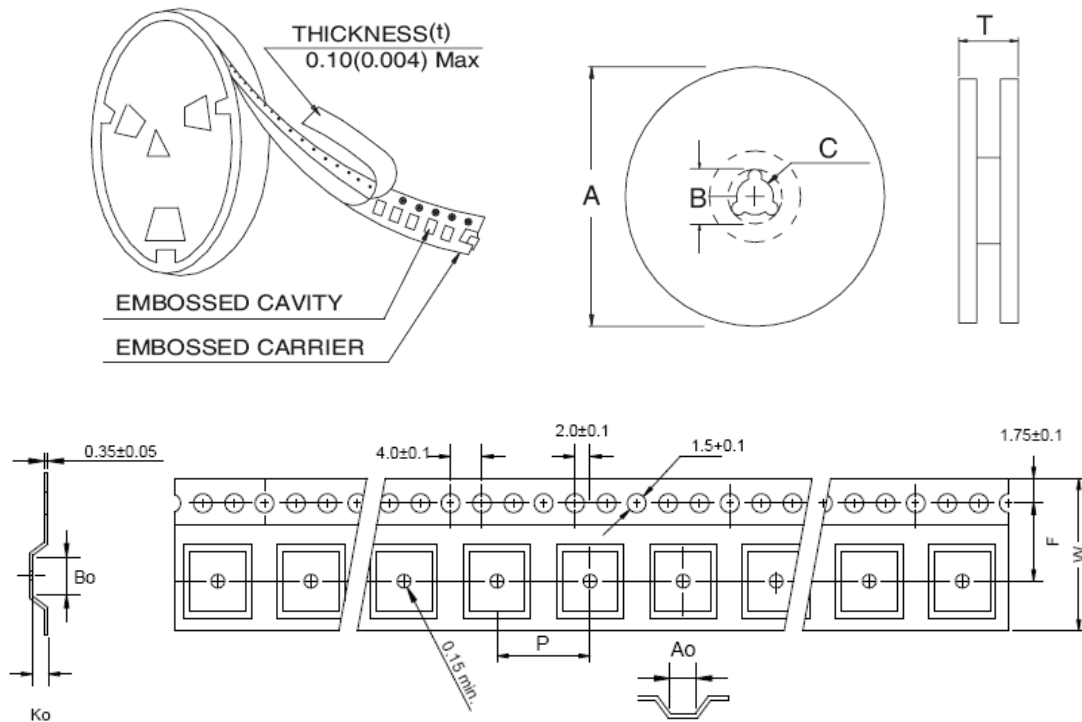
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Typical Performance Curves



PACKAGING

1. Configuration.



2. Dimension in mm

TYPE	A	B	C	T
12mm	330	100	21±0.8	16.4
16mm	330	100	21±0.8	20.4
24mm	330	100	21±0.8	28.4
32mm	330	100	21±0.8	36.4

TYPE	Ao(mm)	Bo(mm)	Ko(mm)	W(mm)	P(mm)	T(mm)	PCS/REEL
SMPI0602	7.0±0.1	7.8±0.1	2.2±0.1	16±0.3	12±0.1	330	1500
SMPI0603	7.0±0.1	7.8±0.1	3.3±0.1	16±0.3	12±0.1	330	1000
SMPI0604	7.0±0.1	7.8±0.1	4.3±0.1	16±0.3	12±0.1	330	1000
SMPI1004	10.5±0.1	11.8±0.1	4.5±0.1	24±0.3	16±0.1	330	900
SMPI1203	13.5±0.1	13.9±0.1	4.5±0.1	24±0.3	16±0.1	330	600
SMPI1205	13.5±0.1	13.9±0.1	5.6±0.1	24±0.3	16±0.1	330	600