SMD Inductors - Wirewound Chip Molded Type CM Series / 贴片绕线电感

A Brief Introduction to the Product

SMD Inductor CM322522 and CM453232 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 parts in electric circuits.

SMD Wirewound Inductor Features

- High resistance to heat and humidity.
- Resistant to mechanical shocks and pressures. Accurate dimensions for automatically surface mounted.

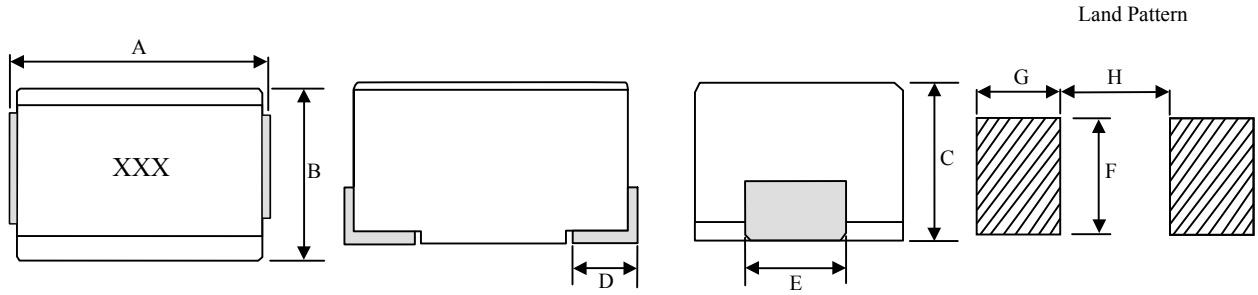
Applications

- Communication Products .
- Liquid crystal TV, Video camera .

Materials

- Ferrite DR core, enamelled copper wire, tinned copper flat, epoxy novolac moldind compound

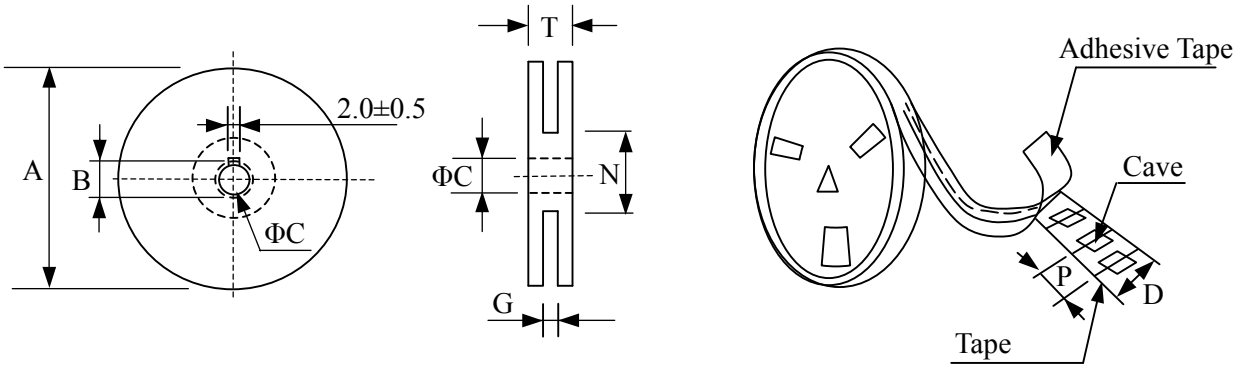
SMD Wirewound Inductor Configurations & Dimensions (unit: mm)



Type	A	B	C	D	E	F	G	H
TCCM322522(1210)	3.2 ± 0.3	2.5 ± 0.2	2.2 ± 0.2	$0.4^{+0.1}_{-0}$	1.9 ± 0.1	3.0	1.0	2.0
TCCM453232(1812)	4.5 ± 0.3	3.2 ± 0.2	3.2 ± 0.2	$0.4^{+0.1}_{-0}$	2.6 ± 0.1	4.0	1.5	3.0

Packaging - SMD Wirewound Inductors

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



Electrical Characteristics for TCCM322522(1210) Series - SMD Wirewound Inductors

Part No.	Inductance (μH)	Q (min)	Test Freq. (MHZ)	SRF (MHz)(min)	DCR (Ω)(max)	IDC (mA)
TCCM322522 - R12M	0.12 ± 20%	30	25.2	500	0.22	450
TCCM322522 - R15M	0.15 ± 20%	30	25.2	450	0.25	450
TCCM322522 - R18M	0.18 ± 20%	30	25.2	400	0.28	450
TCCM322522 - R22M	0.22 ± 20%	30	25.2	350	0.32	450
TCCM322522 - R27M	0.27 ± 20%	30	25.2	320	0.36	450
TCCM322522 - R33M	0.33 ± 20%	30	25.2	300	0.40	450
TCCM322522 - R39M	0.39 ± 20%	30	25.2	250	0.45	450
TCCM322522 - R47M	0.47 ± 20%	30	25.2	220	0.50	450
TCCM322522 - R56M	0.56 ± 20%	30	25.2	180	0.55	450
TCCM322522 - R68M	0.68 ± 20%	30	25.2	160	0.60	450
TCCM322522 - R82M	0.82 ± 20%	30	25.2	140	0.65	450
TCCM322522 - 1R0M	1.0 ± 20%	30	7.96	120	0.70	400
TCCM322522 - 1R2M	1.2 ± 20%	30	7.96	100	0.75	390
TCCM322522 - 1R5M	1.5 ± 20%	30	7.96	85	0.85	370
TCCM322522 - 1R8M	1.8 ± 20%	30	7.96	80	0.90	350
TCCM322522 - 2R2M	2.2 ± 20%	30	7.96	75	1.00	320
TCCM322522 - 2R7M	2.7 ± 20%	30	7.96	70	1.10	290
TCCM322522 - 3R3K	3.3. ± 10%	30	7.96	60	1.20	260
TCCM322522 - 3R9K	3.9 ± 10%	30	7.96	55	1.30	250
TCCM322522 - 4R7K	4.7 ± 10%	30	7.96	50	1.50	220
TCCM322522 - 5R6K	5.6 ± 10%	30	7.96	47	1.60	200
TCCM322522 - 6R8K	6.8 ± 10%	30	7.96	43	1.80	180
TCCM322522 - 8R2K	8.2 ± 10%	30	7.96	40	2.00	170
TCCM322522 - 100K	10.0 ± 10%	30	2.52	36	2.10	150
TCCM322522 - 120K	12.0 ± 10%	30	2.52	33	2.50	140
TCCM322522 - 150K	15.0 ± 10%	30	2.52	30	2.80	130
TCCM322522 - 180K	18.0 ± 10%	30	2.52	27	3.30	120
TCCM322522 - 220K	22.0 ± 10%	30	2.52	25	3.70	110
TCCM322522 - 270K	27.0 ± 10%	30	2.52	20	5.00	80
TCCM322522 - 330K	33.0 ± 10%	30	2.52	17	5.60	70
TCCM322522 - 390K	39.0 ± 10%	30	2.52	16	6.40	65
TCCM322522 - 470K	47.0 ± 10%	30	2.52	15	7.00	60
TCCM322522 - 560K	56.0 ± 10%	30	2.52	13	8.00	55
TCCM322522 - 680K	68.0 ± 10%	30	2.52	12	9.00	50
TCCM322522 - 820K	82.0 ± 10%	30	2.52	11	10.00	45
TCCM322522 - 101K	100 ± 10%	20	0.796	10	10.00	40
TCCM322522 - 121K	120 ± 10%	20	0.796	10	11.00	70
TCCM322522 - 151K	150 ± 10%	20	0.796	8	15.00	65
TCCM322522 - 181K	180 ± 10%	20	0.796	7	17.00	60
TCCM322522 - 221K	220 ± 10%	20	0.796	7	21.00	50

Electrical Characteristics for TCCM453232(1812) Series - SMD Wirewound Inductors

Part No.	Inductance(μH)	Q(min)	Test Freq.(MHZ)	SRF(MHz)(min)	DCR(Ω)(max)	IDC(mA)
TCCM453232 - R10M	0.10 ± 20%	35	25.2	300	0.18	800
TCCM453232 - R12M	0.12 ± 20%	25	25.2	280	0.20	770
TCCM453232 - R15M	0.15 ± 20%	25	25.2	250	0.22	730
TCCM453232 - R18M	0.18 ± 20%	25	25.2	220	0.24	700
TCCM453232 - R22M	0.22 ± 20%	25	25.2	200	0.25	665
TCCM453232 - R27M	0.27 ± 20%	30	25.2	180	0.26	635
TCCM453232 - R33M	0.33 ± 20%	30	25.2	165	0.28	605
TCCM453232 - R39M	0.39 ± 20%	30	25.2	150	0.30	575
TCCM453232 - R47M	0.47 ± 20%	30	25.2	145	0.32	545
TCCM453232 - R56M	0.56 ± 20%	30	25.2	140	0.36	520
TCCM453232 - R68M	0.68 ± 20%	30	25.2	135	0.40	500
TCCM453232 - R82M	0.82 ± 20%	30	25.2	130	0.45	475
TCCM453232 - 1R0K	1.0 ± 10%	40	7.96	100	0.50	450
TCCM453232 - 1R2K	1.2 ± 10%	40	7.96	80	0.55	430
TCCM453232 - 1R5K	1.5 ± 10%	40	7.96	70	0.55	410
TCCM453232 - 1R8K	1.8 ± 10%	40	7.96	60	0.65	390
TCCM453232 - 2R2K	2.2 ± 10%	40	7.96	55	0.70	380
TCCM453232 - 2R7K	2.7 ± 10%	40	7.96	50	0.75	370
TCCM453232 - 3R3K	3.3 ± 10%	40	7.96	45	0.80	355
TCCM453232 - 3R9K	3.9 ± 10%	40	7.96	40	0.90	330
TCCM453232 - 4R7K	4.7 ± 10%	40	7.96	35	1.00	315
TCCM453232 - 5R6K	5.6 ± 10%	40	7.96	33	1.10	300
TCCM453232 - 6R8K	6.8 ± 10%	40	7.96	27	1.20	285
TCCM453232 - 8R2K	8.2 ± 10%	40	7.96	25	1.40	270
TCCM453232 - 100K	10.0 ± 10%	40	2.52	20	1.60	250
TCCM453232 - 120K	12.0 ± 10%	40	2.52	18	2.00	225
TCCM453232 - 150K	15.0 ± 10%	40	2.52	17	2.50	200
TCCM453232 - 180K	18.0 ± 10%	40	2.52	15	2.80	190
TCCM453232 - 220K	22.0 ± 10%	40	2.52	13	3.20	180
TCCM453232 - 270K	27.0 ± 10%	40	2.52	12	3.60	170
TCCM453232 - 330K	33.0 ± 10%	40	2.52	11	4.00	160
TCCM453232 - 390K	39.0 ± 10%	40	2.52	10	4.50	150
TCCM453232 - 470K	47.0 ± 10%	40	2.52	10	5.00	140
TCCM453232 - 560K	56.0 ± 10%	40	2.52	9.0	5.50	135
TCCM453232 - 680K	68.0 ± 10%	40	2.52	9.0	6.00	130
TCCM453232 - 820K	82.0± 10%	40	2.52	8.0	7.00	120
TCCM453232 - 101K	100 ± 10%	30	0.796	8.0	8.00	110
TCCM453232 - 121K	120 ± 10%	30	0.796	6.0	8.00	110
TCCM453232 - 151K	150 ± 10%	30	0.796	5.0	9.00	105
TCCM453232 - 181K	180 ± 10%	30	0.796	5.0	9.50	102
TCCM453232 - 221K	220 ± 10%	30	0.796	4.0	10.0	100
TCCM453232 - 271K	270 ± 10%	30	0.796	4.0	12.0	92
TCCM453232 - 331K	330 ± 10%	30	0.796	3.5	14.0	85
TCCM453232 - 391K	390 ± 10%	30	0.796	3.0	18.0	80
TCCM453232 - 471K	470 ± 10%	30	0.796	3.0	26.0	62
TCCM453232 - 561K	560 ± 10%	20	0.796	3.0	30.0	50
TCCM453232 - 681K	680 ± 10%	20	0.796	3.0	30.0	50
TCCM453232 - 821K	820 ± 10%	20	0.796	2.5	35.0	30
TCCM453232 - 102K	1000 ± 10%	20	0.252	2.5	40.0	30

SMD Wirewound Inductor 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

SMD Wirewound Inductor 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 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.

SMD Wirewound Inductor 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 performed after 1~2hrs at normal TEMP.

How to Order

TCCM322522 - R10 M

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❶ SMD Inductors Wirewound Chip Molded Type: TCCM322522, TCCM453232

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

❸ Tolerance

Code	Tolerance
J	5%
K	10%
M	20%