

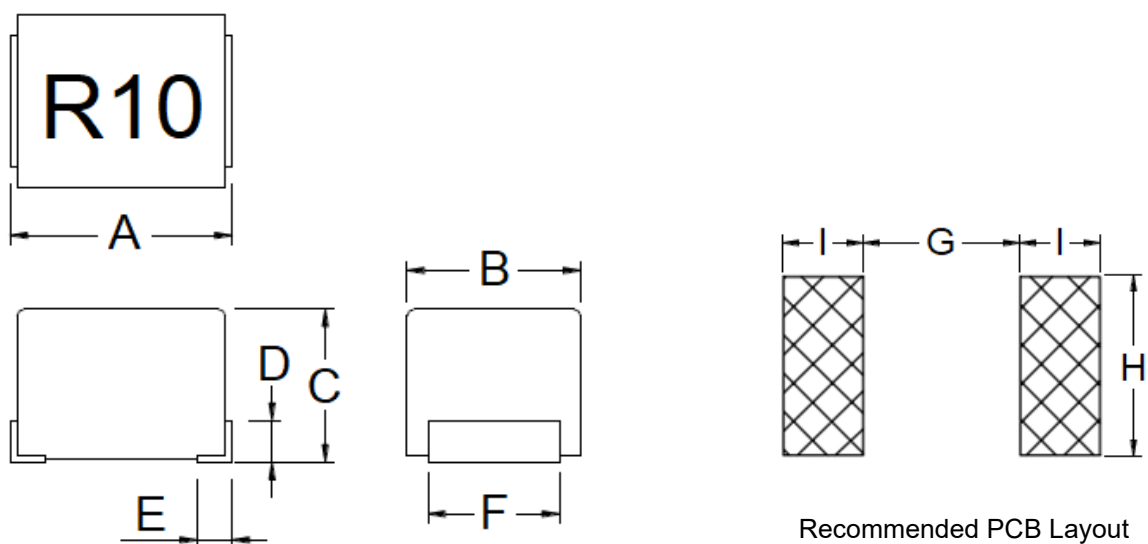
1. Part No. Expression

HWI 3 2 2 5 2 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)

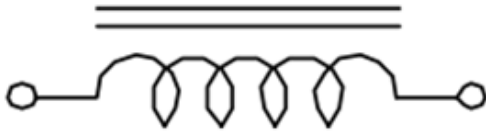


- Note:
1. The above PCB layout reference only.
 2. Marking: Inductance Code

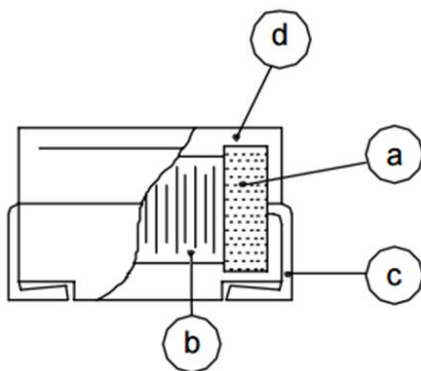
A	B	C	D	E	F	G	H	I
3.2±0.3	2.5±0.2	2.2±0.2	0.6 Ref	0.2 Min	1.9±0.1	2.0 Ref	2.0 Ref	1.2 Ref

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) Storage Condition (Component in its packaging)
 - i) Temperature: 0°C to +40°C
 - ii) Humidity: Less than 70% 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
HWI322522-R10□F	0.10	M	5	25.200	500	0.20	750
HWI322522-R15□F	0.15	M	5	25.200	400	0.25	750
HWI322522-R22□F	0.22	M	5	25.200	250	0.30	750
HWI322522-R47□F	0.47	M	5	25.200	150	0.37	750
HWI322522-1R0□F	1.00	M	10	7.960	100	0.30	750
HWI322522-1R5□F	1.50	M	10	7.960	80	0.30	700
HWI322522-2R2□F	2.20	M	10	7.960	68	0.33	600
HWI322522-3R3□F	3.30	K, M	10	7.960	54	0.35	500
HWI322522-4R7□F	4.70	K, M	10	7.960	46	0.45	430
HWI322522-6R8□F	6.80	K, M	10	7.960	38	0.60	360
HWI322522-100□F	10.00	K	15	2.520	30	1.20	300
HWI322522-150□F	15.00	K	15	2.520	26	1.80	250
HWI322522-180□F	18.00	K	15	2.520	20	2.00	230
HWI322522-220□F	22.00	K	15	2.520	20	2.50	210
HWI322522-330□F	33.00	K	15	2.520	17	2.80	170
HWI322522-390□F	39.00	K	15	2.520	14	4.80	120
HWI322522-470□F	47.00	K	15	2.520	14	5.20	150
HWI322522-560□F	56.00	K	15	2.520	13	6.50	120
HWI322522-680□F	68.00	K	15	2.520	12	8.00	120
HWI322522-820□F	82.00	K	15	2.520	10	7.50	110
HWI322522-101□F	100.00	K	15	0.796	10	7.50	100
HWI322522-151□F	150.00	K	20	0.796	7	12.00	85
HWI322522-221□F	220.00	K	20	0.796	6	16.50	70

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

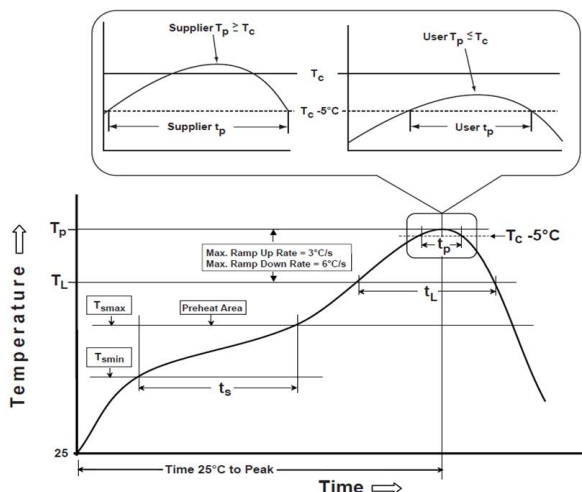
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

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).

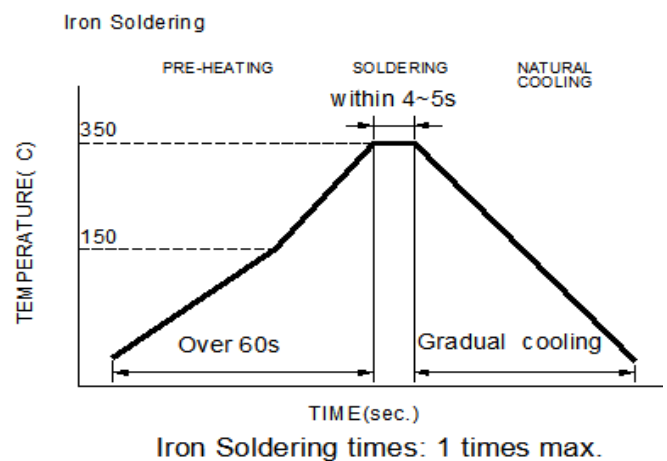
Note:

- 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)

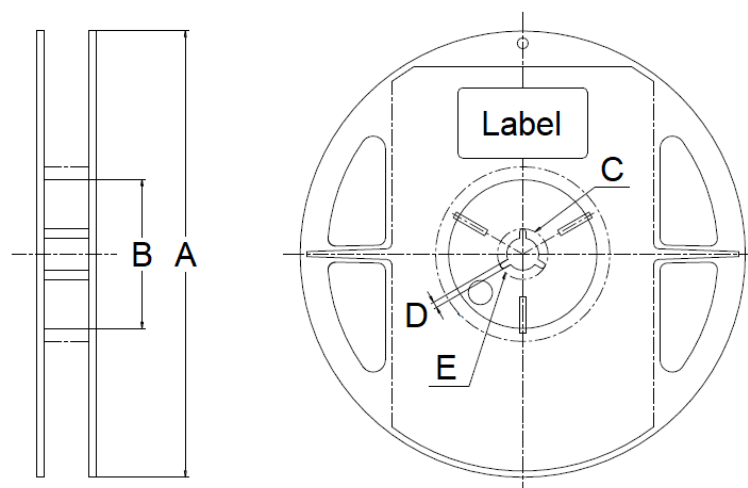
	Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

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

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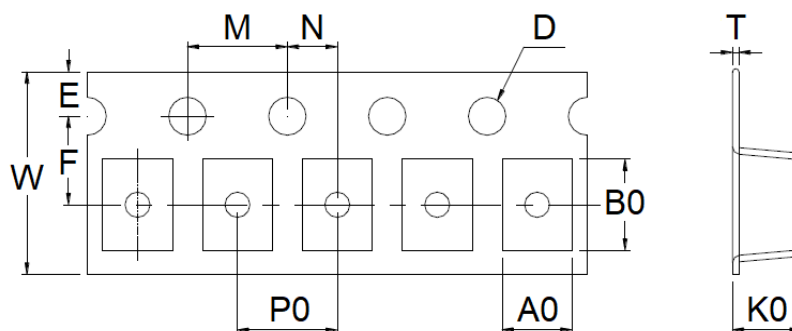
8. Packaging Information

8-1. Reel Dimension (Unit: mm)



Type	A	B	C	D	E
7"x8mm	180.0	60.0	13.0	21.0	2.4

8-2. Tape Dimension (Unit: mm)



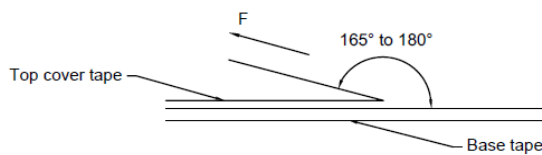
B0	A0	K0	W	P0	T
3.50	2.80	2.45	8.00	4.00	0.30
E	F	M	N	D	-
1.75	3.50	4.00	2.00	1.50	-

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8-3. Packaging Quantity (Unit: Pcs)

Chip/ Reel	2,000
Inner Box	10,000
Carton	50,000

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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