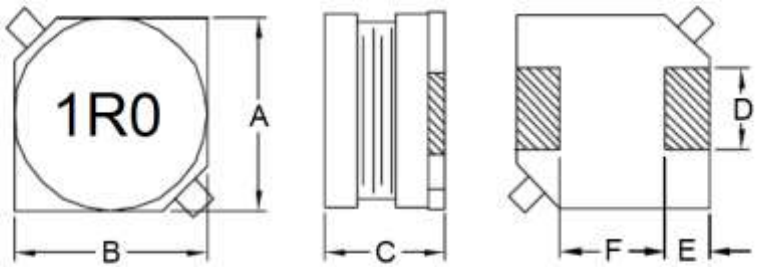
1. Part No. Expression

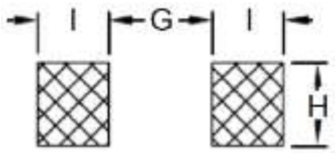
PSB 0602 1R0 M Z F

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

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

2. Configuration & Dimensions (Unit: mm)





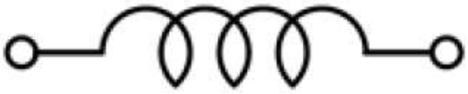
Recommended PCB Layout

Note: 1. The above PCB layout reference only.

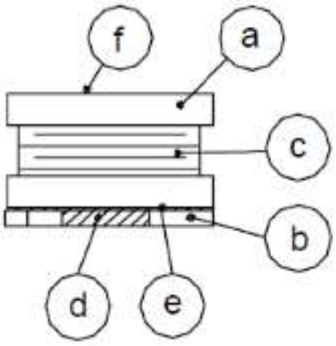
2. Marking: Inductance Code

A	B	C	D	E
6.0±0.3	6.0±0.3	2.5 Max	2.0±0.2	1.5±0.2
F	G	H	I	-
3.0±0.2	2.8 Ref	2.2 Ref	1.9 Ref	-

3. Schematic



4. Material List



(a) Core
(b) Base
(c) Wire
(d) Terminal
(e) Adhesive
(f) Ink

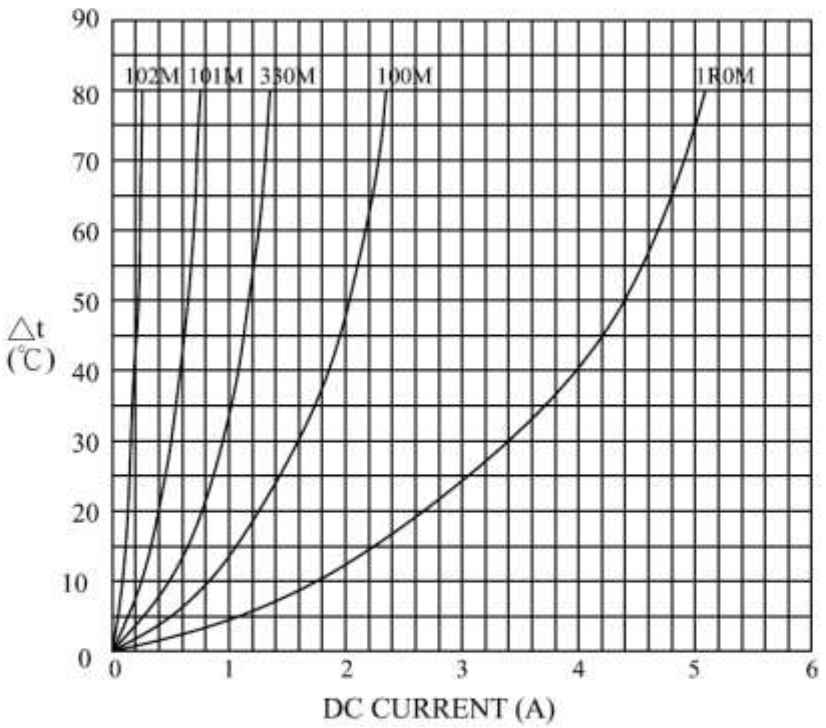
5. General Specifications

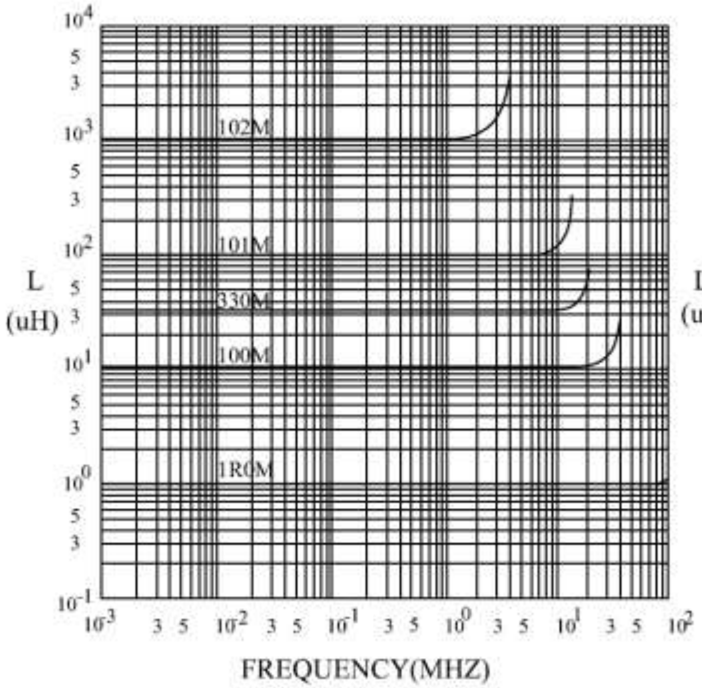
(a) Operating Temp.: -40°C to +85°C (including self-temperature rise)
(b) Storage Temp.: -40°C to +85°C (on board)
(c) All test data referenced to 25°C ambient.
(d) Heat Rated Current (Irms) will cause the coil temperature rise ΔT of 40°C Max.
(e) Saturation Current (Isat) will cause inductance L0 to drop 10% Max.
(f) Rated Current: The lower value of Isat and Irms.
(g) Storage Condition (Component in its packaging)
  i) Temperature: Less than 40°C
  ii) Humidity: Less than 60% RH

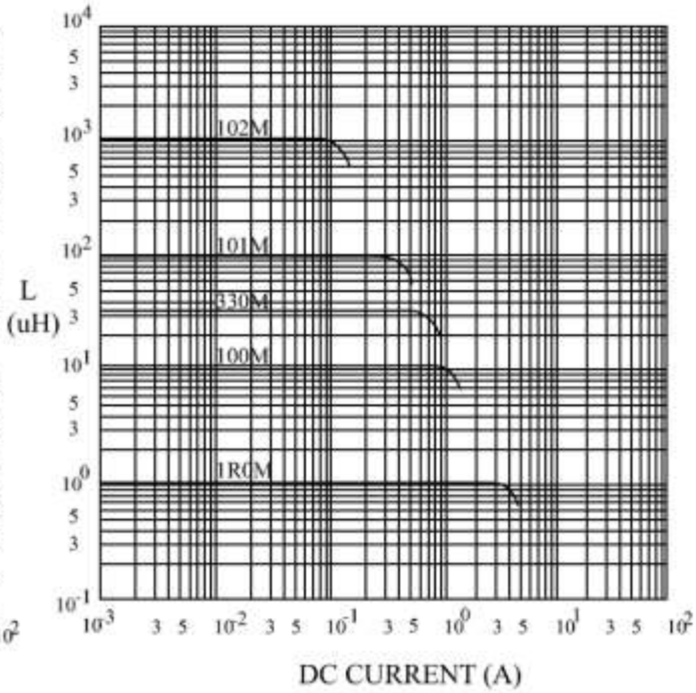
6. Electrical Characteristics

Part Number	Inductance (uH) @0A ±20%	Test Frequency	DCR (mΩ) Max	IDC (A)
PSB06021R0MZF	1.0	1V/100KHz	25	2.70
PSB06021R5MZF	1.5	1V/100KHz	35	2.50
PSB06022R2MZF	2.2	1V/100KHz	40	2.00
PSB06023R3MZF	3.3	1V/100KHz	50	1.50
PSB06024R7MZF	4.7	1V/100KHz	70	1.45
PSB06026R8MZF	6.8	1V/100KHz	95	1.10
PSB0602100MZF	10.0	1V/100KHz	135	0.90
PSB0602150MZF	15.0	1V/100KHz	190	0.75
PSB0602220MZF	22.0	1V/100KHz	250	0.60
PSB0602330MZF	33.0	1V/100KHz	350	0.50
PSB0602470MZF	47.0	1V/100KHz	530	0.40
PSB0602680MZF	68.0	1V/100KHz	700	0.30
PSB0602101MZF	100.0	1V/100KHz	1050	0.25
PSB0602151MZF	150.0	1V/100KHz	1650	0.20
PSB0602221MZF	220.0	1V/100KHz	2200	0.18
PSB0602331MZF	330.0	1V/100KHz	3300	0.15
PSB0602471MZF	470.0	1V/100KHz	5300	0.12
PSB0602681MZF	680.0	1V/100KHz	6900	0.11
PSB0602102MZF	1000.0	1V/100KHz	10000	0.09

7. Characteristics Curves







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

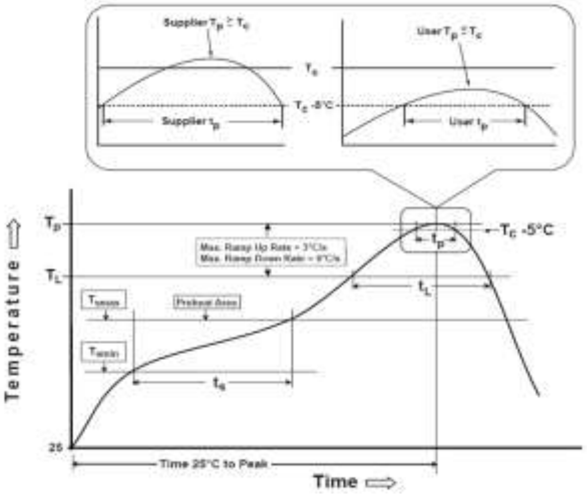
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020F).

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).

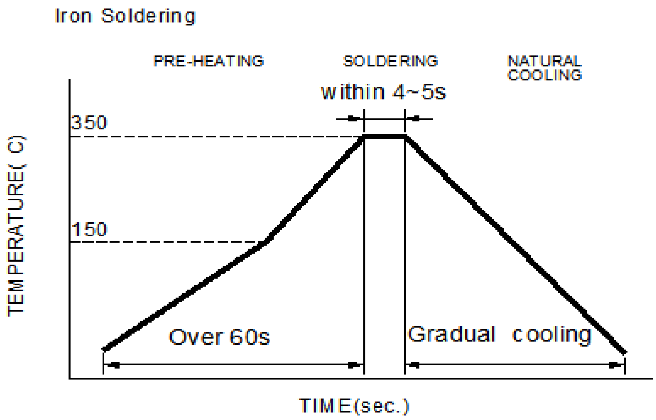
Note:

(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.**

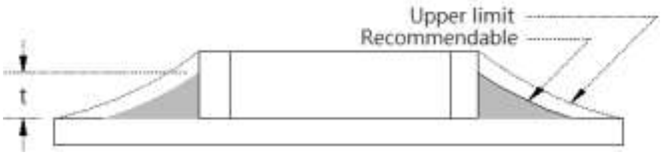
Table (1.2) Package Thickness/Volume and Classification Temperature (T_c)

	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.

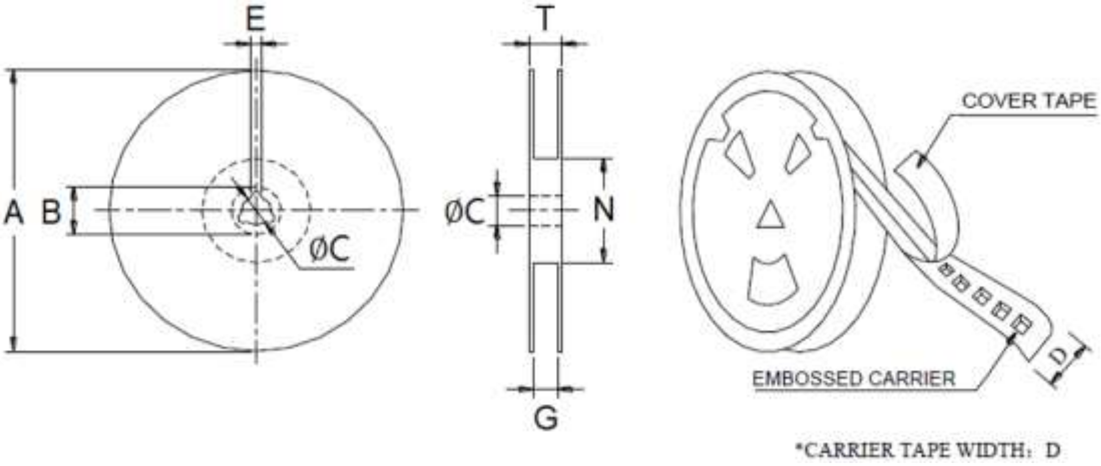
8-3. Soldering Volume

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.



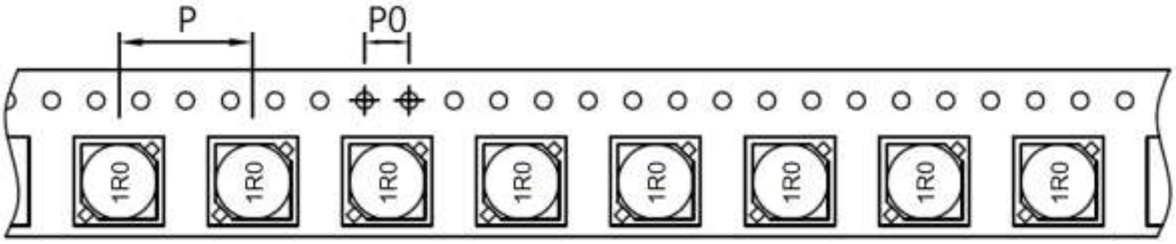
9. Packaging Information

9-1. Reel Dimension (Unit: mm)



Type	A	B	C	D
	330.0 Ref	21.0 Ref	13.0 Ref	16.0 Ref
13”x16mm	E	G	N	T
	2.0 Ref	18.0 Ref	50.0 Ref	22.4 Ref

9-2. Tape Dimension (Unit: mm)

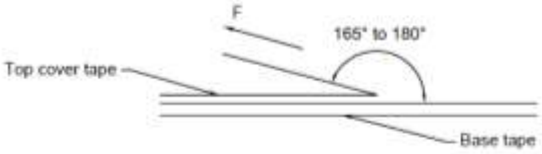


P	P0
12	4

9-3. Packaging Type

Inner/Reel		Outer Carton		
Q'TY(PCS)	G.W. (g)	Q'TY(PCS)	G.W. (Kg)	SIZE (cm)
1,500	540	9,000	6.8	40 x 40 x 24

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.