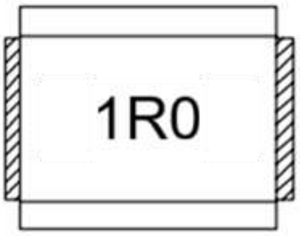
1. Part No. Expression

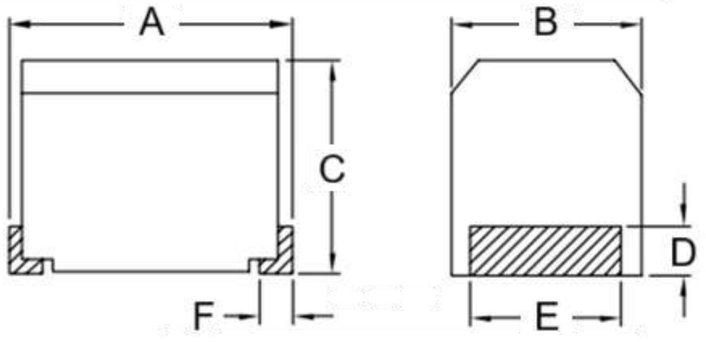
WI 565050 - 1R0 M F
(a) (b) (c) (d) (e)

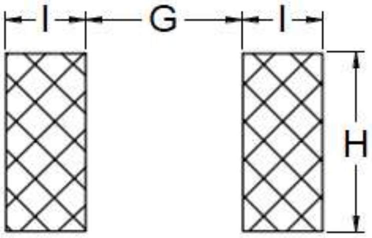
(a)	Series Code	(d)	Tolerance Code
(b)	Dimension Code	(e)	Packaging Code
(c)	Inductance Code		

2. Configuration & Dimensions (Unit: mm)



Top View



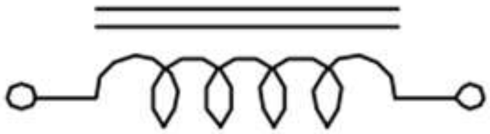


Recommended PCB Layout

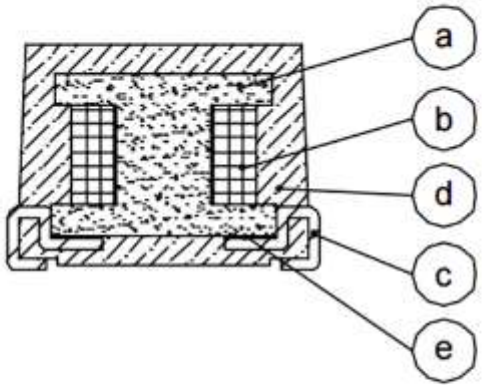
Note: 1. The above PCB layout reference only.
2. Marking: Inductance Code

A	B	C	D	E
5.6±0.3	5.0±0.2	4.0±0.3	1.1 Ref	4.0±0.1
F	G	H	I	-
0.7±0.1	4.0 Ref	4.5 Ref	2.0 Ref	-

3. Schematic



4. Material List



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

5. General Specifications

- (a) Operating Temp.: - 40°C to + 105°C (including self-temperature rise)
- (b) All test data referenced to 25°C ambient.
- (c) Storage Condition (Component in its packaging)
  - i) Temperature: -10°C to 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
WI565050-1R0☐F	1.00	K,M	10	7.9600	95.0	0.030	1800
WI565050-1R2☐F	1.20	K,M	10	7.9600	70.0	0.035	1700
WI565050-1R5☐F	1.50	K,M	10	7.9600	55.0	0.040	1600
WI565050-1R8☐F	1.80	K,M	10	7.9600	47.0	0.050	1400
WI565050-2R2☐F	2.20	K,M	10	7.9600	42.0	0.060	1300
WI565050-2R7☐F	2.70	K,M	10	7.9600	37.0	0.070	1200
WI565050-3R3☐F	3.30	K,M	10	7.9600	34.0	0.080	1120
WI565050-3R9☐F	3.90	K,M	10	7.9600	32.0	0.090	1050
WI565050-4R7☐F	4.70	K,M	10	7.9600	29.0	0.110	950
WI565050-5R6☐F	5.60	K,M	10	7.9600	26.0	0.130	880
WI565050-6R8☐F	6.80	K,M	10	7.9600	24.0	0.150	810
WI565050-8R2☐F	8.20	K,M	10	7.9600	22.0	0.180	750
WI565050-100☐F	10.00	K,M	10	2.5200	19.0	0.210	690
WI565050-120☐F	12.00	K,M	10	2.5200	17.0	0.250	630
WI565050-150☐F	15.00	K,M	10	2.5200	16.0	0.300	580
WI565050-180☐F	18.00	K,M	10	2.5200	14.0	0.360	530
WI565050-220☐F	22.00	J,K	10	2.5200	13.0	0.430	480
WI565050-270☐F	27.00	J,K	10	2.5200	11.5	0.520	440
WI565050-330☐F	33.00	J,K	10	2.5200	10.5	0.620	400
WI565050-390☐F	39.00	J,K	10	2.5200	9.5	0.720	370

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
WI565050-470□F	47.00	J,K	10	2.5200	8.5	0.850	340
WI565050-560□F	56.00	J,K	10	2.5200	7.8	1.000	310
WI565050-680□F	68.00	J,K	10	2.5200	7.0	1.200	290
WI565050-820□F	82.00	J,K	10	2.5200	6.4	1.400	270
WI565050-101□F	100.00	J,K	20	0.7960	6.0	1.600	250
WI565050-121□F	120.00	J,K	20	0.7960	5.4	1.900	230
WI565050-151□F	150.00	J,K	20	0.7960	4.8	2.200	210
WI565050-181□F	180.00	J,K	20	0.7960	4.4	2.800	190
WI565050-221□F	220.00	J,K	20	0.7960	3.9	3.400	170
WI565050-271□F	270.00	J,K	20	0.7960	3.6	4.200	155
WI565050-331□F	330.00	J,K	20	0.7960	3.2	4.900	140
WI565050-391□F	390.00	J,K	20	0.7960	2.9	5.800	130
WI565050-471□F	470.00	J,K	20	0.7960	2.6	7.000	120
WI565050-561□F	560.00	J,K	20	0.7960	2.4	8.500	110
WI565050-681□F	680.00	J,K	20	0.7960	2.2	10.000	100
WI565050-821□F	820.00	J,K	20	0.7960	2.0	13.000	90
WI565050-102□F	1000.00	J,K	20	0.2520	1.8	15.000	85
WI565050-122□F	1200.00	J,K	20	0.2520	1.5	17.000	75
WI565050-152□F	1500.00	J,K	20	0.2520	1.4	20.000	70
WI565050-182□F	1800.00	J,K	20	0.2520	1.3	30.000	60

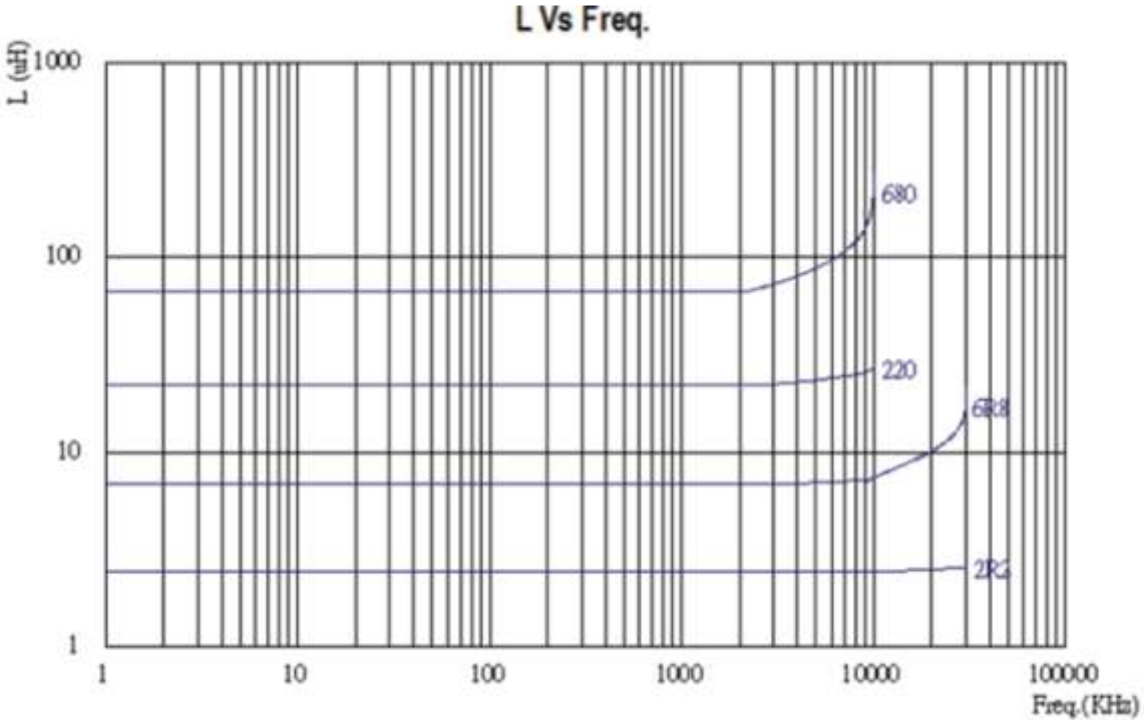
Note:

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
WI565050-222□F	2200.00	J,K	20	0.2520	1.2	35.000	55
WI565050-272□F	2700.00	J,K	20	0.2520	1.1	55.000	45
WI565050-332□F	3300.00	J,K	20	0.2520	1.0	60.000	40
WI565050-392□F	3900.00	J,K	20	0.2520	1.0	70.000	38
WI565050-472□F	4700.00	J,K	20	0.2520	0.9	78.000	36
WI565050-562□F	5600.00	J,K	20	0.2520	0.8	85.000	33
WI565050-682□F	6800.00	J,K	20	0.2520	0.7	110.000	30
WI565050-822□F	8200.00	J,K	20	0.2520	0.6	125.000	28
WI565050-103□F	10000.00	J,K	15	0.0796	0.5	150.000	25

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

7. Characteristics Curve



8. 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.

8-1. IR Soldering Reflow

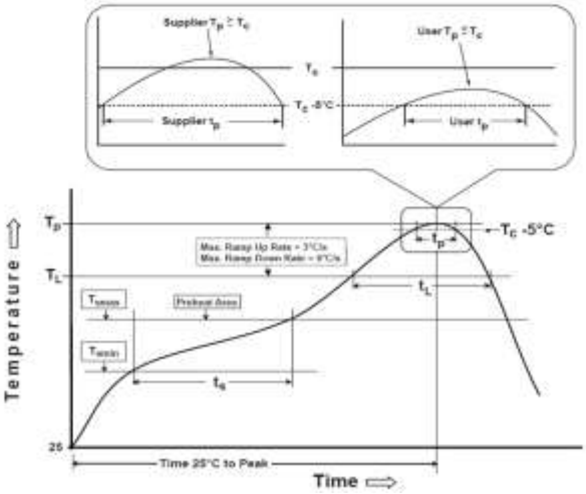
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020F).

8-2. 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).

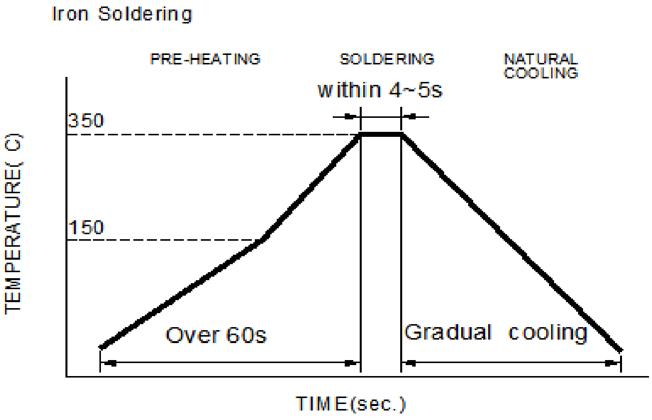
Note:

(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

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.**

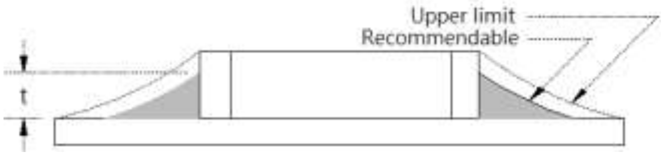
Table (1.2) Package Thickness/Volume and Classification Temperature (T_c)

	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.

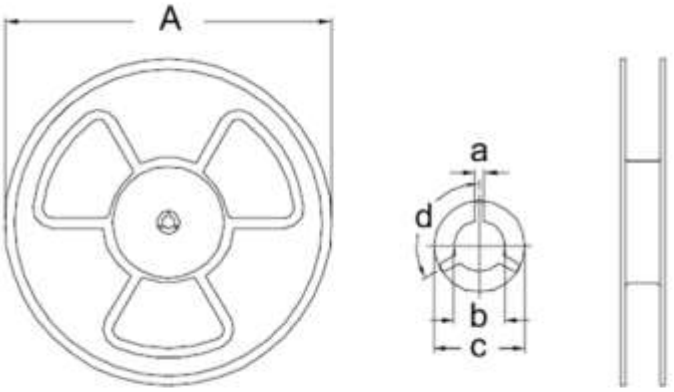
8-3. Soldering Volume

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.



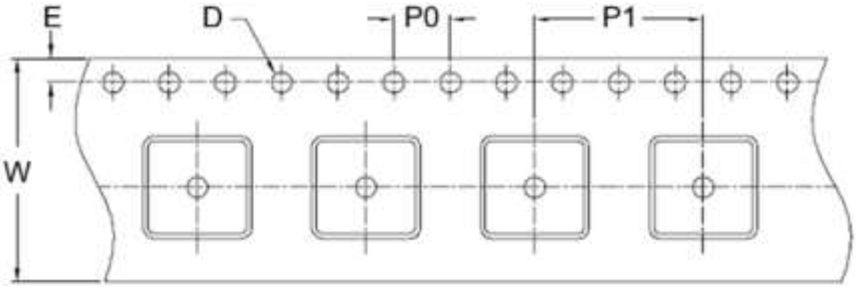
9. Packaging Information

9-1. Reel Dimension (Unit: mm)

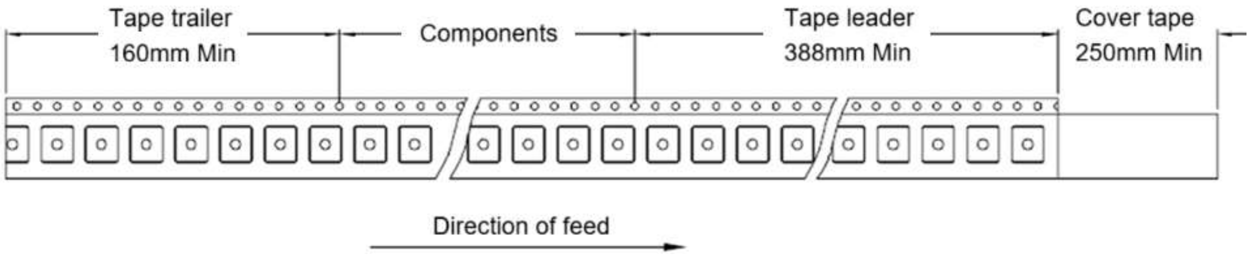


Type	A	a	b	c	d
13”x16mm	330.0 Ref	2.5 Ref	13.0 Ref	23.0 Ref	120°

9-2. Tape Dimension (Unit: mm)



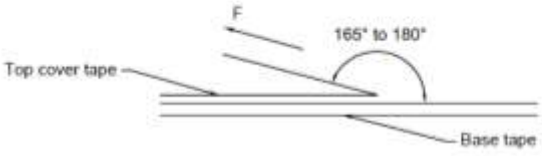
W	E	D	P0	P1
16.00 Ref	1.75±0.10	1.50+0.10/-0.00	4.00±0.10	12.00 Ref



9-3. Packaging Quantity (Unit: Pcs)

Inner: Reel		Outer: Carton		
Qty (Pcs)	G.W. (Kg)	Qty (Pcs)	G.W. (Kg)	Size (cm)
1,000	0.76	16,000	14	36 x 36 x 40

9-4. 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.