

RF Wire Wound Inductors

**Chip Narrow Pad Wirewound Inductors
with High Current for RF Applications
(TREC322522N, TREC453232N)**

▶ Preview

Token Chip Wirewound Inductor Molded Type - EC Series is primarily designed for choking power lines and conform to the RoHS directive and Lead-free. Chip inductor can be customized designs and tighter tolerances available on request.

Application of RF Chip Wirewound Inductor specific designs also available including different inductance values and Q specifications adjusted to frequency requirements.

A Brief Introduction to the Product

SMD Inductors EC322522N and EC453232N 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

- Lead-free materials is used for the plating on the terminals.
- The product uses metal terminals, which realize excellent connection reliability.
- The product has good heat durability that withstands lead-free compatible reflow soldering conditions.
- High resistance to heat, humidity, mechanical shocks and presser. Accurate dimensions for automatically surface mounted.

Applications

TREC series high reliable wire would chip inductors for communication, equipment, instrument, video & audio have been developed in response to the trend toward higher density mounting of parts in electric circuits.



TREC322522N, TREC453232N - Configurations & Dimensions

Type	A	B	C	D	E	F
TREC322522N(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
TREC453232N(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

TREC322522N, TREC453232N - Reel & Packaging

Type	A	S	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

TREC453232N (EIA 1812) - Electrical Characteristics

Part No.	Inductance (μ H)	Q (min)	Test Freq. (MHZ)	SRF (MHz)(min)	DCR (Ω)(max)	IDC (mA)
TREC453232N - 1R0K	1.0 \pm 10%	10	7.96	180	0.11	1050
TREC453232N - 1R2K	1.2 \pm 10%	10	7.96	160	0.12	1000
TREC453232N - 1R5K	1.5 \pm 10%	10	7.96	130	0.15	950
TREC453232N - 1R8K	1.8 \pm 10%	10	7.96	100	0.16	900
TREC453232N - 2R2K	2.2 \pm 10%	10	7.96	80	0.18	850
TREC453232N - 2R7K	2.7 \pm 10%	10	7.96	60	0.20	800
TREC453232N - 3R3K	3.3 \pm 10%	10	7.96	45	0.22	750
TREC453232N - 3R9K	3.9 \pm 10%	10	7.96	40	0.24	700
TREC453232N - 4R7K	4.7 \pm 10%	10	7.96	35	0.27	650
TREC453232N - 5R6K	5.6 \pm 10%	10	7.96	30	0.30	650
TREC453232N - 6R8K	6.8 \pm 10%	10	7.96	28	0.35	600
TREC453232N - 8R2K	8.2 \pm 10%	10	7.96	25	0.40	600
TREC453232N - 100K	10 \pm 10%	10	2.52	22	0.50	550
TREC453232N - 120K	12 \pm 10%	10	2.52	21	0.60	500
TREC453232N - 150K	15 \pm 10%	10	2.52	20	0.70	450
TREC453232N - 180K	18 \pm 10%	10	2.52	19	0.80	400
TREC453232N - 220K	22 \pm 10%	10	2.52	18	0.90	370
TREC453232N - 270K	27 \pm 10%	10	2.52	16	1.20	330
TREC453232N - 330K	33 \pm 10%	10	2.52	14	1.40	300
TREC453232N - 390K	39 \pm 10%	10	2.52	12	1.60	280
TREC453232N - 470K	47 \pm 10%	10	2.52	11.5	1.90	260
TREC453232N - 560K	56 \pm 10%	10	2.52	11	2.20	240
TREC453232N - 680K	68 \pm 10%	10	2.52	10	2.60	220
TREC453232N - 820K	82 \pm 10%	10	2.52	9	3.50	200
TREC453232N - 101K	100 \pm 10%	20	0.796	8	4.00	180
TREC453232N - 121K	120 \pm 10%	20	0.796	7.5	4.50	160
TREC453232N - 151K	150 \pm 10%	20	0.796	7	6.50	140
TREC453232N - 181K	180 \pm 10%	20	0.796	6.5	7.50	120
TREC453232N - 221K	220 \pm 10%	20	0.796	5.5	9.00	120
TREC453232N - 271K	270 \pm 10%	20	0.796	5	11.0	100
TREC453232N - 331K	330 \pm 10%	20	0.796	4	13.0	90

Note: 1. Test equipment L, Q: HP4285A +16034E, or equivalent.
 2. SRF: HP8753C NETWORK ANALYZER, or equivalent.
 3. DC resistance: AX-111A DIGITAL MILLIOHM METER, or equivalent.

TREC322522N (EIA 1210) - Electrical Characteristics

Part No.	Inductance (μH)	Q (min)	Test Freq. (MHZ)	SRF (MHz)(min)	DCR (Ω)(max)	IDC (mA)
TREC322522N - 1R0M	1.0 ± 20%	10	7.96	100	0.156	770
TREC322522N - 1R5M	1.5 ± 20%	10	7.96	80	0.195	580
TREC322522N - 2R2M	2.2 ± 20%	10	7.96	65	0.260	480
TREC322522N - 3R3M	3.3 ± 20%	10	7.96	55	0.325	400
TREC322522N - 4R7M	4.7 ± 20%	10	7.96	45	0.520	320
TREC322522N - 6R8M	6.8 ± 20%	10	7.96	35	0.650	280
TREC322522N - 100K	10 ± 10%	15	2.52	28	1.105	220
TREC322522N - 150K	15 ± 10%	15	2.52	25	1.690	180
TREC322522N - 220K	22 ± 10%	15	2.52	20	2.600	145
TREC322522N - 330K	33 ± 10%	15	2.52	15	3.640	115
TREC322522N - 390K	39 ± 10%	15	2.52	14	4.500	110
TREC322522N - 470K	47 ± 10%	15	2.52	13	5.460	105
TREC322522N - 680K	68 ± 10%	15	2.52	10	8.450	85
TREC322522N - 820K	82 ± 10%	15	2.52	9	8.710	80
TREC322522N - 101K	100 ± 10%	15	0.796	8	10.14	75

- Note: 1. Test equipment L, Q: HP4285A +16034E, or equivalent
 2. SRF: HP8753C NETWORK ANALYZER, or equivalent.
 3. DC resistance: AX-111A DIGITAL MILLIOHM METER, or equivalent.

TREC322522N, TREC453232N - 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 horizontal 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 concrete or cement

TREC322522N, TREC453232N - 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.
Dielectric with standing voltage	No evidence of breakdown resistor 1000 Mohm and over	DC500V 30 SEC.
Insulation Resistance	No evidence of breakdown, resistor 1000 Mohm and over	DC 500V 30 SEC.

▶ TREC322522N, TREC453232N - Climatic Test

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

▶ How to Order

TREC322522N
 1R0
 M

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❶ Part Number: TREC322522N
TREC453232N

❷ Inductance:

Code	Inductance
R10	$0.10 \mu\text{H}$
1R0	$1.00 \mu\text{H}$
100	$10.00 \times 10^0 \mu\text{H}$
101	$10.00 \times 10^1 \mu\text{H}$
102	$10.00 \times 10^2 \mu\text{H}$
103	$10.00 \times 10^3 \mu\text{H}$

❸ Tolerance

Code	Tolerance
K	10%
M	20%

Back to 1st Page - Chip Wire Wound Inductors (TREC)