

1. PART NO. EXPRESSION :

W I 2 5 2 0 1 8 - R 2 2 K F - □ □

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

(a) Series code

(b) Dimension code

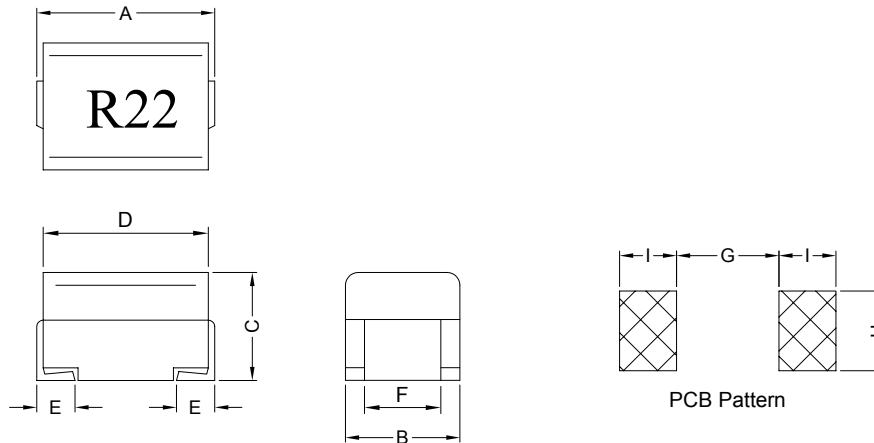
(c) Inductance code : R22 = 0.12uH

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

(e) F : RoHS Compliant

(f) 11 ~ 99 : Internal controlled number

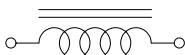
2. CONFIGURATION & DIMENSIONS :



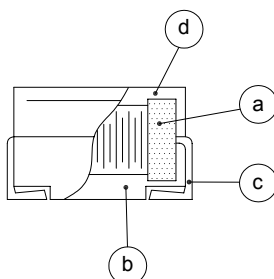
Unit:m/m

A	B	C	D	E	F	G	H	I
2.5 $\pm$ 0.2	2.0 $\pm$ 0.2	1.8 $\pm$ 0.2	2.2 $\pm$ 0.2	0.5 $\pm$ 0.3	1.2 $\pm$ 0.2	1.5 Ref.	1.5 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



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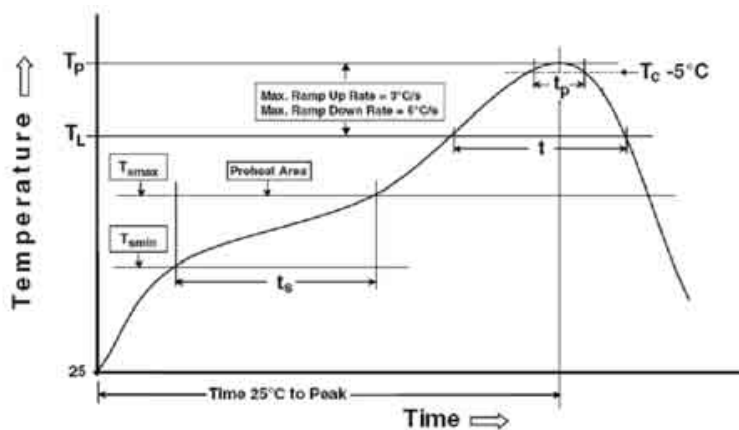
PG. 1

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. RECOMMENDED REFLOW SOLDERING PROFILE :

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat & Soak		
Temperature min. (T_{smin})	100°C	150°C
Temperature max. (T_{smax})	150°C	200°C
Time (T_{smin} to T_{smax}) (t_s)	60~120 seconds	60~120 seconds
Average ramp-up rate (T_{smax} to T_p)	3°C/second max.	3°C/second max.
Liquidous temperature (T_L)	183°C	217°C
Time at liquidous (t_L)	60~150 seconds	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 (μ H)	Q Min.	Test Frequency (MHz)	SRF (MHz) Min.	RDC (Ω) Max.	IDC (mA) Max.
WI252018-R22□F-□□	0.22	25	25.2	230	0.50	430
WI252018-R27□F-□□	0.27	25	25.2	210	0.55	420
WI252018-R33□F-□□	0.33	25	25.2	190	0.60	400
WI252018-R39□F-□□	0.39	25	25.2	175	0.65	375
WI252018-R47□F-□□	0.47	25	25.2	160	0.68	350
WI252018-R56□F-□□	0.56	25	25.2	150	0.75	325
WI252018-R68□F-□□	0.68	25	25.2	135	0.85	300
WI252018-R82□F-□□	0.82	25	25.2	125	1.00	260
WI252018-1R0□F-□□	1.00	30	7.96	115	1.10	245
WI252018-1R2□F-□□	1.20	30	7.96	100	1.20	230
WI252018-1R5□F-□□	1.50	30	7.96	90	1.30	220
WI252018-1R8□F-□□	1.80	30	7.96	85	1.45	210
WI252018-2R2□F-□□	2.20	30	7.96	75	1.55	200
WI252018-2R7□F-□□	2.70	30	7.96	55	1.70	195
WI252018-3R3□F-□□	3.30	30	7.96	48	1.90	185
WI252018-3R9□F-□□	3.90	30	7.96	43	2.10	180
WI252018-4R7□F-□□	4.70	30	7.96	40	2.30	175
WI252018-5R6□F-□□	5.60	25	7.96	36	2.50	170
WI252018-6R8□F-□□	6.80	25	7.96	33	2.70	165
WI252018-8R2□F-□□	8.20	25	7.96	30	3.05	160
WI252018-100□F-□□	10.00	25	2.52	27	3.50	155
WI252018-120□F-□□	12.00	25	2.52	23	3.80	150
WI252018-150□F-□□	15.00	25	2.52	20	4.40	140
WI252018-180□F-□□	18.00	25	2.52	18	4.80	120
WI252018-220□F-□□	22.00	25	2.52	17	5.50	130
WI252018-270□F-□□	27.00	25	2.52	16	6.30	125
WI252018-330□F-□□	33.00	25	2.52	15	7.10	115
WI252018-390□F-□□	39.00	20	2.52	14	9.50	110
WI252018-470□F-□□	47.00	20	2.52	13	11.0	90
WI252018-560□F-□□	56.00	20	2.52	12	12.1	75
WI252018-680□F-□□	68.00	20	2.52	11	16.6	70
WI252018-820□F-□□	82.00	20	2.52	10	19.0	66
WI252018-101□F-□□	100.00	15	0.796	9	21.0	60

Inductance tolerance : J : $\pm 5\%$
 K : $\pm 10\%$
 M : $\pm 20\%$



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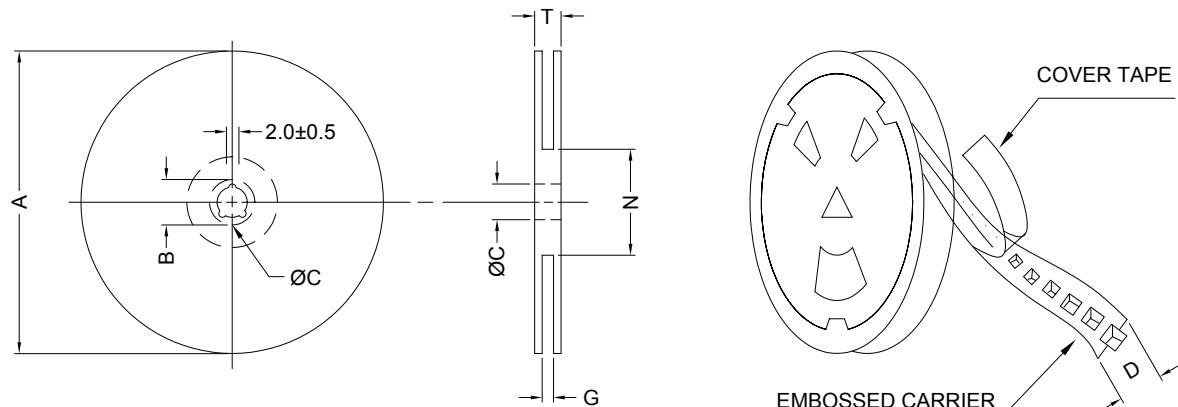
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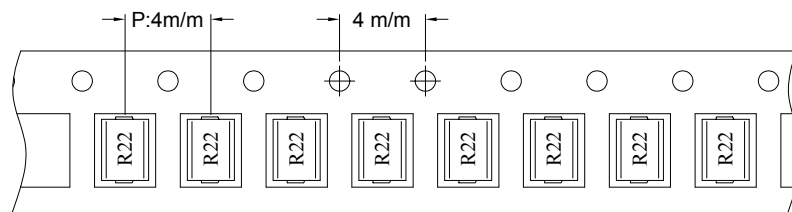
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8. PACKAGING INFORMATION :

(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. RELIABILITY 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 MULTIMETER : □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.	100 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	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



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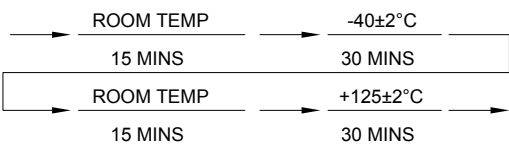
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9. RELIABILITY TEST :

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 WI252018 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		 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		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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