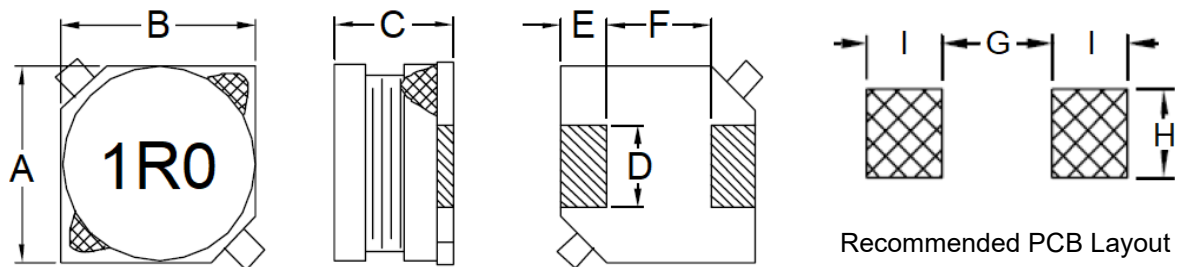


## 1. Part No. Expression

**P S B 0 7 0 3 1 R 0 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 |

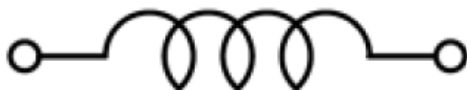
## 2. Configuration & Dimensions (Unit: mm)



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

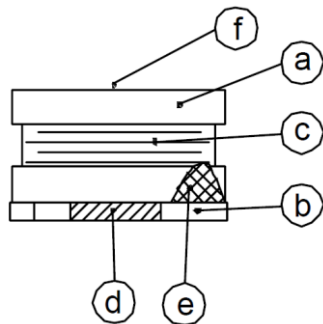
A	B	C	D	E
7.0±0.3	7.0±0.3	3.0±0.3	2.0±0.2	1.5±0.2
F	G	H	I	-
4.0±0.2	3.7 Ref	2.2 Ref	1.9 Ref	-

## 3. Schematic



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

## 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) All test data referenced to 25°C ambient.
- (c) Heat Rated Current (Irms) will cause the coil temperature rise  $\Delta T$  of 40°C Max.
- (d) Saturation Current (Isat) will cause inductance L0 to drop 10% Max.
- (e) Rated Current: The lower value of Isat and Irms.
- (f) Resistance to solder heat: 260° C.10 secs
- (g) 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 (uH) @0A	Test Frequency	DCR (mΩ) Max	IDC (A) Max
PSB07031R0MZF	1.0	1V/100KHz	20	3.20
PSB07031R5MZF	1.5	1V/100KHz	25	2.80
PSB07032R2MZF	2.2	1V/100KHz	35	2.50
PSB07033R3MZF	3.3	1V/100KHz	40	2.20
PSB07034R7MZF	4.7	1V/100KHz	45	2.00

Tolerance Code: K=±10%, L=±15%, M=±20%

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

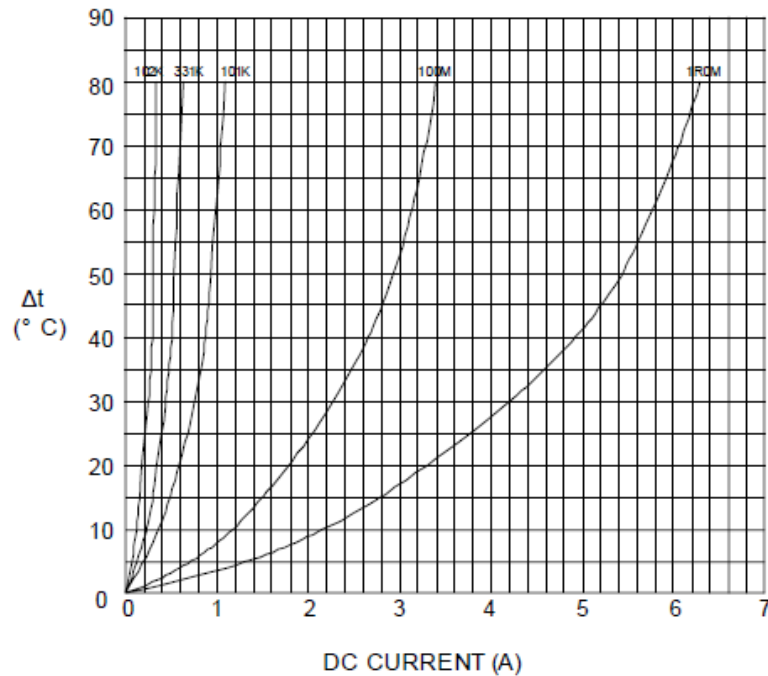
Part Number	Inductance (uH) @0A	Test Frequency	DCR (mΩ) Max	IDC (A) Max
PSB07036R8MZF	6.8	1V/100KHz	60	1.60
PSB0703100MZF	10.0	1V/100KHz	80	1.40
PSB0703120MZF	12.0	1V/100KHz	85	1.30
PSB0703150LZF	15.0	1V/100KHz	110	1.10
PSB0703180LZF	18.0	1V/100KHz	130	1.05
PSB0703220LZF	22.0	1V/100KHz	150	1.00
PSB0703270LZF	27.0	1V/100KHz	190	0.95
PSB0703330LZF	33.0	1V/100KHz	210	0.85
PSB0703390LZF	39.0	1V/100KHz	270	0.75
PSB0703470LZF	47.0	1V/100KHz	310	0.70
PSB0703560KZF	56.0	1V/100KHz	390	0.65
PSB0703680KZF	68.0	1V/100KHz	430	0.60
PSB0703820KZF	82.0	1V/100KHz	490	0.50
PSB0703101KZF	100.0	1V/100KHz	650	0.45
PSB0703121KZF	120.0	1V/100KHz	700	0.40
PSB0703151KZF	150.0	1V/100KHz	850	0.35
PSB0703181KZF	180.0	1V/100KHz	1100	0.33
PSB0703221KZF	220.0	1V/100KHz	1250	0.30
PSB0703271KZF	270.0	1V/100KHz	1450	0.28
PSB0703331KZF	330.0	1V/100KHz	2000	0.25
PSB0703391KZF	390.0	1V/100KHz	2250	0.23
PSB0703471KZF	470.0	1V/100KHz	2600	0.22
PSB0703561KZF	560.0	1V/100KHz	3700	0.20
PSB0703681KZF	680.0	1V/100KHz	4300	0.18
PSB0703821KZF	820.0	1V/100KHz	4900	0.16
PSB0703102KZF	1000.0	1V/100KHz	5600	0.15

Tolerance Code: K=±10%, L=±15%, M=±20%

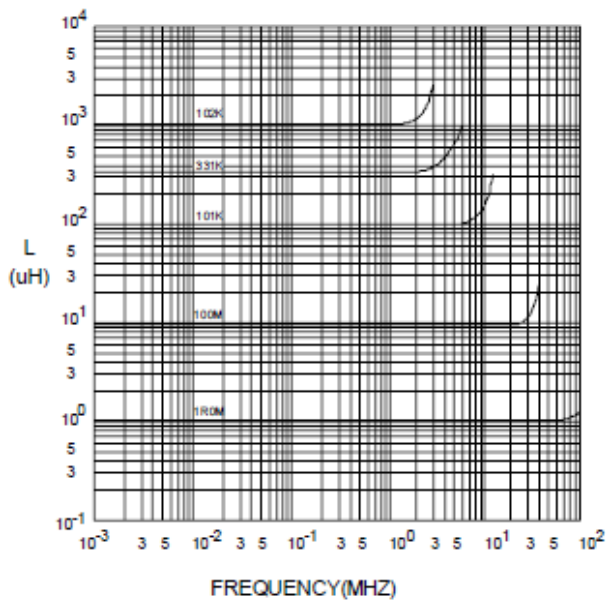
NOTE: Specifications subject to change without notice. Please check our website for latest information.

## 7. Characteristics Curves

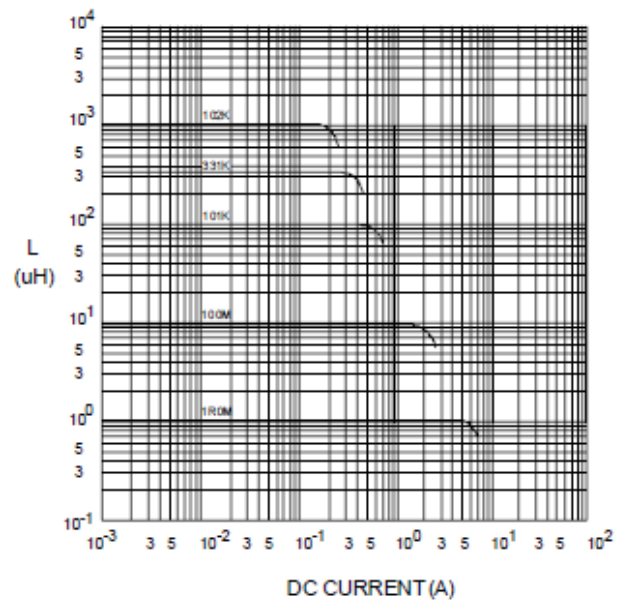
@ TEMP. RISE VS. DC SUPERPOSITION RESPONSE CURVE



@ INDUCTANCE VS. FREQUENCY RESPONSE CURVE



@ INDUCTANCE VS. DC SUPERPOSITION RESPONSE CURVE



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

## 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

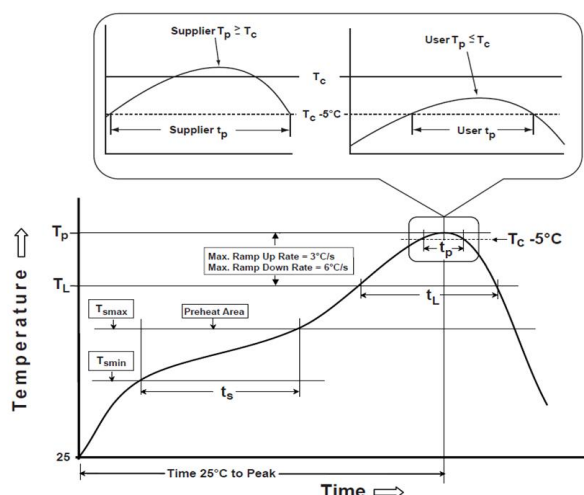
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

### 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).

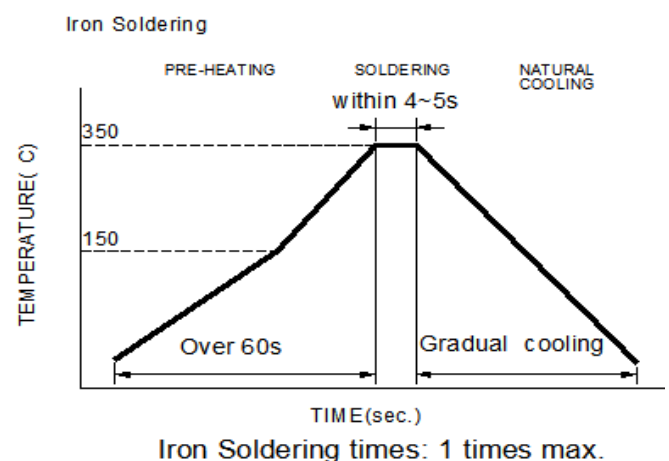
Note:

- 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

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 ( $T_{smin}$ )	150°C
-Temperature Max ( $T_{smax}$ )	200°C
-Time ( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ )	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 ( $T_c$ )**

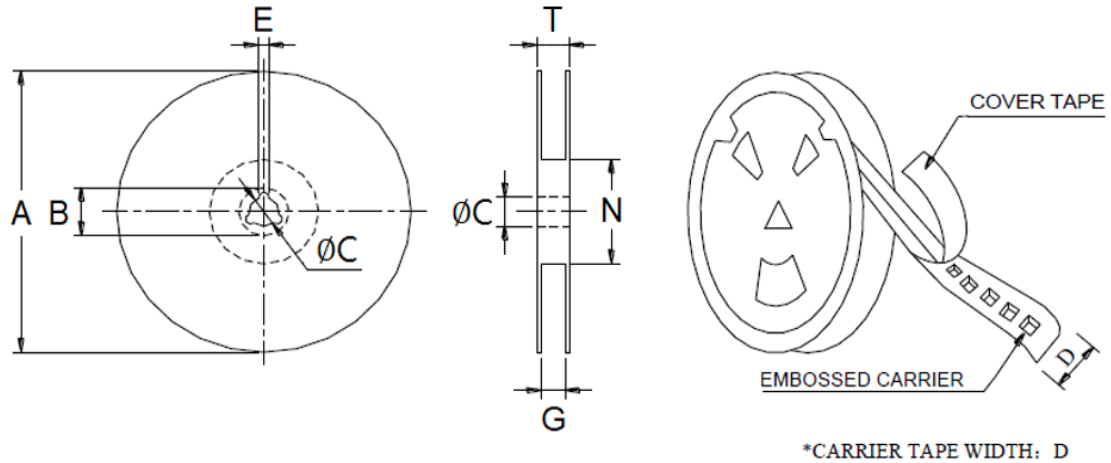
	Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> 350-2000	Volume mm <sup>3</sup> >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

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

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

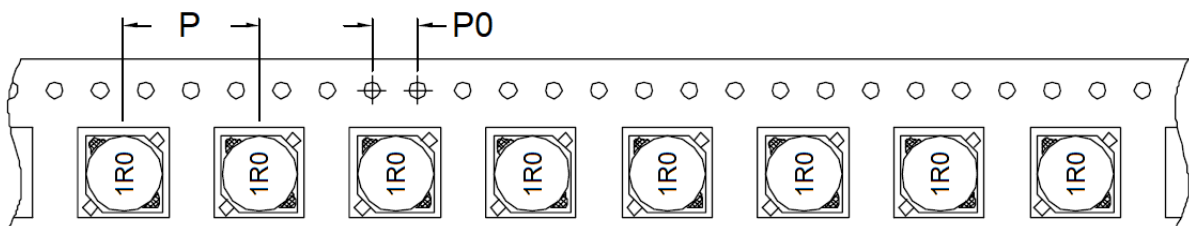
## 9. Packaging Information

### 9-1. Reel Dimension (Unit: mm)



Type	A	B	C	D
	330.0 Ref	21.0 Ref	13.0 Ref	16.0 Ref
13"x16	E	G	N	T
	2.0 Ref	18.0 Max	50.0 Min	22.4 Ref

### 9-2. Tape Dimension (Unit: mm)



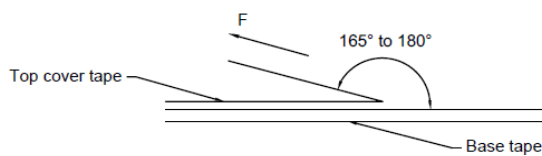
P	P0
12	4

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

## 9-3. Packaging Type

Inner/Reel			Outer Carton		
Q'TY(PCS)	G.W. (gw)	STYLE	Q'TY(PCS)	G.W. (Kg)	SIZE (cm)
1,000	600	13-16	6,000	7.1	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) 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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