

1. Features

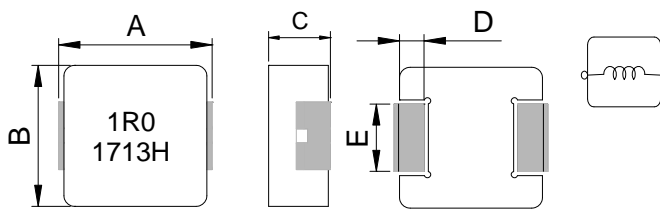
1. Shielded construction.
2. Capable of corresponding high frequency (5MHz).
3. Low loss realized with low DCR.
4. High performance (Isat) realized by metal dust core.
5. Ultra low buzz noise, due to composite construction.
6. 100% Lead(Pb)-Free and RoHS compliant.



2. Applications

1. DC/DC converters in distributed power systems.
2. DC/DC converter for Field Programmable Gate Array(FPGA).
3. Battery powered devices.
4. Thin type on-board power supply module for exchanger.
5. VRM for server.
6. High current, low profile POL converters.
7. PDA/notebook/desktop/server and battery powered devices.

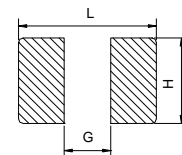
3. Dimensions



Series	A	B	C	D	E
TMHC0603	7.1±0.3	6.6±0.2	2.8±0.2	1.6±0.3	3.0±0.2

Unit:mm

Recommend PC Board Pattern



L(mm)	G(mm)	H(mm)
8.0	3.7	3.4

Note: 1. The above PCB layout reference only.
2. Recommend solder paste thickness at 0.15mm and above.

4. Part Numbering



A: Series
B: Dimension
C: Type
D: Inductance
E: Inductance Tolerance
F: Code

BxC
Standard.
R10=0.1uH, 1R0=1.0uH, 100=10uH
K=±10%, L=±15%, M=±20%, N=±25%, Y=±30%
Marking: Black.1R0 and 1713H (17:YY, 13:WW, H:P/N, follow production date).

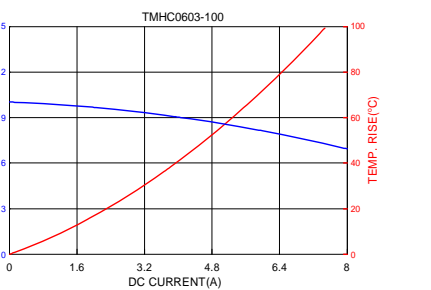
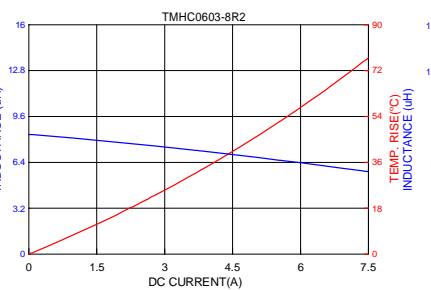
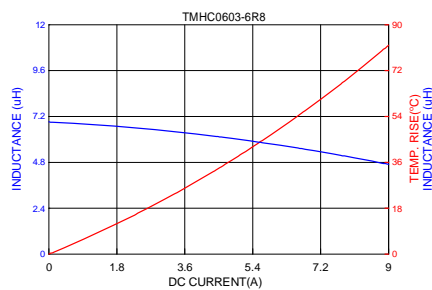
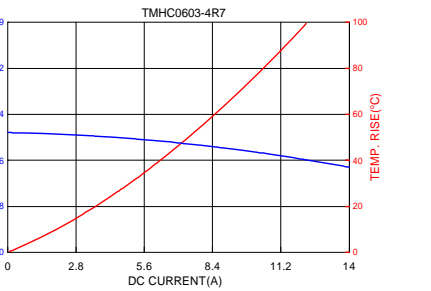
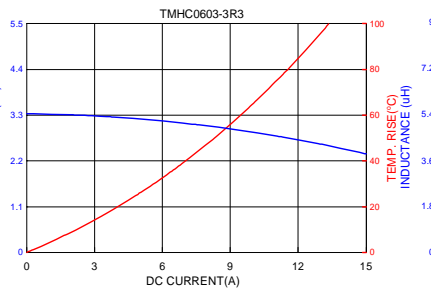
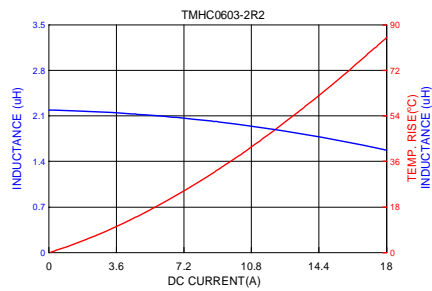
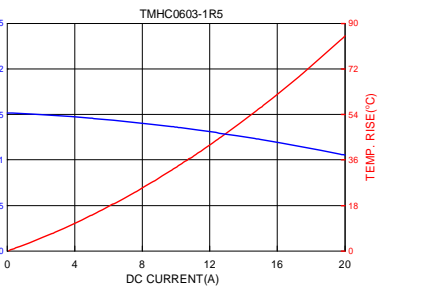
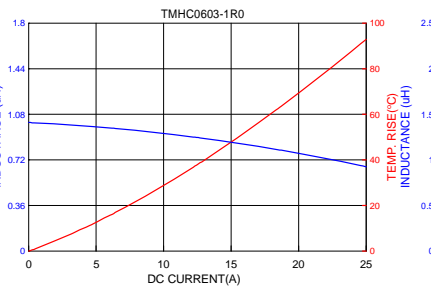
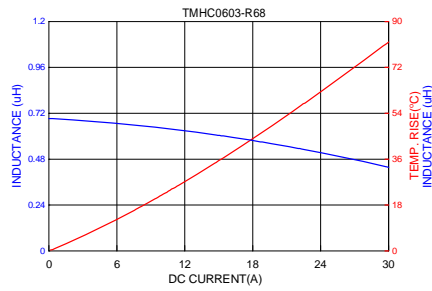
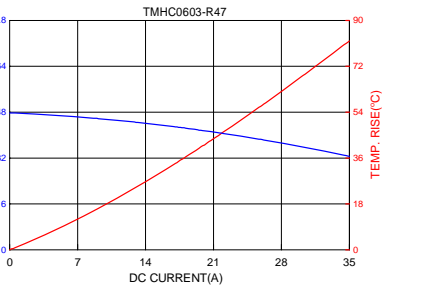
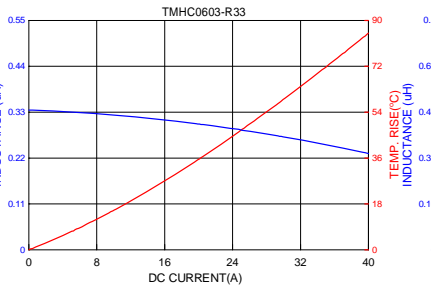
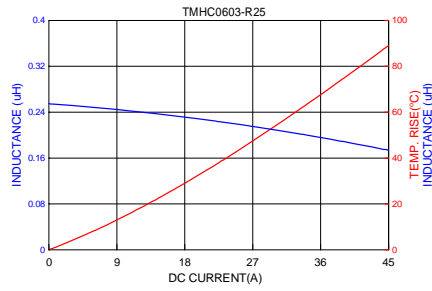
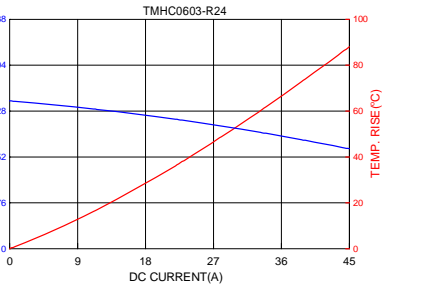
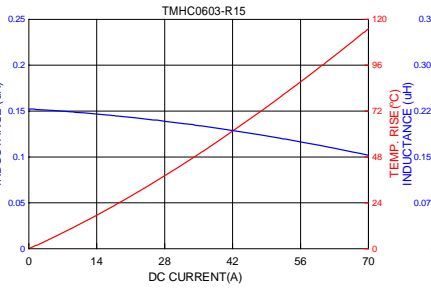
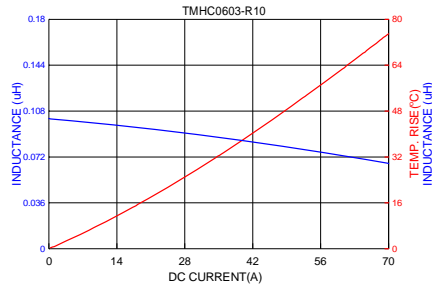
5. Specification

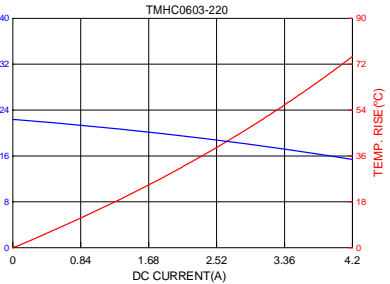
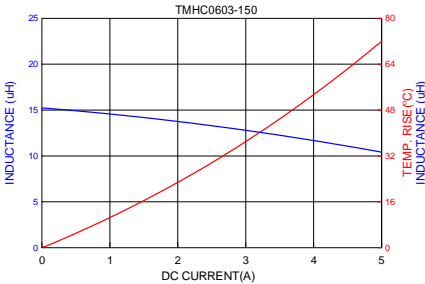
Part Number	Inductance L0 A(uH) ±20%	Heat Rating Current DC I _{rms} (A).		Saturation Current DC I _{sat} (A).		DCR (mΩ)Typ.	DCR (mΩ)Max.
		Typ	Max	Typ	Max		
TMHC0603S-R10MN-D	0.10	37.5	28.0	60.0	55.0	1.2	1.7
TMHC0603S-R15MN-D	0.15	27.0	23.0	50.0	45.0	1.5	1.9
TMHC0603S-R24MN-D	0.24	23.0	20.0	39.0	34.0	2.5	3.1
TMHC0603S-R25MN-D	0.25	23.0	20.0	39.0	34.0	2.5	3.1
TMHC0603S-R33MN-D	0.33	20.0	17.0	32.0	28.0	3.5	3.9
TMHC0603S-R47MN-D	0.47	17.5	16.0	27.0	23.0	4.0	4.3
TMHC0603S-R68MN-D	0.68	15.5	14.0	25.0	22.0	4.8	5.5
TMHC0603S-1R0MN-D	1.00	11.0	10.0	22.0	19.0	8.3	10
TMHC0603S-1R5MN-D	1.50	9.0	8.0	18.0	17.0	11	14
TMHC0603S-2R2MN-D	2.20	8.0	7.0	14.0	12.0	15	18
TMHC0603S-3R3MN-D	3.30	6.0	5.3	13.5	11.5	27	30
TMHC0603S-4R7MN-D	4.70	5.5	4.9	10.0	8.5	37	40
TMHC0603S-6R8MN-D	6.80	4.5	4.0	8.3	7.0	54	60
TMHC0603S-8R2MN-D	8.20	4.1	3.6	6.8	5.5	60	66
TMHC0603S-100MN-D	10.0	3.5	3.1	6.0	5.0	63	68
TMHC0603S-150MN-D	15.0	3.0	2.7	4.0	3.5	107	123
TMHC0603S-220MN-D	22.0	2.2	1.9	3.6	3.2	155	180

Note:

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 (I_{rms}) will cause the coil temperature rise approximately ΔT of 40°C
5. Saturation Current (I_{sat}) will cause L0 to drop approximately 30%.
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.

6. Typical Performance Curves





1. Features

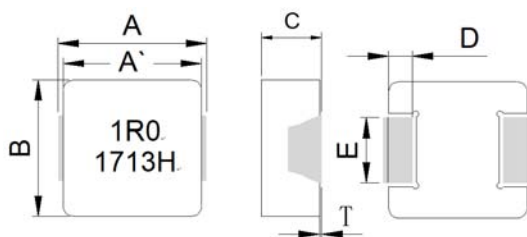
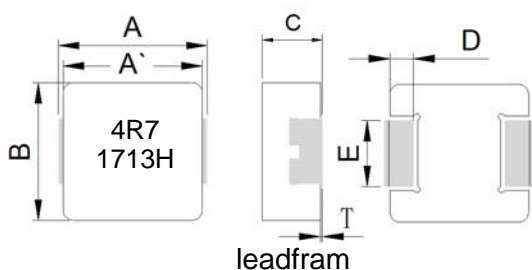
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2. Capable of corresponding high frequency (5MHz).
3. Low loss realized with low DCR.
4. High performance (Isat) realized by metal dust core.
5. Ultra low buzz noise, due to composite construction.
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2. Applications

1. DC/DC converters in distributed power systems.
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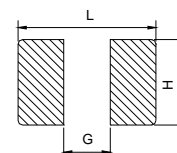
3. Dimensions



leadframe

non-leadframe

Recommend PC Board Pattern



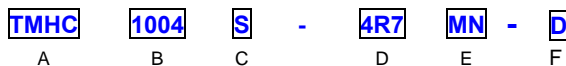
Series	A	A'	B	C	D	T	E	Inductance
TMHC1004	11.0±0.3	10.0±0.3	10.0±0.3	3.8±0.2	2.0±0.3	0~0.2	2.5±0.3	0.68uH
							3.0±0.3	0.47uH and below 1.00uH and above

L(mm)	G(mm)	H(mm)
12.5	5.4	3.5

Note: 1. The above PCB layout reference only.
2. Recommend solder paste thickness at 0.15mm and above.

Unit:mm

4. Part Numbering



- A: Series
- B: Dimension
- C: Type
- D: Inductance
- E: Inductance Tolerance
- F: Code
- BxC Standard.
- R10=0.1uh · 1R0=1.0uh · 100=10uh · 101=100uh · 102=1000uh.
- K=±10% · L=±15% · M=±20% · N=±25% · Y=±30%
- Marking: Black.4R7 and 1713H (17:YY, 13:WW, follow production date, H:P/N).

5. Specification

Part Number	Inductance L0 A(μ H) $\pm 20\%$	Heat Rating Current DC I rms.(A)		Saturation Current DC I sat. (A)		DCR (m Ω)Typ	DCR (m Ω)Max	Type
		Typ	Max	Typ	Max			
TMHC1004S-R15MN-D	0.15	45.0	40.0	80.0	70.0	0.50	0.60	non-leadframe
TMHC1004S-R20MN-D	0.20	40.0	37.0	75.0	65.0	0.80	1.00	non-leadframe
TMHC1004S-R22MN-D	0.22	40.0	37.0	75.0	65.0	0.80	1.00	non-leadframe
TMHC1004S-R30MN-D	0.30	38.0	35.0	70.0	60.0	1.00	1.20	non-leadframe
TMHC1004S-R33MN-D	0.33	38.0	35.0	70.0	60.0	1.00	1.20	non-leadframe
TMHC1004S-R36MN-D	0.36	36.0	33.0	60.0	52.0	1.05	1.20	non-leadframe
TMHC1004S-R47MN-D	0.47	31.0	28.0	48.0	43.0	1.30	1.50	non-leadframe
TMHC1004S-R68MN-D	0.68	24.0	22.0	45.0	40.0	2.30	2.70	non-leadframe
TMHC1004S-1R0MN-D	1.00	20.0	18.0	39.0	36.0	3.50	4.00	non-leadframe
TMHC1004S-1R5MN-D	1.50	18.0	16.0	35.0	33.0	4.70	5.30	non-leadframe
TMHC1004S-2R2MN-D	2.20	15.0	13.0	27.0	24.0	6.50	7.20	leadframe
TMHC1004S-3R3MN-D	3.30	14.0	11.0	22.0	19.0	10.8	11.8	leadframe
TMHC1004S-4R7MN-D	4.70	13.0	10.5	20.0	18.0	14.5	15.5	leadframe
TMHC1004S-5R6MN-D	5.60	12.0	10.0	16.0	14.0	18.0	19.3	leadframe
TMHC1004S-6R8MN-D	6.80	10.0	9.00	15.0	13.5	19.0	23.3	leadframe
TMHC1004S-8R2MN-D	8.20	9.00	8.00	13.5	12.5	20.0	22.5	leadframe
TMHC1004S-100MN-D	10.0	8.50	7.50	12.5	11.0	29.0	32.0	leadframe
TMHC1004S-150MN-D	15.0	6.30	6.00	10.0	8.00	40.0	45.0	leadframe
TMHC1004S-220MN-D	22.0	5.20	4.60	7.50	6.50	62.0	7.40	leadframe
TMHC1004S-330MN-D	33.0	4.00	3.50	6.00	5.00	94.0	112	leadframe
TMHC1004S-470MN-D	47.0	3.20	2.70	5.00	4.50	145	167	leadframe

Note:

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