

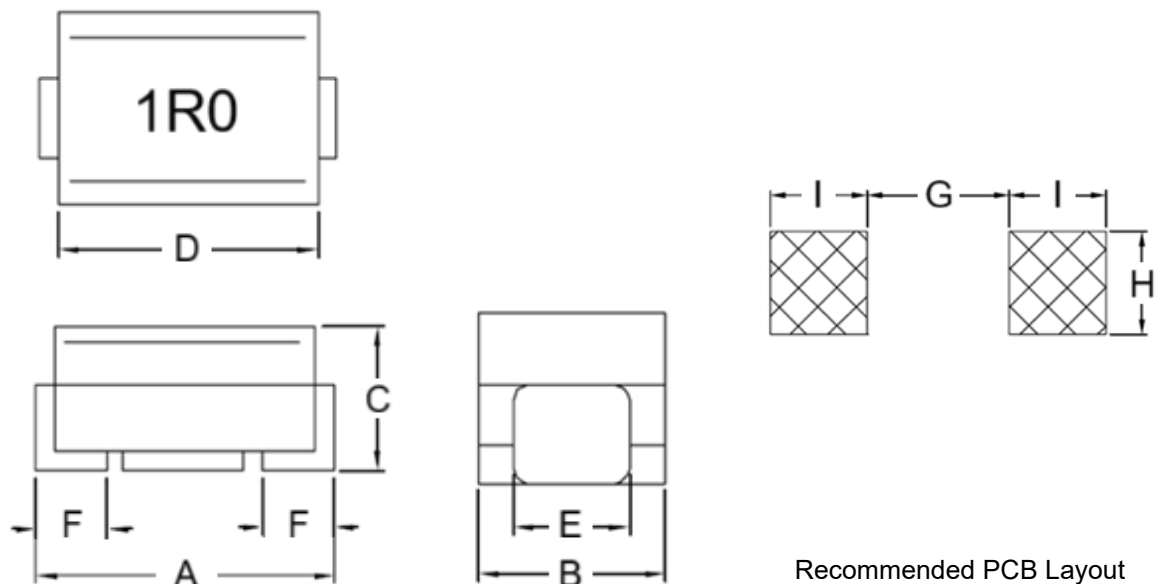
1. Part No. Expression

W I 4 5 3 2 3 2 - R 1 0 M F

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

- (a) Series Code
- (b) Dimension Code
- (c) Inductance Code
- (d) Tolerance Code
- (e) Packaging Code

2. Configuration & Dimensions (Unit: mm)

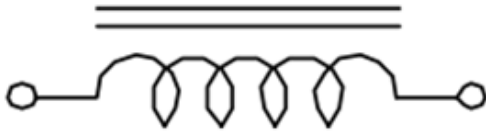


- Note:
1. The above PCB layout reference only.
 2. Marking: Inductance Code

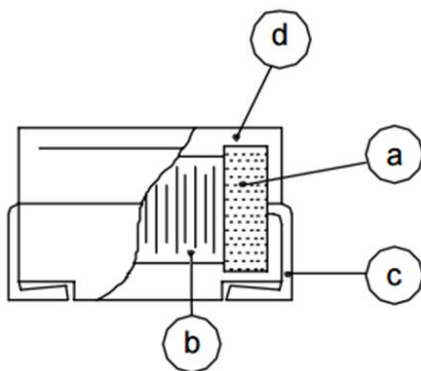
A	B	C	D	E
4.5±0.3	3.2±0.2	3.2±0.2	4.2±0.2	1.2±0.2
F	G	H	I	-
1.0±0.2	2.2 Ref	1.6 Ref	1.5 Ref	-

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

3. Schematic



4. Material List



- (a) Core
- (b) Wire
- (c) Terminal
- (d) Capsulate

5. General Specifications

- (a) Operating Temp.: - 40°C to + 125°C (including self-temperature rise)
- (b) Storage Temp.: -40°C to +125°C (on board)
- (c) All test data referenced to 25°C ambient.
- (d) Saturation Current (Isat) will cause inductance L0 to drop approximately 10%.
- (e) Storage Condition (Component in its packaging)
 - i) Temperature: Less than 40°C
 - ii) Humidity: Less than 60% RH

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6. Electrical Characteristics

Part Number	Inductance (μ H) @0A	Tolerance	Q Min	Test Frequency (MHz)	SRF (MHz) Min	DCR (Ω) Max	IDC (mA) Max
WI453232-R10□F	0.10	M	35	25.200	300.0	0.18	800
WI453232-R12□F	0.12	M	35	25.200	280.0	0.20	770
WI453232-R15□F	0.15	M	35	25.200	250.0	0.22	730
WI453232-R18□F	0.18	M	35	25.200	220.0	0.24	700
WI453232-R22□F	0.22	M	40	25.200	200.0	0.25	665
WI453232-R27□F	0.27	M	40	25.200	180.0	0.26	635
WI453232-R33□F	0.33	M	40	25.200	165.0	0.28	605
WI453232-R39□F	0.39	M	40	25.200	150.0	0.30	575
WI453232-R47□F	0.47	M	40	25.200	145.0	0.32	545
WI453232-R56□F	0.56	M	40	25.200	140.0	0.36	520
WI453232-R68□F	0.68	M	40	25.200	135.0	0.40	500
WI453232-R82□F	0.82	M	40	25.200	130.0	0.45	475
WI453232-1R0□F	1.0	K	50	7.960	100.0	0.50	450
WI453232-1R2□F	1.2	K	50	7.960	80.0	0.55	430
WI453232-1R5□F	1.5	K	50	7.960	70.0	0.60	410
WI453232-1R8□F	1.8	K	50	7.960	60.0	0.65	390
WI453232-2R2□F	2.2	K	50	7.960	55.0	0.70	380
WI453232-2R7□F	2.7	K	50	7.960	50.0	0.75	370
WI453232-3R3□F	3.3	K	50	7.960	45.0	0.80	355
WI453232-3R9□F	3.9	K	50	7.960	40.0	0.90	330

Note:

Tolerance: J=±5%, K=±10%

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Part Number	Inductance (μH) @0A	Tolerance	Q Min	Test Frequency (MHz)	SRF (MHz) Min	DCR (Ω) Max	IDC (mA) Max
WI453232-4R7□F	4.7	K	50	7.960	35.0	1.00	315
WI453232-5R6□F	5.6	K	50	7.960	33.0	1.10	300
WI453232-6R8□F	6.8	K	50	7.960	27.0	1.20	285
WI453232-8R2□F	8.2	K	50	7.960	25.0	1.40	270
WI453232-100□F	10	K	50	2.520	20.0	1.60	250
WI453232-120□F	12	K	50	2.520	18.0	2.00	225
WI453232-150□F	15	K	50	2.520	17.0	2.50	200
WI453232-180□F	18	K	50	2.520	15.0	2.80	190
WI453232-220□F	22	K	50	2.520	13.0	3.20	180
WI453232-270□F	27	K	50	2.520	12.0	3.60	170
WI453232-330□F	33	K	50	2.520	11.0	4.00	160
WI453232-390□F	39	K	50	2.520	10.0	4.50	150
WI453232-470□F	47	K	50	2.520	10.0	5.00	140
WI453232-560□F	56	K	50	2.520	9.0	5.50	135
WI453232-680□F	68	K	50	2.520	9.0	6.00	130
WI453232-820□F	82	K	50	2.520	8.0	7.00	120
WI453232-101□F	100	K	40	0.796	8.0	8.00	110
WI453232-121□F	120	K	40	0.796	6.0	8.00	110
WI453232-151□F	150	K	40	0.796	5.0	9.00	105
WI453232-181□F	180	K	40	0.796	5.0	9.50	102

Note:

Tolerance: K=±10%, M=±20%

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Part Number	Inductance (μ H) @0A	Tolerance	Q Min	Test Frequency (MHz)	SRF (MHz) Min	DCR (Ω) Max	IDC (mA) Max
WI453232-221□F	220	K	40	0.796	4.0	10.00	100
WI453232-271□F	270	K	40	0.796	4.0	12.00	92
WI453232-331□F	330	K	40	0.796	3.5	14.00	85
WI453232-391□F	390	K	40	0.796	3.0	18.00	80
WI453232-471□F	470	K	40	0.796	3.0	26.00	62
WI453232-561□F	560	K	30	0.796	3.0	30.00	50
WI453232-681□F	680	K	30	0.796	3.0	30.00	50
WI453232-821□F	820	K	30	0.796	2.5	35.00	30
WI453232-102□F	1000	K	20	2.252	2.5	40.00	30

Note:

Tolerance: K=±10%, M=±20%

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7. Soldering Specification

Mildly activated rosin fluxes are preferred. Our terminations are suitable for re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

7-1. IR Soldering Reflow

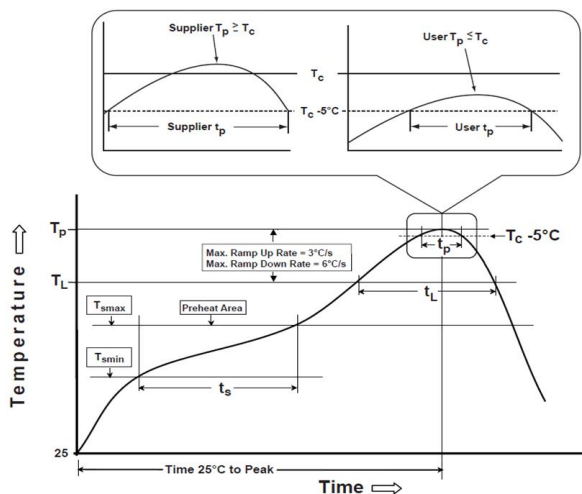
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

7-2. Iron Reflow

Products attachment with a soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended (Figure 2).

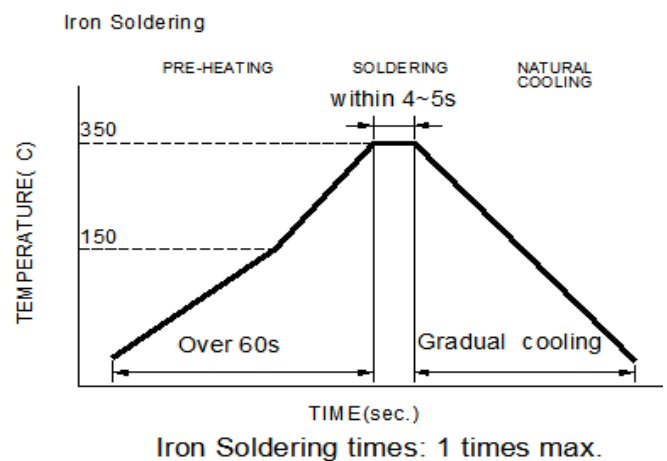
Note:

- Preheat circuit and products to 150°C.
- 355°C tip temperature (Max.)
- Never contact the ceramic with the iron tip
- 1.0mm tip diameter (Max.)
- Use a 20 watt soldering iron with tip diameter of 1.0mm
- Limit soldering time to 4~5 sec.



Reflow times: 3 times Max

Figure 1: IR Soldering Reflow



Soldering iron method: 350±5°C Max

Figure 2: Iron soldering temperature profiles

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Table (1.1) Reflow Profiles

Profile Type:	Pb-Free Assembly
Preheat	
-Temperature Min ($T_{\min}$)	150°C
-Temperature Max ($T_{\max}$)	200°C
-Time (t_s) from ($T_{\min}$ to $T_{\max}$)	60-120seconds
Ramp-up rate (T_L to T_p)	3°C /second max.
Liquids temperature (T_L)	217°C
Time (t_L) maintained above T_L	60-150 seconds
Classification temperature (T_c)	See Table (1.2)
Time (t_p) at $T_c - 5^\circ\text{C}$ (T_p should be equal to or less than T_c .)	* < 30 seconds
Ramp-down rate (T_p to T_L)	6°C /second max.
Time 25°C to peak temperature	8 minutes max.

T_p : maximum peak package body temperature, **T_c** : the classification temperature.

For user (customer) **T_p** should be equal to or less than **T_c** .

*Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

Table (1.2) Package Thickness/Volume and Classification Temperature (T_c)

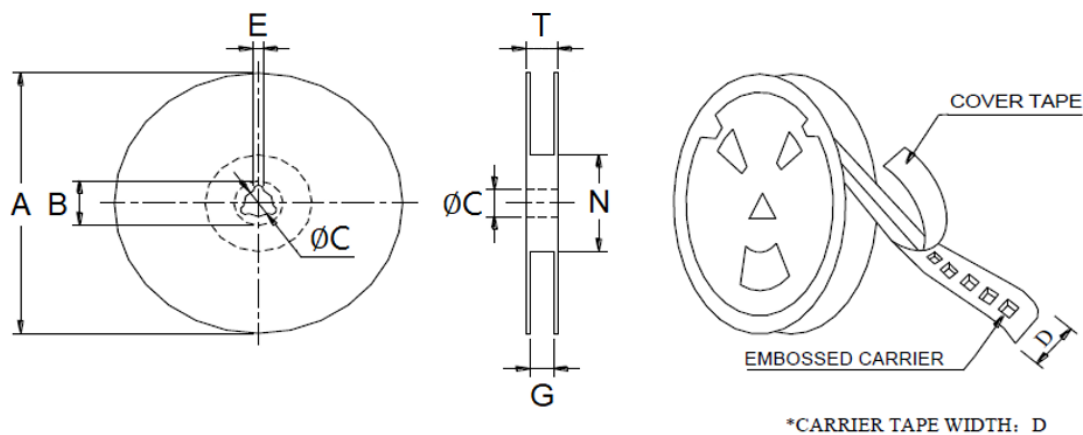
	Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

Reflow is referred to standard IPC/JEDEC J-STD-020E.

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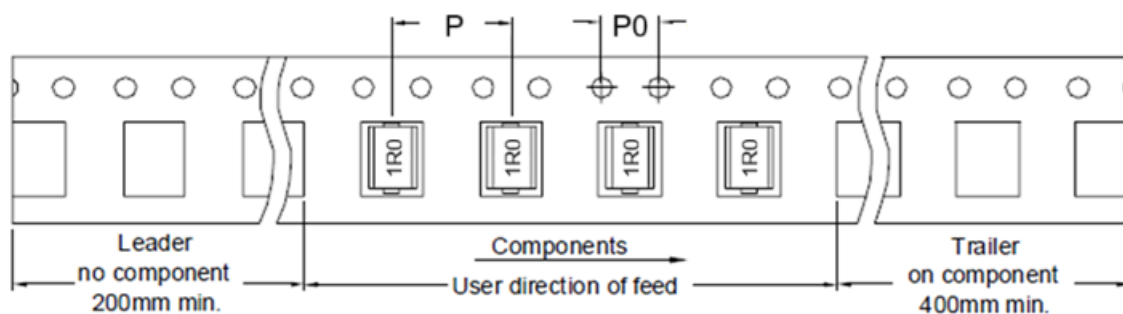
8. Packaging Information

8-1. Reel Dimension (Unit: mm)



Type	A	B	C	D
	178.0 Ref	21.0 Ref	13.0 Ref	12.0 Ref
7"x12mm	E	G	N	T
	2.0 Ref	14.0 Max	50 Min	16.5 Ref

8-2. Tape Dimension (Unit: mm)



* There is no differentiation or directions of polarity (marking) in the packaging method.

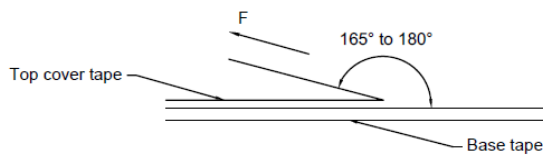
P	P0
8	4

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8-3. Packaging Quantity (Unit: Pcs)

Chip/ Reel	500
Carton	20,000

8-4. Tearing Off Force



The force for tearing off cover tape is according to the follow table, in the arrow direction under the following conditions.

(Referenced ANSI/EIA-481-D-2008 of 4.11 standard)

Room Temp. (°C)	Room Humidity (%)	Room atm (hPa)	Tearing Speed (mm/min)
5~35	45~85	860~1060	300±10

Tape Size	8 mm	12 to 56 mm	72 mm or Wider
Tearing Off Force (grams)	10~100	10~130	10~150

Application Notice

1. Storage Conditions

To maintain the solderability of terminal electrodes:

- (a) Recommended products should be used within 12 months from the time of delivery.
- (b) The packaging material should be kept where no chlorine or sulfur exists in the air.

2. Transportation

- (a) Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
- (b) Vacuum pick up is strongly recommended for individual components.
- (c) Bulk handling should ensure that abrasion and mechanical shock are minimized.

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