

TMDT Series (Rev. 1.0)



Features

- * RoHS compliant
- * Much lower resistance
- * Much higher current rating
- * High performance (Isat) realized by metal dust core

Product Identification

TMDT 6030 - 100 M
 1 2 3 4

1. Product Code
2. Size Code
3. Inductance: 10uH
4. Tolerance: K=±10%, M=±20%, N=±30%

Applications

- * Laptops and PCs
- * Switches and servers
- * Base stations
- * DC/DC converters
- * New energy vehicles / 5G

Operating & Storage Condition

- * Operating Temp. : -40 to +125°C
- * Storage Temp. : -25 to +35°C
- * Storage Life Time : 12 Months @25°C , RH 70%

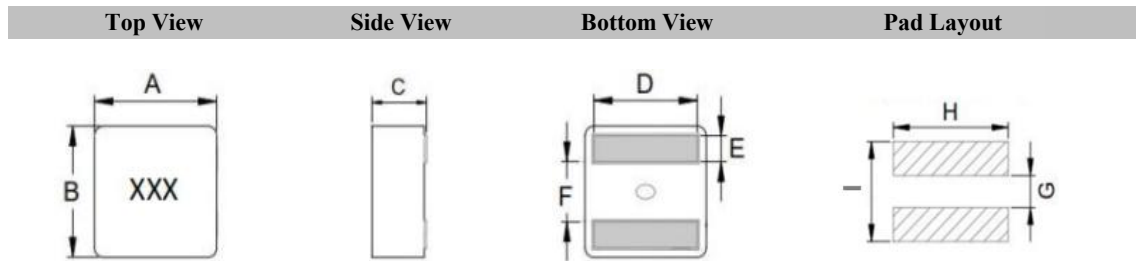
Test Equipment

- * Wayne kerr 3260B/G LCR Meter
- * Wayne kerr 3265B Bias Current Source

Standard Atmospheric Conditions

- * Ambient Temp : 20+/-15°C
- * Relative Humidity : 65+/-20%

Dimension & Recommended PAD Layout: [mm]



Size Code	A(±0.2)	B(±0.2)	C(±0.2)	D(±0.3)	E(±0.3)	F(±0.3)	G(ref.)	H(ref.)	I(ref.)
4020	4.1	4.1	1.9	3.4	0.9	1.6	1.4	3.8	3.4
4030	4.4	4.1	2.8	3.4	0.9	1.6	1.4	3.8	3.4
5020	5.5	5.3	1.9	4.3	1.1	2.3	2.0	4.7	4.5
5030	5.5	5.3	2.9	4.3	1.1	2.3	2.0	4.7	4.5
5050	5.5	5.3	4.8	4.3	1.1	2.3	2.0	4.7	4.5
6030	6.6	6.4	2.9	See spec	1.4	2.6	2.5	5.6	5.6
6050	6.6	6.4	4.8	See spec	1.4	2.6	2.5	5.6	5.6
6060	6.6	6.4	5.8	5.3	1.4	2.6	2.5	5.6	5.6
7030	7.8±0.3	7.6	2.9	See spec	1.8	3.2	2.8	7.2	7.4
7070	7.8±0.3	7.6±0.3	6.7±0.3	See spec	1.8	3.2	2.8	7.2	7.4
1580	16.5±0.3	15.5±0.3	7.7±0.3	13.2±0.5	3.2	7.4±0.5	6.0	15.0	15.0
1510	16.5±0.3	15.5±0.3	9.7±0.3	13.2±0.5	3.2	7.4±0.5	6.0	15.0	15.0



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Electrical Characteristics

Part Number	Inductance (uH)	DCR (mΩ) max.	Isat (A) typ.	Irms (A) typ.
TMDT4020-R10M	0.10	2.4	33.0	18.0
TMDT4020-R22M	0.22	4.6	18.8	16.8
TMDT4020-R36M	0.36	6.3	15.0	14.5
TMDT4020-R40M	0.40	7.7	13.5	14.0
TMDT4020-R47M	0.47	8.6	13.0	12.5
TMDT4020-R56M	0.56	9.3	12.6	12.0
TMDT4020-R60M	0.60	9.5	12.3	11.7
TMDT4020-R72M	0.72	11.6	10.6	10.5
TMDT4020-1R0M	1.00	14.6	8.8	9.6
TMDT4020-1R2M	1.20	17.9	7.8	9.0
TMDT4020-1R5M	1.50	23.5	7.4	7.6
TMDT4020-1R8M	1.80	28.0	7.0	7.0
TMDT4020-2R2M	2.20	38.7	6.0	5.6
TMDT4030-R75M	0.75	10.8	9.0	10.0
TMDT4030-3R3M	3.30	28.6	5.5	6.6
TMDT4030-4R7M	4.70	44.1	4.5	5.1
TMDT4030-6R8M	6.80	74.1	3.6	3.9
TMDT5020-R15M	0.15	4.6	27.0	18.8
TMDT5020-R16M	0.16	4.6	27.0	18.8
TMDT5020-R33M	0.33	7.0	24.0	14.4
TMDT5020-R47M	0.47	8.1	20.0	14.1
TMDT5020-R56M	0.56	9.5	16.0	13.9
TMDT5020-R68M	0.68	10.2	14.0	13.4
TMDT5020-R80M	0.80	11.8	13.5	13.0
TMDT5020-R82M	0.82	12.7	13.0	12.0
TMDT5020-1R0M	1.00	13.8	12.8	10.5
TMDT5020-1R2M	1.20	16.3	12.2	9.4
TMDT5020-1R5M	1.50	18.7	11.7	8.8

* Test Condition: @100KHz/ 1.0V, 25°C Ambient

* I rms DC current (A) that will cause an approximate ΔT of 40°C

* Isat DC current (A) that will cause L to drop approximately 30%

* Tolerance: K=±10%, M= ±20%, N= ±30%



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Electrical Characteristics

Part Number	Inductance (uH)	DCR (mΩ) max.	Isat (A) typ.	Irms (A) typ.	Dimension-D (mm) ±0.3
TMDT5030-R15M	0.15	2.3	32.5	22.2	-
TMDT5030-R16M	0.16	2.3	32.0	22.2	-
TMDT5030-R33M	0.33	3.5	26.0	19.2	-
TMDT5030-R47M	0.47	4.5	24.0	18.4	-
TMDT5030-R56M	0.56	4.5	20.2	17.7	-
TMDT5030-R60M	0.60	4.5	20.0	17.7	-
TMDT5030-R80M	0.80	5.7	18.0	13.1	-
TMDT5030-R82M	0.82	5.8	17.6	12.9	-
TMDT5030-1R0M	1.00	7.6	14.3	12.2	-
TMDT5030-1R2M	1.20	9.7	13.5	11.0	-
TMDT5030-1R5M	1.50	11.2	12.5	10.5	-
TMDT5030-1R8M	1.80	12.7	11.3	10.1	-
TMDT5030-2R2M	2.20	14.5	9.0	9.7	-
TMDT5030-3R3M	3.30	23.1	8.7	8.1	-
TMDT5030-4R7M	4.70	36.3	7.0	5.9	-
TMDT5050-5R6M	5.60	24.2	7.2	7.2	-
TMDT5050-6R8M	6.80	28.6	6.6	6.4	-
TMDT5050-8R2M	8.20	32.5	6.1	6.1	-
TMDT5050-100M	10.00	43.0	5.4	5.0	-
TMDT6030-R18M	0.18	1.8	39.0	32.0	5.3
TMDT6030-R33M	0.33	2.5	30.0	25.0	5.3
TMDT6030-R56M	0.56	3.3	29.0	22.0	5.3
TMDT6030-R68M	0.68	5.2	25.0	20.0	5.3
TMDT6030-1R0M	1.00	6.0	23.0	18.0	5.2
TMDT6030-1R2M	1.20	7.4	22.0	16.0	5.2
TMDT6030-1R5M	1.50	9.1	20.0	15.0	5.1
TMDT6030-1R8M	1.80	10.2	18.2	14.0	5.1
TMDT6030-2R2M	2.20	12.2	15.9	10.0	5.0
TMDT6030-3R3M	3.30	20.8	12.2	8.0	5.0
TMDT6030-4R5M	4.50	25.3	10.0	7.0	5.0
TMDT6030-4R7M	4.70	26.0	9.0	6.0	5.0

* Test Condition: @100KHz/ 1.0V, 25°C Ambient

* Irms DC current (A) that will cause an approximate ΔT of 40°C

* Isat DC current (A) that will cause L to drop approximately 30%

* Tolerance: K=±10%, M= ±20%, N= ±30%



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Part Number	Inductance (uH)	DCR (mΩ) max.	Isat (A) typ.	Irms (A) typ.	Dimension-D (mm) ±0.3
TMDT6050-R82M	0.82	4.2	20.0	21.0	5.3
TMDT6050-1R0M	1.00	4.5	18.0	20.0	5.3
TMDT6050-1R2M	1.20	5.8	16.0	18.0	5.3
TMDT6050-1R5M	1.50	6.3	14.5	17.0	5.3
TMDT6050-1R8M	1.80	7.1	13.5	16.0	5.3
TMDT6050-2R2M	2.20	8.5	12.0	13.0	5.2
TMDT6050-3R3M	3.30	12.5	10.0	11.0	5.2
TMDT6050-4R3M	4.30	16.2	8.5	9.0	5.2
TMDT6050-4R7M	4.70	18.4	8.0	8.5	5.2
TMDT6050-5R6M	5.60	22.0	8.3	7.0	5.2
TMDT6050-6R8M	6.80	25.4	7.0	6.6	5.2
TMDT6050-8R2M	8.20	31.5	6.8	6.2	5.2
TMDT6060-4R7M	4.70	14.4	10.5	11.0	-
TMDT6060-5R6M	5.60	15.9	9.9	10.0	-
TMDT6060-6R8M	6.80	20.8	9.2	9.0	-
TMDT6060-8R2M	8.20	26.4	8.4	8.0	-
TMDT6060-100M	10.0	29.8	7.6	7.0	-
TMDT6060-150M	15.0	43.8	5.8	6.0	-
TMDT6060-220M	22.0	60.6	5.6	5.0	-
TMDT7030-1R0M	1.00	5.0	28.0	21.8	6.6
TMDT7030-1R5M	1.50	8.3	23.5	15.3	6.6
TMDT7030-2R2M	2.20	13.7	17.0	13.0	6.2
TMDT7030-2R7M	2.70	15.4	13.5	11.4	6.2
TMDT7030-3R3M	3.30	18.0	13.0	10.0	6.2
TMDT7030-4R7M	4.70	26.7	12.2	9.0	6.2
TMDT7030-5R6M	5.60	33.2	11.5	7.3	6.2
TMDT7030-6R8M	6.80	42.5	11.0	6.8	6.2
TMDT7030-8R2M	8.20	48.7	9.0	5.9	6.2
TMDT7070-3R3M	3.30	9.4	19.4	15.1	6.7
TMDT7070-4R7M	4.70	14.3	15.2	13.6	6.7
TMDT7070-6R8M	6.80	19.6	12.8	9.2	6.5

* Test Condition: @100KHz/ 1.0V, 25°C Ambient

* I_{rms} DC current (A) that will cause an approximate ΔT of 40°C

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* Tolerance: K=±10%, M= ±20%, N= ±30%



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Electrical Characteristics

Part Number	Inductance (uH)	DCR (mΩ) max.	Isat (A) typ.	Irms (A) typ.	Dimension-D (mm) ±0.3
TMDT1580-2R0M	2.00	2.2	52.0	40.0	-
TMDT1580-2R2M	2.20	2.5	49.0	37.0	-
TMDT1580-3R0M	3.00	3.0	41.0	34.5	-
TMDT1580-4R2M	4.20	4.7	33.0	27.0	-
TMDT1580-4R7M	4.70	5.2	32.0	26.5	-
TMDT1580-5R3M	5.30	5.3	31.0	26.0	-
TMDT1580-6R2M	6.20	6.5	31.0	23.0	-
TMDT1580-7R2M	7.20	7.2	29.0	21.0	-
TMDT1580-8R2M	8.20	7.9	25.0	19.0	-
TMDT1510-4R7M	4.70	3.8	39.0	29.0	-
TMDT1510-5R6M	5.60	4.2	37.0	28.0	-
TMDT1510-6R8M	6.80	4.6	36.0	26.0	-
TMDT1510-8R2M	8.20	7.2	30.0	24.0	-
TMDT1510-100M	10.00	8.6	26.5	22.0	-
TMDT1510-150M	15.00	11.5	23.0	18.0	-
TMDT1510-220M	22.00	15.8	18.7	14.0	-
TMDT1510-330M	33.0	20.0	16.7	12.0	-

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* Tolerance: K=±10%, M= ±20%, N= ±30%

