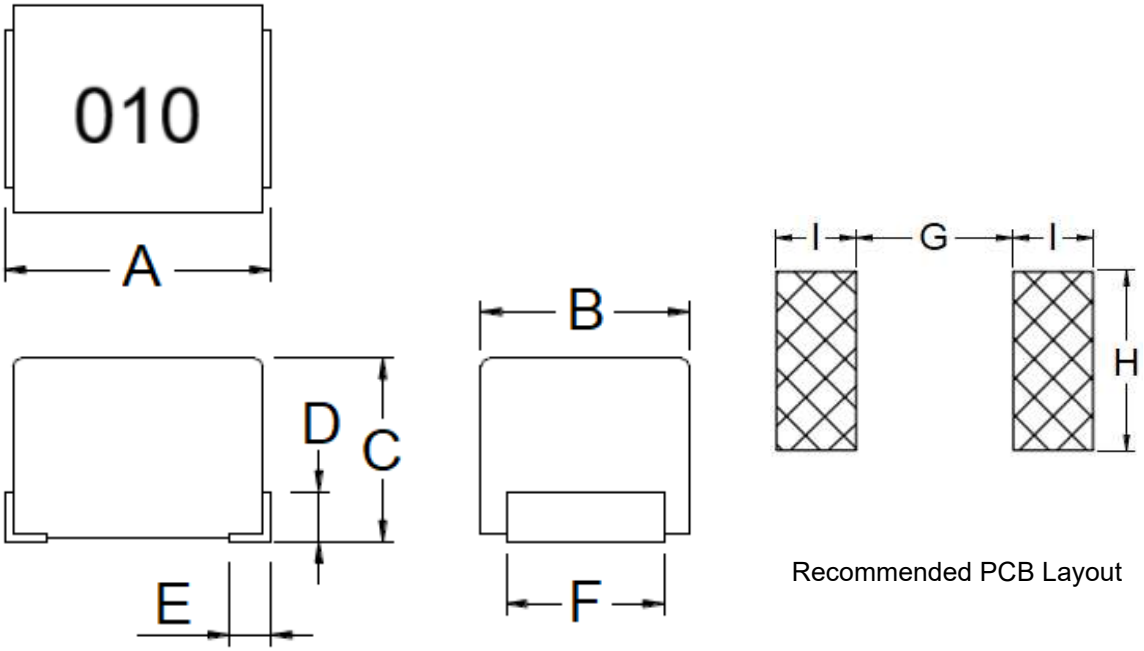
1. Part No. Expression

WI322522 - 010M 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)

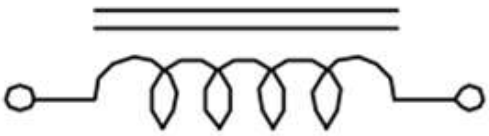


Recommended PCB Layout

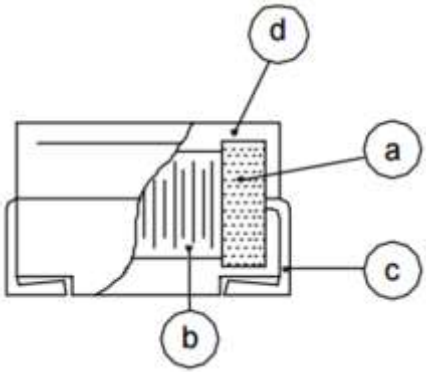
Note: 1. The above PCB layout reference only.
2. Marking: Inductance Code

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

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

6. Electrical Characteristics

Part Number	Inductance (μH) @0A	Tolerance	Q Min	Test Frequency (MHz)	SRF (MHz) Min	DCR (Ω) Max	IDC (mA) Max
WI322522-010☐F	0.010	M	15	100.000	2500	0.13	450
WI322522-012☐F	0.012	M	17	100.000	2300	0.14	450
WI322522-015☐F	0.015	M	19	100.000	2100	0.16	450
WI322522-018☐F	0.018	M	21	100.000	1900	0.18	450
WI322522-022☐F	0.022	M	23	100.000	1700	0.20	450
WI322522-027☐F	0.027	M	23	100.000	1500	0.22	450
WI322522-033☐F	0.033	M	25	100.000	1400	0.24	450
WI322522-039☐F	0.039	M	25	100.000	1300	0.27	450
WI322522-047☐F	0.047	M	26	100.000	1200	0.30	450
WI322522-056☐F	0.056	M	26	100.000	1100	0.33	450
WI322522-068☐F	0.068	M	27	100.000	1000	0.36	450
WI322522-082☐F	0.082	M	27	100.000	900	0.40	450
WI322522-R10☐F	0.100	K	28	100.000	700	0.44	450
WI322522-R12☐F	0.120	K,M	30	25.200	500	0.22	450
WI322522-R15☐F	0.150	K,M	30	25.200	450	0.25	450
WI322522-R18☐F	0.180	K,M	30	25.200	400	0.28	450
WI322522-R22☐F	0.220	J,M	30	25.200	350	0.32	450
WI322522-R27☐F	0.270	K,M	30	25.200	320	0.36	450
WI322522-R33☐F	0.330	K,M	30	25.200	300	0.40	450
WI322522-R39☐F	0.390	K,M	30	25.200	250	0.45	450

Note:
Tolerance: J=±5%, K=±10%, M=±20%

Part Number	Inductance (μH) @0A	Tolerance	Q Min	Test Frequency (MHz)	SRF (MHz) Min	DCR (Ω) Max	IDC (mA) Max
WI322522-R47☐F	0.470	K,M	30	25.200	220	0.50	450
WI322522-R56☐F	0.560	K,M	30	25.200	180	0.55	450
WI322522-R68☐F	0.680	K,M	30	25.200	160	0.60	450
WI322522-R82☐F	0.820	K,M	30	25.200	140	0.65	450
WI322522-1R0☐F	1.000	J,K	30	7.960	120	0.70	400
WI322522-1R2☐F	1.200	J,K	30	7.960	100	0.75	390
WI322522-1R5☐F	1.500	J,K	30	7.960	85	0.85	370
WI322522-1R8☐F	1.800	J,K	30	7.960	80	0.90	350
WI322522-2R2☐F	2.200	J,K	30	7.960	75	1.00	320
WI322522-2R7☐F	2.700	J,K	30	7.960	70	1.10	290
WI322522-3R3☐F	3.300	J,K	30	7.960	60	1.20	260
WI322522-3R9☐F	3.900	J,K	30	7.960	55	1.30	250
WI322522-4R7☐F	4.700	J,K	30	7.960	50	1.50	220
WI322522-5R6☐F	5.600	J,K	30	7.960	45	1.60	200
WI322522-6R8☐F	6.800	J,K	30	7.960	40	1.80	180
WI322522-8R2☐F	8.200	J,K	30	7.960	35	2.00	170
WI322522-100☐F	10.000	J,K	30	2.520	30	2.10	150
WI322522-120☐F	12.000	J,K	30	2.520	20	2.50	140
WI322522-150☐F	15.000	J,K	30	2.520	20	2.80	130
WI322522-180☐F	18.000	J,K	30	2.520	20	3.30	120

Note:

Tolerance: J=±5%, K=±10%, M=±20%

Part Number	Inductance (μH) @0A	Tolerance	Q Min	Test Frequency (MHz)	SRF (MHz) Min	DCR (Ω) Max	IDC (mA) Max
WI322522-220☐F	22.0	J,K	30	2.520	20	3.70	110
WI322522-270☐F	27.0	J,K	30	2.520	18	5.00	80
WI322522-330☐F	33.0	J,K	30	2.520	17	5.60	70
WI322522-390☐F	39.0	J,K	30	2.520	16	6.40	65
WI322522-470☐F	47.0	J,K	30	2.520	15	7.00	60
WI322522-560☐F	56.0	J,K	30	2.520	13	8.00	55
WI322522-680☐F	68.0	J,K	30	2.520	12	9.00	50
WI322522-820☐F	82.0	J,K	30	2.520	11	10.00	45
WI322522-101☐F	100	J,K	20	0.796	10	10.00	40
WI322522-121☐F	120	J,K	20	0.796	9	11.00	70
WI322522-151☐F	150	J,K	20	0.796	7	15.00	65
WI322522-181☐F	180	J,K	20	0.796	7	17.00	60
WI322522-221☐F	220	J,K	20	0.796	6	21.00	50
WI322522-271☐F	270	J,K	20	0.796	5	28.00	45
WI322522-331☐F	330	J,K	20	0.796	5	34.00	40

Note:
Tolerance: J=±5%, K=±10%, M=±20%

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-020F).

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:

(a) Preheat circuit and products to 150°C.

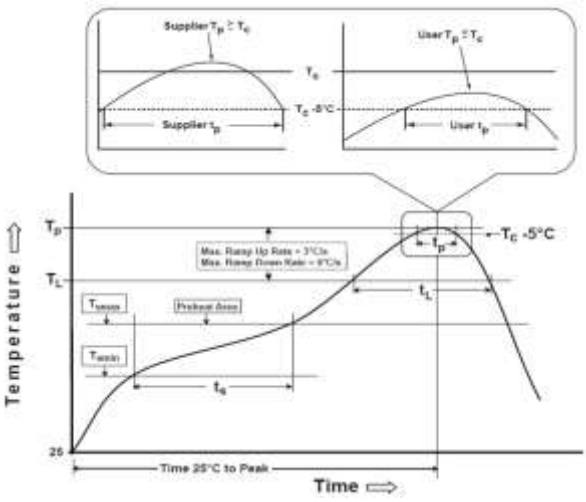
(b) 350°C tip temperature (Max.)

(c) Never contact the ceramic with the iron tip

(d) 1.0mm tip diameter (Max.)

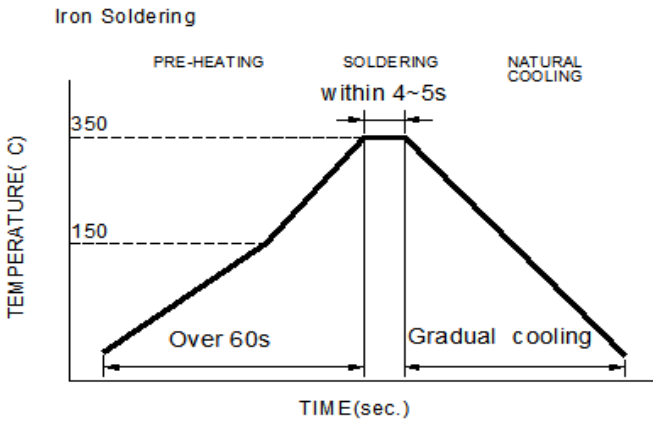
(e) Use a 20 watt soldering iron with tip diameter of 1.0mm

(f) Limit soldering time to 4~5 sec.



Reflow times: 3 times Max

Figure 1: IR Soldering Reflow



Iron Soldering times：1 times max

Figure 2: Iron soldering temperature profiles

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

Table (1.1) Reflow Profiles

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

Tp: maximum peak package body temperature, **Tc**: the classification temperature.

For user (customer) **Tp** should be equal to or less than **Tc.**

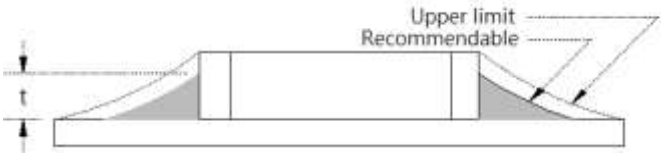
Table (1.2) Package Thickness/Volume and Classification Temperature (T_c)

	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-020F.

7-3. Soldering Volume

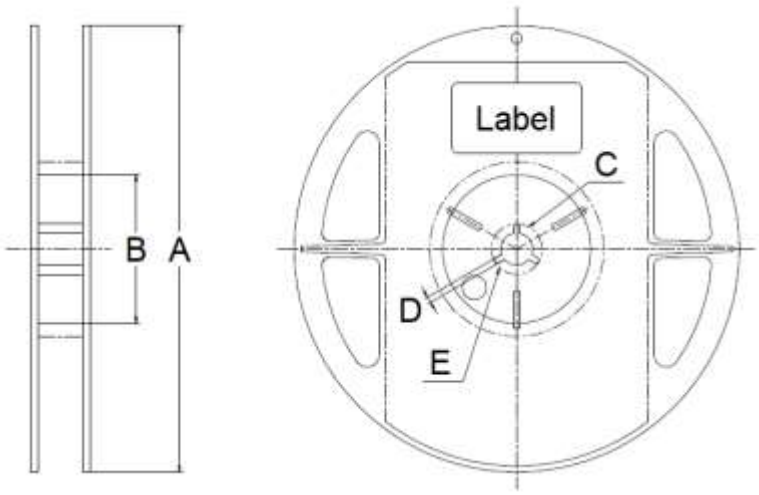
Accordingly increasing the solder volume, the mechanical stress to product is also increased. Exceeding solder volume may cause the failure of mechanical or electrical performance. Solder shall be used not to be exceeded as shown in the Figure below. Minimum fillet height = soldering thickness + 25% product height.



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

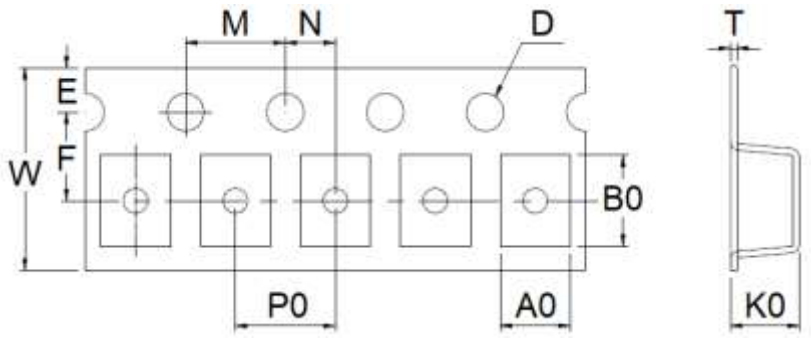
8. Packaging Information

8-1. Reel Dimension (Unit: mm)



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

8-2. Tape Dimension (Unit: mm)



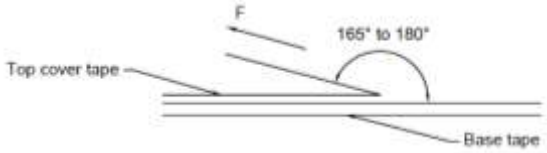
B0	A0	K0	W	P0	T
3.50	2.80	2.45	8.00	4.00	0.30
E	F	M	N	D	-
1.75	3.50	4.00	2.00	1.50	-

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

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) Products meet IPC/JEDEC J-STD-020F standard-MSL, level 1.

(b) Recommended products should be used within 12 months from the time of delivery.

(c) 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.