

Molding High Current Alloy-TRMC-SA Series

The TRMC-SA series is designed with a low-profile form factor, featuring low DC resistance (RDC) and ultra-high current capacity. Its molded, magnetically shielded construction is suitable for high-density mounting and produces ultra-low buzzing noise. Soldering conditions can be easily verified during board mounting. This series is also available with embossed carrier tape packaging for automatic mounting machines.



Features

- Halogen Free ,ROHS compliance
- High rated current
- Low core loss
- Ultra low buzz noise due to molding construction

Applications

- Laptops and PCs
- Switch and servers
- Base stations
- DC/DC converters

Operating Temp

- -55°C~+125°C

Product Identification



1	Product Symbol
TRMC	SMD Power Inductor

2	External Dimensions(mm)
201610	2.0*1.6*1.0
252010	2.5*2.0*1.0
252012	2.5*2.0*1.2

3	Internal Code
SA	Alloy Powder

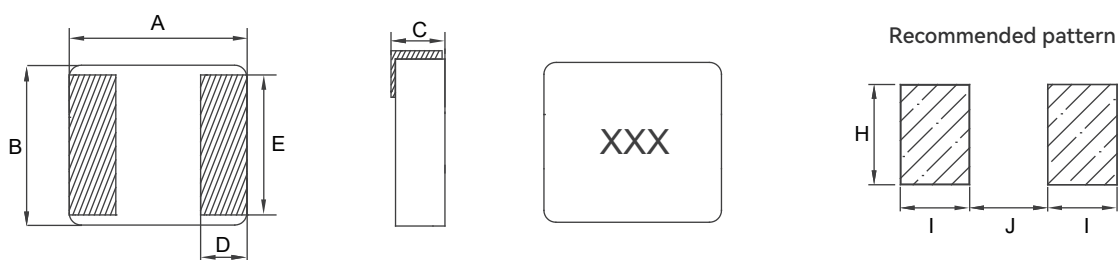
4	Nominal Inductance
R47	0.47μH
1R0	1.0μH

5	Inductance Tolerance
M	±20%

6	Packing
T	Tape Carrier Package

7	Internal Code
A	Standard
B	Special

Shape and Dimensions



Dimensions

Unit:mm

Series	A	B	C	D	E	H Typ.	I Typ.	J Typ.
TRMC201610SA	2.0±0.2	1.6±0.2	1.0Max.	0.5±0.2	1.4±0.2	1.6	0.55	0.9
TRMC252010SA	2.5±0.2	2.0±0.2	1.0Max.	0.6±0.3	1.8±0.2	2.0	0.8	1.2
TRMC252012SA	2.5±0.2	2.0±0.2	1.2Max.	0.6±0.3	1.8±0.2	2.0	0.8	1.2

Specification

TRMC201610SA Series

Part Number	Inductance	Saturation Current		Heat Rating Current		DC Resistance
	L (μH)	Isat(A)		Irms(A)		RDC(mΩ)
	±20 %	Max.	Typ.	Max.	Typ.	Max.
TRMC201610SAR10MTB	0.10	11.00	12.20	9.00	9.50	11.00
TRMC201610SAR15MTB	0.15	9.00	10.00	7.00	7.50	16.00
TRMC201610SAR22MTB	0.22	7.00	7.90	6.00	6.50	19.00
TRMC201610SAR24MTA	0.24	5.05	5.60	4.50	5.00	21.00
TRMC201610SAR24MTB	0.24	6.30	6.80	5.30	5.80	20.00
TRMC201610SAR33MTA	0.33	4.50	5.00	3.69	4.10	29.00
TRMC201610SAR33MTB	0.33	6.10	6.70	4.20	4.70	26.00
TRMC201610SAR47MTA	0.47	4.00	4.40	3.15	3.50	40.00
TRMC201610SAR47MTB	0.47	5.30	6.10	4.10	4.50	30.00
TRMC201610SAR56MTB	0.56	4.40	5.00	3.80	4.20	35.00
TRMC201610SAR68MTA	0.68	3.33	3.70	3.06	3.40	49.00
TRMC201610SAR68MTB	0.68	4.20	4.70	3.50	4.00	47.00
TRMC201610SA1R0MTA	1.0	2.61	2.90	2.26	2.60	69.00
TRMC201610SA1R0MTB	1.0	3.30	3.90	3.00	3.20	60.00
TRMC201610SA1R5MTA	1.5	2.25	2.50	1.81	2.00	129.00
TRMC201610SA1R5MTB	1.5	3.10	3.40	2.20	2.40	99.00
TRMC201610SA2R2MTA	2.2	1.71	1.90	1.50	1.70	150.00
TRMC201610SA2R2MTB	2.2	2.45	2.60	2.00	2.20	140.00
TRMC201610SA3R3MTB	3.3	1.65	1.90	1.50	1.80	220.00
TRMC201610SA4R7MTB	4.7	1.60	1.80	1.10	1.30	288.00

TRMC252010SA Series

Part Number	Inductance	Saturation Current		Heat Rating Current		DC Resistance
	L (μH)	Isat(A)		Irms(A)		RDC(mΩ)
	±20 %	Max.	Typ.	Max.	Typ.	Max.
TRMC252010SAR22MTA	0.22	7.20	7.90	5.30	5.90	12.50
TRMC252010SAR22MTB	0.22	9.00	10.50	6.30	6.90	13.50
TRMC252010SAR24MTB	0.24	8.00	8.80	6.00	6.60	14.50
TRMC252010SAR33MTA	0.33	6.00	6.60	4.00	4.40	26.00
TRMC252010SAR33MTB	0.33	7.00	7.80	4.80	5.60	22.00
TRMC252010SAR47MTA	0.47	4.50	5.00	3.51	3.90	32.00

TRMC252010SA Series

Part Number	Inductance	Saturation Current		Heat Rating Current		DC Resistance
	L (μH)	Isat(A)		Irms(A)		RDC(mΩ)
	±20 %	Max.	Typ.	Max.	Typ.	Max.
TRMC252010SAR47MTB	0.47	6.00	6.60	4.40	5.20	29.00
TRMC252010SAR68MTA	0.68	3.87	4.30	3.06	3.40	44.00
TRMC252010SAR68MTB	0.68	5.00	5.50	3.70	4.30	36.00
TRMC252010SA1R0MTA	1.0	3.15	3.50	2.70	3.00	54.00
TRMC252010SA1R0MTB	1.0	4.00	4.40	3.10	3.40	52.00
TRMC252010SA1R5MTA	1.5	2.34	2.60	2.25	2.50	91.00
TRMC252010SA1R5MTB	1.5	3.40	3.80	2.50	2.90	72.00
TRMC252010SA2R2MTA	2.2	2.16	2.40	2.07	2.30	119.00
TRMC252010SA2R2MTB	2.2	3.00	3.30	2.10	2.40	110.00
TRMC252010SA3R3MTB	3.3	2.20	2.50	1.60	1.90	160.00
TRMC252010SA4R7MTA	4.7	1.62	1.80	1.22	1.36	262.00
TRMC252010SA4R7MTB	4.7	1.90	2.20	1.40	1.60	240.00

TRMC252012SA Series

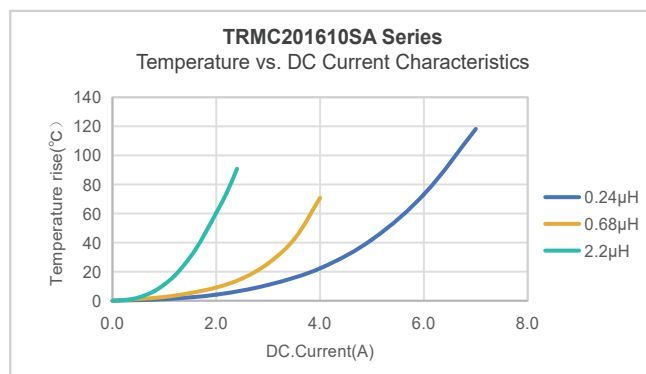
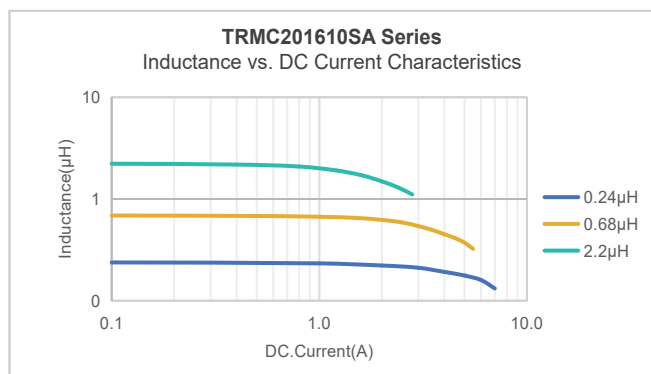
Part Number	Inductance	Saturation Current		Heat Rating Current		DC Resistance
	L (μH)	Isat(A)		Irms(A)		RDC(mΩ)
	±20 %	Max.	Typ.	Max.	Typ.	Max.
TRMC252012SAR22MTB	0.22	8.00	9.00	6.70	8.50	13.00
TRMC252012SAR33MTB	0.33	7.00	7.80	5.70	6.60	18.00
TRMC252012SAR47MTA	0.47	4.95	5.30	4.18	4.60	25.00
TRMC252012SAR47MTB	0.47	6.20	6.80	4.90	5.80	22.00
TRMC252012SAR68MTA	0.68	4.63	5.00	3.36	3.70	35.00
TRMC252012SAR68MTB	0.68	4.80	5.40	4.10	4.70	34.00
TRMC252012SA1R0MTA	1.0	4.04	4.40	3.18	3.50	49.00
TRMC252012SA1R0MTB	1.0	4.30	4.80	3.30	3.90	44.00
TRMC252012SA1R5MTA	1.5	2.91	3.20	2.27	2.50	77.00
TRMC252012SA1R5MTB	1.5	3.50	4.00	2.50	2.90	63.00
TRMC252012SA2R2MTA	2.2	2.73	3.00	2.06	2.27	98.00
TRMC252012SA2R2MTB	2.2	3.20	3.50	2.20	2.50	89.00
TRMC252012SA3R3MTA	3.3	1.80	2.10	1.80	2.00	150.00
TRMC252012SA3R3MTB	3.3	2.50	2.80	1.80	2.10	130.00
TRMC252012SA4R7MTA	4.7	1.58	1.90	1.40	1.61	235.00
TRMC252012SA4R7MTB	4.7	2.00	2.20	1.50	1.80	180.00

Notes

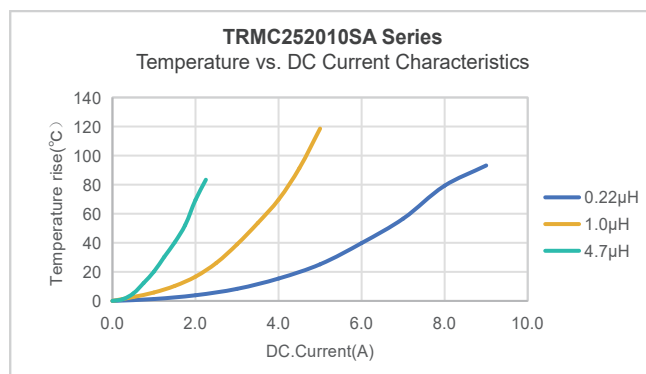
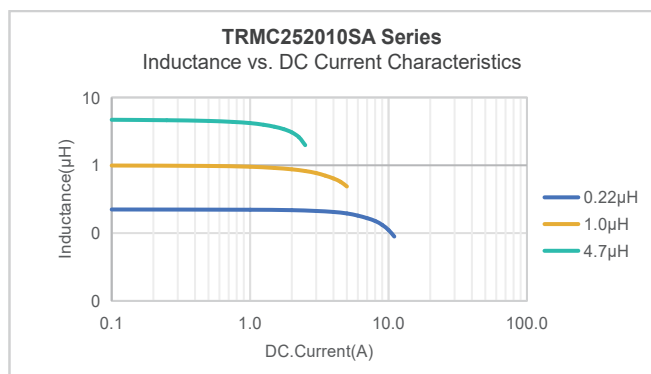
- All test referenced to 25°C ambient.
- Inductance tolerance +/- 20%.
- Inductance is measured with Agilent® LCR meter 4285A (or equivalent) at 1MHz/1V.
- DC resistance is measured with HIOKI® micro-ohm meter RM3542 or equivalent.
- Isat: DC current (A) that will cause Li to drop approximately 30%.
- Irms: DC current (A) that will cause an approximate ΔT of 40°C.
- The rated current value is following either Isat (max.) or Irms (max), which value is lower one.
- The part temperature (ambient + temp rise) should not exceed 125°C under worst case operating conditions. PCB land pattern, trace size - thick, circuit design and proximity to other components are all the factors will affect the temperature performance of the device. Therefore, it should be approved in application conditions and end product.
- Rated voltage: 20V DC (max.)

Typical Characteristics Curves

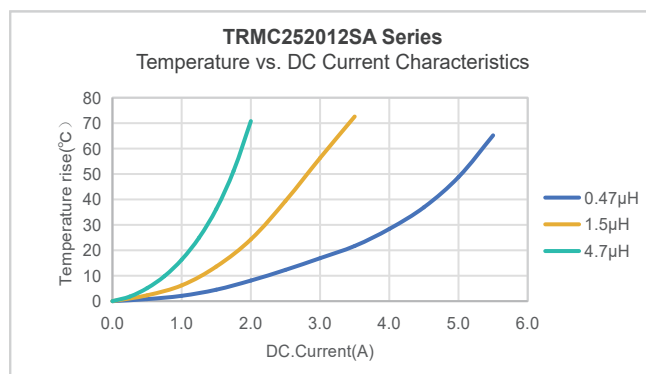
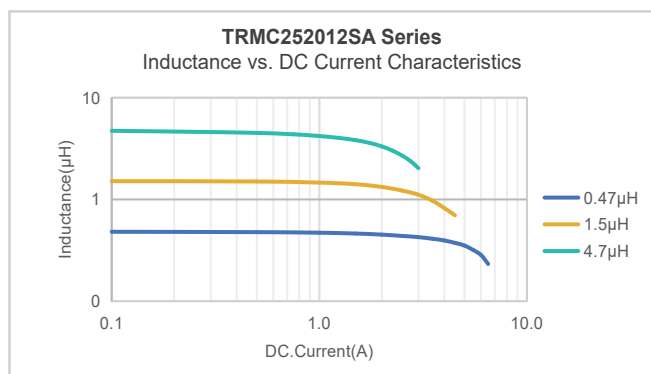
TRMC201610SA Series



TRMC252010SA Series

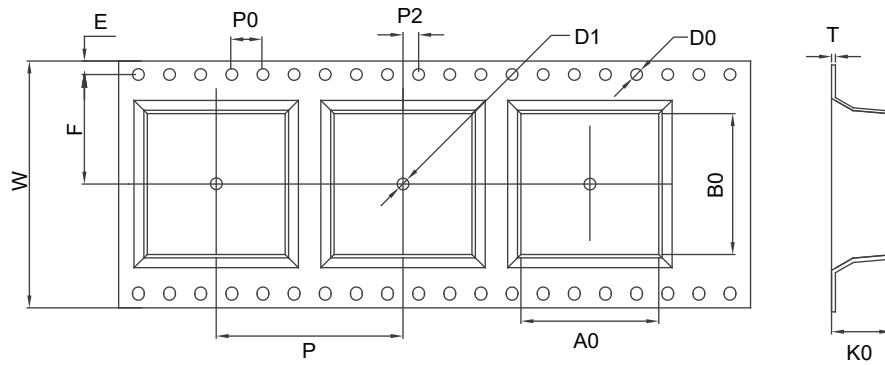


TRMC252012SA Series



Packaging Information

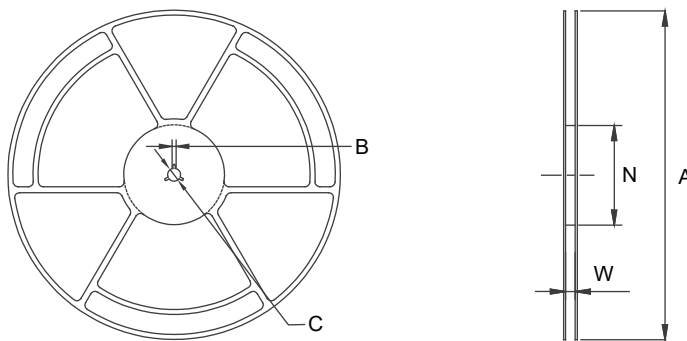
Tape Dimensions



Dimensions

Series	Tape Dimensions (mm)											
	W	P	P0	P2	D0	D1	T	A0	B0	K0	E	F
TRMC201610SA	8±0.3	4±0.1	4±0.1	2±0.05	1.55±0.05	/	0.22±0.05	1.8±0.1	2.2±0.1	1.15±0.1	1.75±0.1	3.5±0.05
TRMC252010SA	8±0.1	4±0.1	4±0.1	2±0.05	1.55±0.05	/	0.22±0.05	2.25±0.05	2.8±0.1	1.35±0.1	1.75±0.1	3.5±0.05
TRMC202512SA	8±0.3	4±0.1	4±0.1	2±0.05	1.55±0.05	/	0.25±0.05	2.5±0.1	3.0±0.1	1.6±0.1	1.75±0.1	3.5±0.05

Reel Dimensions



Dimensions

Series	Reel Dimensions (mm)					Quantity Reel
	A	W	N	B	C	
TRMC201610SA	178±1.0	12.0±0.5	60±0.5	2.2±0.5	13.0±0.2	3000 pcs / reel
TRMC252010SA	178±1.0	12.0±0.5	60±0.5	2.2±0.5	13.0±0.2	3000 pcs / reel
TRMC252012SA	178±1.0	12.0±0.5	60±0.5	2.2±0.5	13.0±0.2	3000 pcs / reel