MOLDED WIREWOUND CHIP INDUCTORS

WI322522 SERIES

1. PART NO. EXPRESSION :

W I 3 2 2 5 2 2 - R 1 2 K F - □ □

(a) (b) (c) (d) (e) (f)

(a) Series code

(b) Dimension code

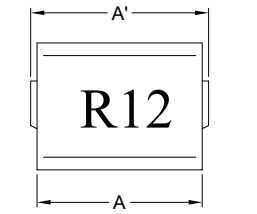
(c) Inductance code : R12 = 0.12uH

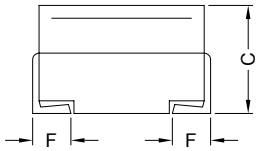
(d) Tolerance code : J = ±5%, K = ±10%, M = ±20%

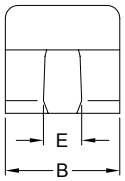
(e) F : RoHS Compliant

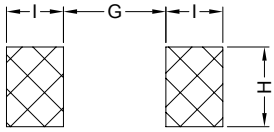
(f) 11 ~ 99 : Internal controlled number

2. CONFIGURATION & DIMENSIONS :







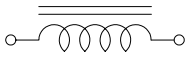


PCB Pattern

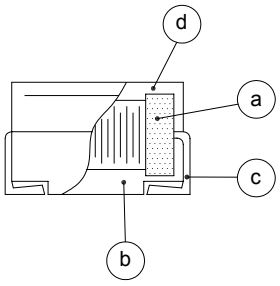
Unit:m/m

A'	A	B	C	E	F	G	H	I
3.2±0.4	2.9±0.2	2.5±0.2	2.2±0.2	1.0±0.3	0.6±0.2	1.8 Ref.	1.4 Ref.	1.0 Ref.

3. SCHEMATIC :



4. MATERIALS :



(a) Core : DR Ferrite Core

(b) Wire : Enamelled Copper Wire

(c) Terminal : Tinned Copper Flat

(d) Capsulate : Epoxy Novolac Molding Compound

RoHS Compliant

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23.02.2011

5. GENERAL SPECIFICATION :

a) Temp. rise : 20°C Max.

b) Ambient temp. : 100°C Max.

c) Storage temp. : -40°C to +125°C

d) Operating temp. : -40°C to +125°C

e) Terminal strength : 0.5Kg Min.

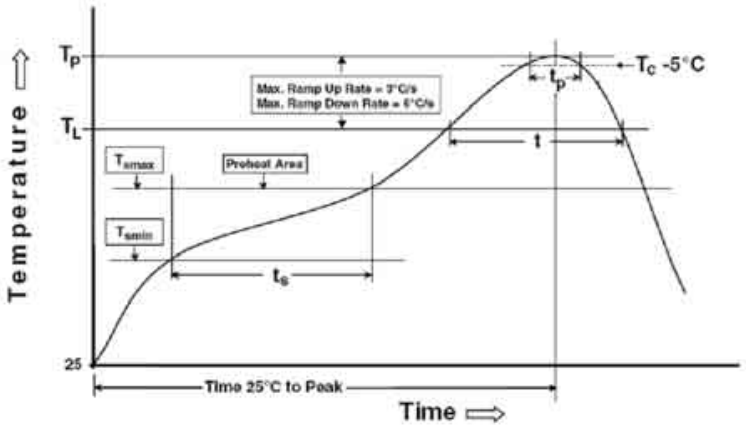
f) Rated current : Current cause inductance drop within 10%

g) Resistance to solder heat : 260°C for 10secs

h) Resistance to solvent : Per MIL-STD-202F

6. RECOMMENDED REFLOW SOLDERING PROFILE :

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat & Soak Temperature min. (T_{smin}) Temperature max. (T_{smax}) Time (T_{smin} to T_{smax}) (t_s)	 100°C 150°C 60~120 seconds	 150°C 200°C 60~120 seconds
Average ramp-up rate (T_{smax} to T_p)	30°C/second max.	3°C/second max.
Liquidous temperature (T_L) Time at liquidous (t_L)	183°C 60~150 seconds	217°C 60~150 seconds
Peak package body temperature (T_p)	230°C	250°C
Time (t_p) within 5°C of the specified classification temperature (T_c)	10 seconds max	10 seconds max
Average ramp-down rate (T_p to T_{smax})	6°C/second max.	6°C/second max.
Time 25°C to peak temperature	6 minutes max.	8 minutes max.



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7. ELECTRICAL CHARACTERISTICS :

Part No.	Inductance (μH)	Q Min.	Test Frequency (MHz)	SRF (MHz) Min.	RDC (Ω) Max.	IDC (mA) Max.
WI322522-R12□F-□□	0.12	30	25.2	500	0.220	450
WI322522-R15□F-□□	0.15	30	25.2	450	0.250	450
WI322522-R18□F-□□	0.18	30	25.2	400	0.280	450
WI322522-R22□F-□□	0.22	30	25.2	350	0.320	450
WI322522-R27□F-□□	0.27	30	25.2	320	0.360	450
WI322522-R33□F-□□	0.33	30	25.2	300	0.400	450
WI322522-R39□F-□□	0.39	30	25.2	250	0.450	450
WI322522-R47□F-□□	0.47	30	25.2	220	0.500	450
WI322522-R56□F-□□	0.56	30	25.2	180	0.550	450
WI322522-R68□F-□□	0.68	30	25.2	160	0.600	450
WI322522-R82□F-□□	0.82	30	25.2	140	0.650	450
WI322522-1R0□F-□□	1.00	30	7.96	120	0.700	400
WI322522-1R2□F-□□	1.20	30	7.96	100	0.750	390
WI322522-1R5□F-□□	1.50	30	7.96	70	0.850	370
WI322522-1R8□F-□□	1.80	30	7.96	75	0.900	454
WI322522-2R4□F-□□	2.40	30	7.96	50	1.000	320
WI322522-2R7□F-□□	2.70	30	7.96	45	1.100	290
WI322522-3R3□F-□□	3.30	30	7.96	40	1.200	260
WI322522-3R9□F-□□	3.90	30	7.96	37	1.300	250
WI322522-4R7□F-□□	4.70	30	7.96	32	1.500	220
WI322522-5R6□F-□□	5.60	30	7.96	30	1.600	200
WI322522-6R8□F-□□	6.80	30	7.96	28	1.800	180
WI322522-8R2□F-□□	8.20	30	7.96	25	2.000	170
WI322522-100□F-□□	10.00	30	2.52	23	2.100	150
WI322522-120□F-□□	12.00	30	2.52	20	2.500	140
WI322522-150□F-□□	15.00	30	2.52	20	2.800	130
WI322522-180□F-□□	18.00	30	2.52	20	3.300	120
WI322522-220□F-□□	22.00	30	2.52	20	3.700	110
WI322522-270□F-□□	27.00	30	2.52	20	5.000	153
WI322522-330□F-□□	33.00	30	2.52	17	5.600	70
WI322522-390□F-□□	39.00	30	2.52	16	6.400	65
WI322522-470□F-□□	47.00	30	2.52	15	7.000	60
WI322522-560□F-□□	56.00	30	2.52	13	8.000	55
WI322522-680□F-□□	68.00	30	2.52	12	9.000	50
WI322522-820□F-□□	82.00	30	2.52	11	10.000	45
WI322522-101□F-□□	100.00	20	0.796	10	11.000	40
WI322522-121□F-□□	120.00	20	0.796	8.0	12.000	70
WI322522-151□F-□□	150.00	20	0.796	8.0	16.000	65
WI322522-181□F-□□	180.00	20	0.796	6.0	17.000	60
WI322522-221□F-□□	220.00	20	0.796	6.0	21.000	50

Inductance tolerance : J : ±5%
K : ±10%
M : ±20%

RoHS Compliant

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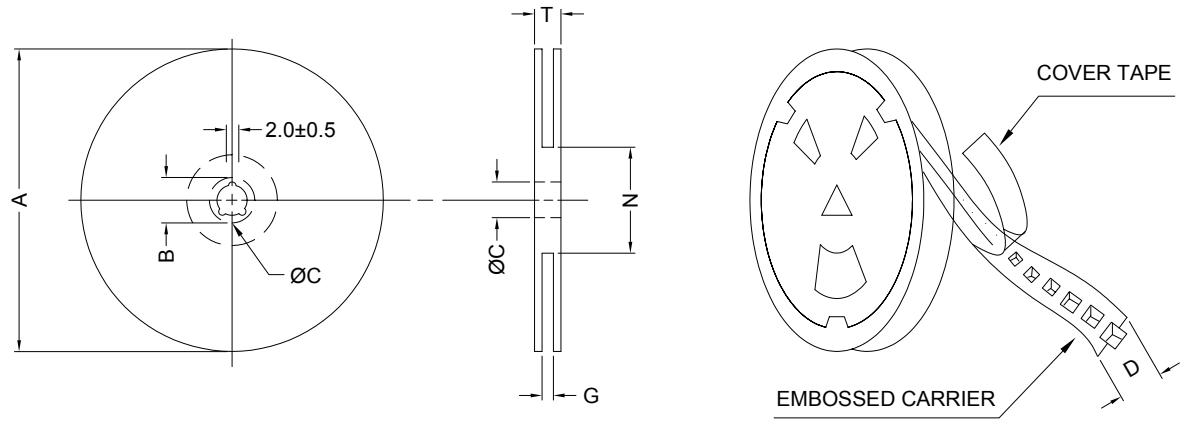
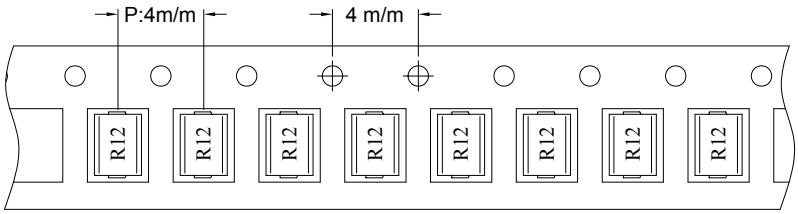
8. PACKAGING INFORMATION :

(1) CONFIGURATION



* CARRIER TAPE WIDTH : D



(2) DIMENSIONS

Unit:m/m

A	B	C	D	G	N	T
178	21±0.8	13	8	10^{+0}	50^{-0}	12.5

(3) Q'TY & G.W. PER PACKAGE

Packing : 2000pcs/reel

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9. RELIABILTY TEST :

TEST ITEM	SPECIFICATION	TEST CONDITION / TEST METHOD
● ELECTRICAL PERFORMANCE TEST		
INDUCTANCE L	REFER TO STANDARD ELECTRICAL CHARACTERISTIC LIST	Q-METER : HP4342A, □HP4194A, □HPE4991A
Q		
SELF RESONANCE FREQUENCY SRF		IMPEDANCE ANALYZER : □HP4194A, □HPE4991A
DC RESISTANCE RDC		WHEATSTONE BRIDGE : □YEW-2755 DIGITAL MULITMETER : □502BC
RATED CURRENT IDC		APPLIED THE CURRENT TO COILS, THE INDUCTANCE CHANGE SHALL BE LESS THAN 10% TO INITIAL VALUE & TEMPERATURE RISE SHALL NOT BE MORE THAN 20°C
TEMPERATURE RISE TEST	20°C MAX	1. APPLIED THE ALLOWED DC CURRENT FOR 10 MINUTES 2. TEMPERATURE MEASURE BY DIGITAL SURFACE THERMOMETER
OVER LOAD TEST	AFTER TEST, INDUCTORS SHALL BE NO EVIDENCE OF ELECTRICAL AND MECHANICAL DAMAGE	APPLIED 2 TIMES OF RATED ALLOWED DC CURRENT TO INDUCTOR FOR A PERIOD OF 5 MINUTES
WITHSTANDING VOLTAGE TEST	AFTER TEST, INDUCTORS SHALL BE NO EVIDENCE OF ELECTRICAL AND MECHANICAL DAMAGE	AC VOLTAGE OF 1000VAC APPLIED BETWEEN INDUCTORS TERMINAL AND CASE FOR 1 MINUTE
INSULATION RESISTANCE TEST	1000 MOHM MIN.	250 VDC APPLIED BETWEEN INDUCTOR TERMINAL AND CASE
● MECHANICAL PERFORMANCE TEST		
VIBRATION TEST (LOW FREQUENCY)	1. INDUCTORS SHALL BE NO EVIDENCE OF ELECTRICAL AND MECHANICAL DAMAGE 2. INDUCTANCE SHALL NOT CHANGE MORE THAN ±5% 3. Q SHALL NOT CHANGE MORE THAN ±20%	1. AMPLITUDE :1.5 m/m 2. FFREQUENCY :10 -- 55 -- 10 HZ / 1MIN 3. DIRECTION :X, Y, Z 4. DURATION :2 HRS / X, Y, Z
SHOCK TEST		INDUCTORS SHALL BE DROPPED 10 TIMES FROM A HEIGHT OF 1m ONTO 3cm WOODEN BOARD
RESISTANCE TO SOLDERING HEAT		TEMP :260±5°C TIME :10±1.0 SEC

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9. RELIABILTY TEST :

TERMINAL STRENGTH-PULL TEST	TERMINAL SHALL NOT BE LOOSENED OR RUPTURED	A 1KG LOAD SHALL BE APPLIED TO BOTH TERMINALS IN THE AXIS DIRECTION FOR 1 MINUTE. (0.5KG FOR WI322522 SERIES)
SOLDERABILITY TEST	THE TERMINAL SHALL BE AT LEAST 90% COVERED WITH SOLDER	AFTER FLUXING, INDUCTOR SHALL BE DIPPED IN A MELTED SOLDER BATH AT 240±5°C FOR 5 SECONDS.
RESISTANCE TO SOLVENT TEST	THERE SHALL BE NO CASE DEFORMATION CHANGE IN APPEARANCE OR OBLITERATION OF MARKING	MIL-STD-202F, METHOD 215D
● CLIMATIC TEST		
TEMPERATURE CHARACTERISTIC	1. INDUCTORS SHALL BE NO EVIDENCE OF ELECTRICAL AND MECHANICAL DAMAGE 2. INDUCTANCE SHALL NOT CHANGE MORE THAN ±10% 3. Q SHALL NOT CHANGE MORE THAN ±20%	-40°C ----- +125°C
HUMIDITY TEST		1. TEMP :40±2°C 2. R.H. :90 ----- 95% 3. TIME :96±2 HOURS
COLD TEST		1. TEMP :-25±2°C 2. TIME :96±2 HOURS
THERMAL SHOCK TEST		ROOM TEMP 15 MINS → -40±2°C 30 MINS → ROOM TEMP 15 MINS → +125±2°C 30 MINS TOTAL :5 CYCLES
DRY HEAT TEST		1. TEMP :85±2°C 2. TIME :96±2 HOURS
HIGH TEMPERATURE LOAD LIFE TEST	THERE SHALL BE NO EVIDENCE OF SHORT OR OPEN CIRCUITING	1. TEMP :85±2°C 2. TIME :1000±12 HOURS 3. LOAD :ALLOWED DC CURRENT
HUMIDITY LOAD LIFE		1. TEMP :40±2°C 2. R.H. :90 ----- 95% 3. TIME :1000±12 HOURS 4. LOAD :ALLOWED DC CURRENT

● Note :

Unless otherwise specified, allow the specimen to stand at room temperature for 1 hour or more but more than 2 hours, measure the electrical and mechanical performances

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