Wire Wound Chip Inductors

Narrow Pad Wire Wound Inductors with High SRFs for RF Applications (TREM322522N, TREM453232N)

Preview

Token TREM Series is primarily designed for chip narrow pad, high SRFs, molded type, wire wound inductors and offers improved performance in the same compact case size. Product conforms to the RoHS directive and Lead-free. The TREM series chip inductor can be customed designs for tighter tolerances on request.

A Brief Introduction to the Product:

SMT Inductors EM322522N and EM453232N series are revolutionary, high reliable wire wound components for communication, equipment, instruments, video & audio have been developed in response to the trend toward higher density mounting of inductor parts in electric circuits.

Operating Temperature

- Range: -25 ~ +85 °C.

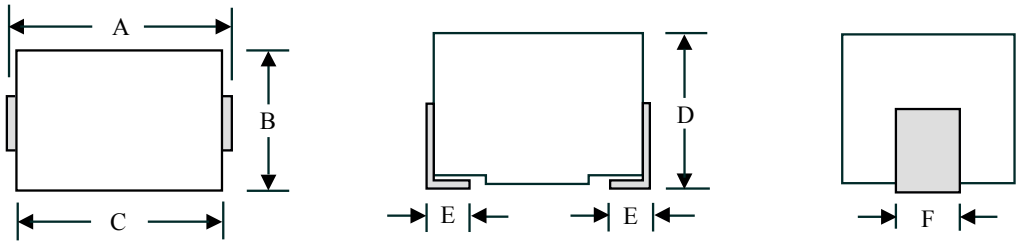
Features

- Metal terminals with excellent connection reliability.
- Accurate dimensions for automatically surface mounted.
- Lead-free materials is used for the plating on the terminals.
- High resistance to heat, humidity, mechanical shocks and presser.
- Good heat durability that withstands lead-free compatible reflow soldering conditions.

Applications

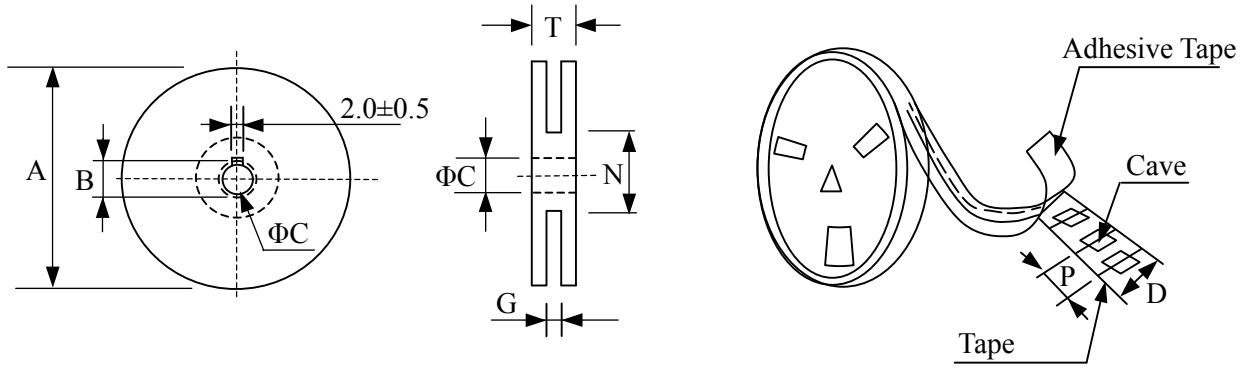
TREM series is suited for communication, video & audio, equipment, instrument which have been developed in response to the trend toward higher density mounting of parts in electric circuits.

TREM322522N, TREM453232N Series - Configurations & Dimensions



Type	A	B	C	D	E	F
TREM322522N(1210)	3.2 ± 0.4	2.5 ± 0.2	2.9 ± 0.3	2.2 ± 0.2	0.6 ± 0.2	1.0 ± 0.2
TREM453232N(1812)	4.5 ± 0.4	3.2 ± 0.2	4.2 ± 0.3	3.2 ± 0.2	1.0 ± 0.2	1.2 ± 0.2

TREM322522N, TREM453232N Series - Reel & Packaging



TYPE	A	B	C	D	G	N	T
8mm	178	21.0±0.8	13.0±0.5	8	10 max	50 min	14.4 max
12mm	178	21.0±0.8	13.0±0.5	10	14 max	50 min	14.4 max

TREM322522N (EIA 1210) - Electrical Characteristics

Part Number	Inductance (µH)	Tolerance (%)	Q (min)	Test Freq. (MHZ)	SRF (MHz)(min)	DCR (Ω)(max)	IDC (mA)
TREM322522N - R10*	0.10	±20,±10	28	100	700	0.44	450
TREM322522N - R12*	0.12	±20,±10	30	25.2	500	0.22	450
TREM322522N - R15*	0.15	±20,±10	30	25.2	450	0.25	450
TREM322522N - R18*	0.18	±20,±10	30	25.2	400	0.28	450
TCEtM322522N - R22*	0.22	±20,±10	30	25.2	350	0.32	450
TREM322522N - R27*	0.27	±20,±10	30	25.2	320	0.36	450
TREM322522N - R33*	0.33	±20,±10	30	25.2	300	0.40	450
TREM322522N - R39*	0.39	±20,±10	30	25.2	250	0.45	450
TREM322522N - R47*	0.47	±20,±10	30	25.2	220	0.50	450
TREM322522N - R56*	0.56	±20,±10	30	25.2	180	0.55	450
TREM322522N - R68*	0.68	±20,±10	30	25.2	160	0.60	450
TREM322522N - R82*	0.82	±20,±10	30	25.2	140	0.65	450
TREM322522N - 1R0*	1.00	±10,±5	30	7.96	120	0.70	400
TREM322522N - 1R2*	1.20	±10,±5	30	7.96	100	0.75	390
TREM322522N - 1R5*	1.50	±10,±5	30	7.96	85	0.85	370
TREM322522N - 1R8*	1.80	±10,±5	30	7.96	80	0.90	350
TREM322522N - 2R2*	2.20	±10,±5	30	7.96	75	1.00	320
TREM322522N - 2R7*	2.70	±10,±5	30	7.96	70	1.10	290
TREM322522N - 3R3*	3.30	±10,±5	30	7.96	60	1.20	260
TREM322522N - 3R9*	3.90	±10,±5	30	7.96	55	1.30	250
TREM322522N - 4R7*	4.70	±10,±5	30	7.96	50	1.50	220
TREM322522N - 5R6*	5.60	±10,±5	30	7.96	45	1.60	200
TREM322522N - 6R8*	6.80	±10,±5	30	7.96	40	1.80	180
TREM322522N - 8R2*	8.20	±10,±5	30	7.96	35	2.00	170
TREM322522N - 100*	10.0	±10,±5	30	2.52	30	2.10	150
TREM322522N - 120*	12.0	±10,±5	30	2.52	20	2.50	140
TREM322522N - 150*	15.0	±10,±5	30	2.52	20	2.80	130
TREM322522N - 180*	18.0	±10,±5	30	2.52	20	3.30	120
TREM322522N - 220*	22.0	±10,±5	30	2.52	20	3.70	110
TREM322522N - 270*	27.0	±10,±5	30	2.52	20	5.00	80
TREM322522N - 330*	33.0	±10,±5	30	2.52	17	5.60	70
TREM322522N - 390*	39.0	±10,±5	30	2.52	16	6.40	65
TREM322522N - 470*	47.0	±10,±5	30	2.52	15	7.00	60
TREM322522N - 560*	56.0	±10,±5	30	2.52	13	8.00	55
TREM322522N - 680*	68.0	±10,±5	30	2.52	12	9.00	50
TREM322522N - 820*	82.0	±10,±5	30	2.52	11	10.0	45
TREM322522N - 101*	100	±10,±5	20	0.796	10	10.0	40
TREM322522N - 121*	120	±10,±5	20	0.796	10	11.0	70
TREM322522N - 151*	150	±10,±5	20	0.796	8	15.0	65
TREM322522N - 181*	180	±10,±5	20	0.796	7	17.0	60
TREM322522N - 221*	220	±10,±5	20	0.796	7	21.0	50

Electrical Characteristics - TREM453232N (EIA 1812)

Part Number	Inductance (μH)	Tolerance (%)	Q (min)	Test Freq. (MHZ)	SRF (MHz)(min)	DCR (Ω)(max)	IDC (mA)
TREM453232N - R10*	0.10	±10,±20	25	25.2	300	0.18	800
TREM453232N - R12*	0.12	±10,±20	30	25.2	280	0.20	770
TREM453232N - R15*	0.15	±10,±20	30	25.2	250	0.22	730
TREM453232N - R18*	0.18	±10,±20	30	25.2	220	0.24	700
TREM453232N - R22*	0.22	±10,±20	30	25.2	200	0.25	665
TREM453232N - R27*	0.27	±10,±20	30	25.2	180	0.26	635
TREM453232N - R33*	0.33	±10,±20	30	25.2	165	0.28	605
TREM453232N - R39*	0.39	±10,±20	30	25.2	150	0.30	575
TREM453232N - R47*	0.47	±10,±20	30	25.2	145	0.32	545
TREM453232N - R56*	0.56	±10,±20	30	25.2	140	0.36	520
TREM453232N - R68*	0.68	±10,±20	30	25.2	135	0.40	500
TREM453232N - R82*	0.82	±10,±20	30	25.2	130	0.45	475
TREM453232N - 1R0*	1.00	±10,±20	40	7.96	100	0.50	450
TREM453232N - 1R2*	1.20	±10,±20	40	7.96	80	0.55	430
TREM453232N - 1R5*	1.50	±10,±20	40	7.96	70	0.60	410
TREM453232N - 1R8*	1.80	±10,±20	40	7.96	60	0.65	390
TREM453232N - 2R2*	2.20	±10,±20	40	7.96	55	0.70	380
TREM453232N - 2R7*	2.70	±10,±20	40	7.96	50	0.75	370
TREM453232N - 3R3*	3.30	±10,±20	40	7.96	45	0.80	355
TREM453232N - 3R9*	3.90	±10,±20	40	7.96	40	0.90	330
TREM453232N - 4R7*	4.70	±10,±20	40	7.96	35	1.00	315
TREM453232N - 5R6*	5.60	±10,±20	40	7.96	33	1.10	300
TREM453232N - 6R8*	6.80	±10,±20	40	7.96	27	1.20	285
TREM453232N - 8R2*	8.20	±5,±10	40	7.96	25	1.40	270
TREM453232N - 100*	10.0	±5,±10	40	2.52	20	1.60	250
TREM453232N - 120*	12.0	±5,±10	40	2.52	18	2.00	225
TREM453232N - 150*	15.0	±5,±10	40	2.52	17	2.50	200
TREM453232N - 180*	18.0	±5,±10	40	2.52	15	2.80	190
TREM453232N - 220*	22.0	±5,±10	40	2.52	13	3.20	180
TREM453232N - 270*	27.0	±5,±10	40	2.52	12	3.60	170
TREM453232N - 330*	33.0	±5,±10	40	2.52	11	4.00	160
TREM453232N - 390*	39.0	±5,±10	40	2.52	10	4.50	150
TREM453232N - 470*	47.0	±5,±10	40	2.52	10	5.00	140
TREM453232N - 560*	56.0	±5,±10	40	2.52	9	5.50	135
TREM453232N - 680*	68.0	±5,±10	40	2.52	9	6.00	130
TREM453232N - 820*	82.0	±5,±10	40	2.52	8	7.00	120
TREM453232N - 101*	100	±5,±10	30	0.796	8	8.00	110
TREM453232N - 121*	120	±5,±10	30	0.796	6	8.00	110
TREM453232N - 151*	150	±5,±10	30	0.796	5	9.00	105

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Part Number	Inductance (μH)	Toler-ance(%)	Q (min)	Test Freq. (MHZ)	SRF (MHz)(min)	DCR (Ω)(max)	IDC (mA)
TREM453232N - 181*	180	±5,±10	30	0.796	5	9.50	102
TREM453232N - 221*	220	±5,±10	30	0.796	4	10.0	100
TREM453232N - 271*	270	±5,±10	30	0.796	4	12.0	92
TREM453232N - 331*	330	±5,±10	30	0.796	3.5	14.0	85
TREM453232N - 391*	390	±5,±10	30	0.796	3	18.0	80
TREM453232N - 471*	470	±5,±10	30	0.796	3	26.0	62
TREM453232N - 561*	560	±5,±10	20	0.796	3	30.0	50
TREM453232N - 681*	680	±5,±10	20	0.796	3	30.0	50
TREM453232N - 821*	820	±5,±10	20	0.796	2.5	35.0	30
TREM453232N - 102*	1000	±5,±10	10	0.252	2.5	40.0	30

Note: Test equipment L, Q: HP4285A +16034E, or equivalent
SRF: HP8753C NETWORK ANALYZER, or equivalent.
DC resistance: AX-111A DIGITAL MILLIOHM METER, or equivalent.

TREM322522N, TREM453232N - Mechanical Performance Test

REQUIREMENTS	CHARACTERISTICS	TEST METHOD(DIS C 5321)
Terminal Strength	No evidence of damage	Terminals shall withstand a pull of 0.5Kgf in a horizoninal direction
Vibration	Δ L/L shall be within ±3%. No evidence of damage	2 hours in each direction of X,Y,Z on p-Board at a frequency range of 10-55-10HZ with 1.5mm amplitude
Dropping	Δ L/L shall be within ±3%. No evidence of damage	Dropping 1m over the ground of conctete or cement

TREM322522N, TREM453232N - Electrical Performance Test

REQUIREMENTS	CHARACTERISTICS	TEST METHOD(JIS C 5321)
Resistance to Soldering Heat	No evidence of damage Δ L/L shall be within ±3%	Immerse in the solder (H63A) of 260±5°C for 10±1sec, leave for 2hrs at normal TEMP
Solderability	More than 90% surface to be covered with new soldering	AV100V 60 SEC.T
Dielectric with standing volt-age	No veridence of breakdown resistor 1000 Mohm and over	DC500V 30 SEC.
Insulation Resistance	No veidence of breakdown, resistor 1000 Mohm and over	DC 500V 30 SEC.

TREM322522N, TREM453232N - Climatic Test

REQUIREMENTS	CHARACTERISTICS	TEST METHOD(JIS C 5321)
LOW TEMP. Characteristics	No evidence of damage, Δ L/L within ±5%, Q/Q within ±30%	Immerse in the solder (H63A)of 260±5°C for 10±1sec, leave for 2hrs at normal TEMP.
TEMP. Cycling	No evidence of damage, Δ L/L within ±5	Keep for 30 min. at TEMP.of -25°C~+85° Cat 5 cycle case of TEMP. change from low to high and V.V.
Temperature Characteristics	Δ L/L within ±3%	Δ L/L to be measured at the temperature of between -25°C and +85°C
Moiisture load Characteristics	No evidence of damage, Δ L/L within ±5%, Q/Q within ±30	TEMP.40±2°C,Humidity 90~95% 96± 2hrs, measurements shall be performed after 1~2hrs at normal TEMP..
High TEMP. overload Characteristics	No evidence of damage,Δ L/L within ±5%,Q/Q within ±30	Leave for 96±2hrs in a bath of TEMP.85±2°C,measurements shall be per-formed after 1~2hrs at normal TEMP.

How to Order

TREM322522N ❶ 1R0 ❷ M ❸

❶ Part Number: TREM322522N
TREM453232N

❷ Inductance:

Code	Inductance
R10	0.10μH
1R0	1.00μH
100	10.00×10^{0}μH
101	10.00×10^{1}μH
102	10.00×10^{2}μH
103	10.00×10^{3}μH

❸ Tolerance

Code	Tolerance
J	5%
K	10%
M	20%

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