

MOLDED WIREWOUND CHIP INDUCTORS

WI453232 SERIES

1. PART NO. EXPRESSION :

WI453232 - R10 J F

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

(a) Series code

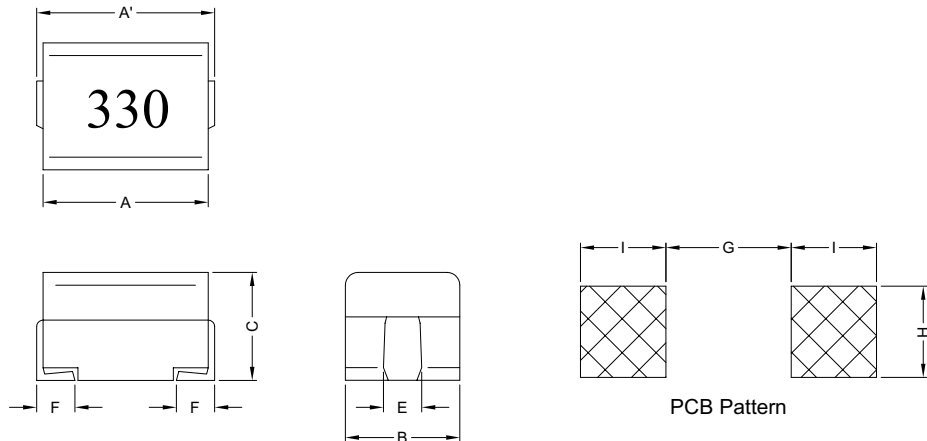
(b) Dimension code

(c) Inductance code : R10 = 0.10uH

(d) Tolerance code : J = $\pm 5\%$, K = $\pm 10\%$, M = $\pm 20\%$

(e) F : Lead Free

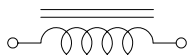
2. CONFIGURATION & DIMENSIONS :



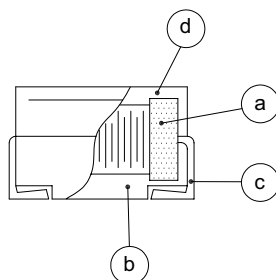
Unit:m/m

A'	A	B	C	E	F	G	H	I
4.5 $\pm$ 0.3	4.2 $\pm$ 0.2	3.2 $\pm$ 0.2	3.2 $\pm$ 0.2	1.2 $\pm$ 0.2	1.0 $\pm$ 0.2	2.2 Ref.	1.6 Ref.	1.5 Ref.

3. SCHEMATIC :



4. MATERIALS :



(a) Core : DR Ferrite Core

(b) Wire : Enamelled Copper Wire

(c) Terminal : Tinned Copper Plate

(d) Capsulate : Epoxy Novolac Molding Compound



RoHS Compliant

NOTE : Specifications subject to change without notice. Please check our website for latest information.

26.02.2009



SUPERWORLD ELECTRONICS (S) PTE LTD

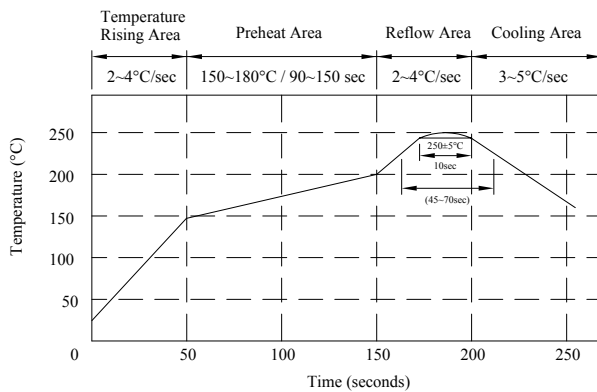
PG. 1

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. CHARACTERISTICS CURVES :

Peak Temp : 250°C Max.
Max time above 230°C : 40sec Max.
Max time above 200°C : 70sec Max.



RoHS Compliant

NOTE : Specifications subject to change without notice. Please check our website for latest information.

26.02.2009



SUPERWORLD ELECTRONICS (S) PTE LTD

7. ELECTRICAL CHARACTERISTICS :

Part No.	Inductance (μ H)	Q Min.	Test Frequency (MHz)	SRF (MHz) Min.	RDC (Ω) Max.	IDC (mA) Max.
WI453232-R10 $\square$ F	0.10	35	25.2	300	0.18	800
WI453232-R12 $\square$ F	0.12	35	25.2	280	0.20	770
WI453232-R15 $\square$ F	0.15	35	25.2	250	0.22	730
WI453232-R18 $\square$ F	0.18	35	25.2	220	0.24	700
WI453232-R22 $\square$ F	0.22	40	25.2	200	0.25	665
WI453232-R27 $\square$ F	0.27	40	25.2	180	0.26	635
WI453232-R33 $\square$ F	0.33	40	25.2	165	0.28	605
WI453232-R39 $\square$ F	0.39	40	25.2	150	0.30	575
WI453232-R47 $\square$ F	0.47	40	25.2	145	0.32	545
WI453232-R56 $\square$ F	0.56	40	25.2	140	0.36	520
WI453232-R68 $\square$ F	0.68	40	25.2	135	0.40	500
WI453232-R82 $\square$ F	0.82	40	25.2	130	0.45	475
WI453232-1R0 $\square$ F	1.00	50	7.96	100	0.50	450
WI453232-1R2 $\square$ F	1.20	50	7.96	80	0.55	430
WI453232-1R5 $\square$ F	1.50	50	7.96	70	0.60	410
WI453232-1R8 $\square$ F	1.80	50	7.96	60	0.65	390
WI453232-2R2 $\square$ F	2.20	50	7.96	55	0.70	380
WI453232-2R7 $\square$ F	2.70	50	7.96	50	0.75	370
WI453232-3R3 $\square$ F	3.30	50	7.96	45	0.80	355
WI453232-3R9 $\square$ F	3.90	50	7.96	40	0.90	330
WI453232-4R7 $\square$ F	4.70	50	7.96	35	1.00	315
WI453232-5R6 $\square$ F	5.60	50	7.96	33	1.10	300
WI453232-6R8 $\square$ F	6.80	50	7.96	27	1.20	285
WI453232-8R2 $\square$ F	8.20	50	7.96	25	1.40	270
WI453232-100 $\square$ F	10.00	50	2.52	20	1.60	250
WI453232-120 $\square$ F	12.00	50	2.52	18	2.00	225
WI453232-150 $\square$ F	15.00	50	2.52	17	2.50	200
WI453232-180 $\square$ F	18.00	50	2.52	15	2.80	190
WI453232-220 $\square$ F	22.00	50	2.52	13	3.20	180
WI453232-270 $\square$ F	27.00	50	2.52	12	3.60	170
WI453232-330 $\square$ F	33.00	50	2.52	11	4.00	160
WI453232-390 $\square$ F	39.00	50	2.52	10	4.50	150
WI453232-470 $\square$ F	47.00	50	2.52	10	5.00	140
WI453232-560 $\square$ F	56.00	50	2.52	9.0	5.50	135
WI453232-680 $\square$ F	68.00	50	2.52	9.0	6.00	130
WI453232-820 $\square$ F	82.00	50	2.52	8.0	7.00	120
WI453232-101 $\square$ F	100.00	40	0.796	8.0	8.00	110
WI453232-121 $\square$ F	120.00	40	0.796	6.0	8.00	110
WI453232-151 $\square$ F	150.00	40	0.796	5.0	9.00	105
WI453232-181 $\square$ F	180.00	40	0.796	5.0	9.50	102
WI453232-221 $\square$ F	220.00	40	0.796	4.0	10.00	100
WI453232-271 $\square$ F	270.00	40	0.796	4.0	12.00	92
WI453232-331 $\square$ F	330.00	40	0.796	3.5	14.00	85
WI453232-391 $\square$ F	390.00	40	0.796	3.0	18.00	80
WI453232-471 $\square$ F	470.00	40	0.796	3.0	26.00	62
WI453232-561 $\square$ F	560.00	30	0.796	3.0	30.00	50
WI453232-681 $\square$ F	680.00	30	0.796	3.0	30.00	50
WI453232-821 $\square$ F	820.00	30	0.796	2.5	35.00	30
WI453232-102 $\square$ F	1000.00	20	0.252	2.5	40.00	30

Inductance tolerance :

R10 ~ R82 : $\square$: K : $\pm 10\%$
M : $\pm 20\%$

1R0 ~ 102 : $\square$: J : $\pm 5\%$
K : $\pm 10\%$
M : $\pm 20\%$



RoHS Compliant

NOTE : Specifications subject to change without notice. Please check our website for latest information.

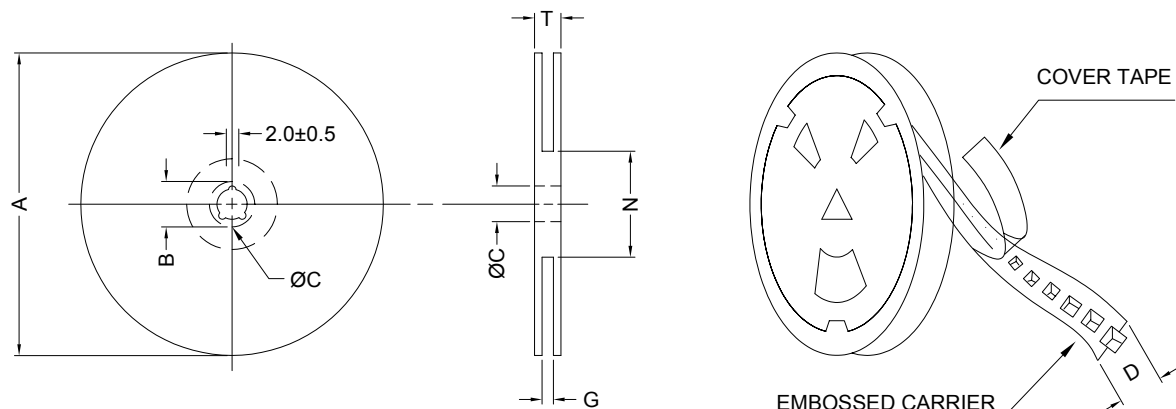
26.02.2009



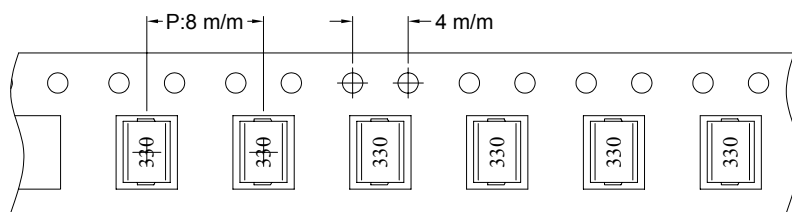
SUPERWORLD ELECTRONICS (S) PTE LTD

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	12	14 ⁺⁰	50 ⁻⁰	16.5

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

Packing : 500pcs/reel



RoHS Compliant

NOTE : Specifications subject to change without notice. Please check our website for latest information.

26.02.2009



SUPERWORLD ELECTRONICS (S) PTE LTD

9. RELIABILITY TEST :

TEST ITEM	SPECIFICATION	TEST CONDITION / TEST METHOD
● ELECTRICAL PERFORMANCE TEST		
INDUCTANCE L	REFER TO STANDARD ELECTRICAL CHARACTERISTIC LIST	HP4194A, HPE4991A, HP4285A
Q		IMPEDANCE ANALYZER : HP4194A, HPE4991A
SELF RESONANCE FREQUENCY SRF		DIGITAL MULTIMETER : 502BC
DC RESISTANCE RDC		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
RATED CURRENT IDC		
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 5 SECONDS
INSULATION RESISTANCE TEST	1000 MOHM MIN.	100 VDC APPLIED BETWEEN INDUCTOR TERMINAL AND COATING
● MECHANICAL PERFORMANCE TEST		
VIBRATION TEST (LOW FREQUENCY)	1. INDUCTORS SHALL BE NO EVIDENCE OF ELECTRICAL AND MECHANICAL DAMAGE	1. AMPLITUDE :1.5 m/m 2. FREQUENCY :10 -- 55 -- 10 HZ / 1MIN 3. DIRECTION :X, Y, Z 4. DURATION :2 HRS / X, Y, Z
SHOCK TEST	2. INDUCTANCE SHALL NOT CHANGE MORE THAN ±5%	INDUCTORS SHALL BE DROPPED 10 TIMES FROM A HEIGHT OF 1m ONTO 3cm WOODEN BOARD
RESISTANCE TO SOLDERING HEAT	3. Q SHALL NOT CHANGE MORE THAN ±20%	TEMP :260±5°C TIME :10±1.0 SEC

NOTE : Specifications subject to change without notice. Please check our website for latest information.



RoHS Compliant

26.02.2009



SUPERWORLD ELECTRONICS (S) PTE LTD

9. RELIABILITY TEST :

TERMINAL STRENGTH-PULL TEST	TERMINAL SHALL NOT BE LOOSENEED OR RUPTURED	A 0.5KG LOAD SHALL BE APPLIED TO BOTH TERMINALS IN THE AXIS DIRECTION FOR 1 MINUTE.
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		 Diagram showing two cycles of thermal shock. Cycle 1: ROOM TEMP (15 MINS) → -40±2°C (30 MINS). Cycle 2: ROOM TEMP (15 MINS) → 125±2°C (30 MINS). Arrows indicate the sequence of temperature changes.
DRY HEAT TEST		TOTAL :5 CYCLES 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



RoHS Compliant

NOTE : Specifications subject to change without notice. Please check our website for latest information.

26.02.2009



SUPERWORLD ELECTRONICS (S) PTE LTD