

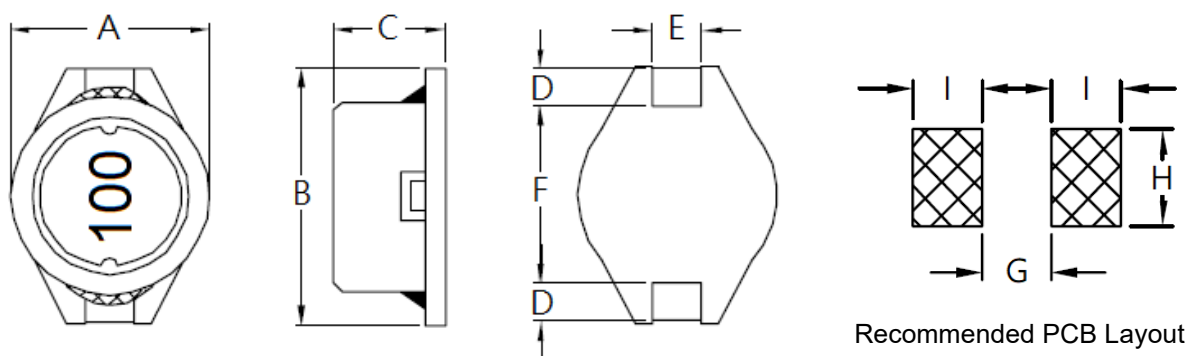
1. Part No. Expression

S D B 1 5 0 7 1 0 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 |

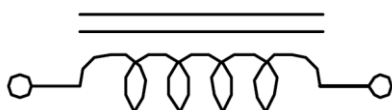
2. Configuration & Dimensions (Unit: mm)



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

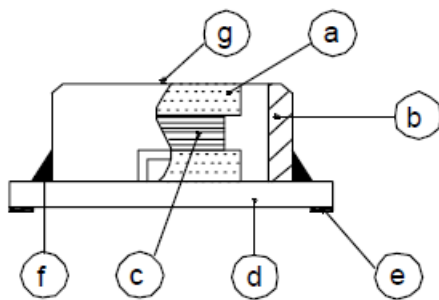
A	B	C	D	E
15.0±0.3	18.4±0.3	7.0±0.5	2.4±0.2	2.2±0.2
F	G	H	I	-
13.3±0.3	12.7 Ref	2.8 Ref	3.0 Ref	-

3. Schematic



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

4. Material List



- (a) DR Core
- (b) RI Core
- (c) Wire
- (d) Base
- (e) Terminal
- (f) Adhesive
- (g) 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 approximately ΔT of 40°C.
- (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

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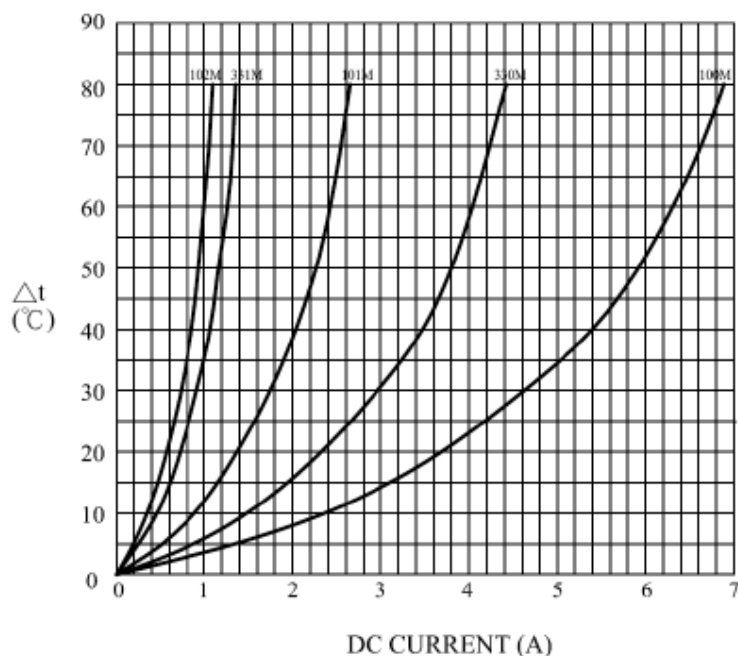
6. Electrical Characteristics

Part Number	Inductance (μ H) @0A $\pm 20\%$	Q Ref	Test Frequency	SRF (MHz) Typ	RDC (m Ω) Max	IDC (A)
SDB1507100MZF	10.0	70	1V/100KHz	20.0	30	4.00
SDB1507150MZF	15.0	55	1V/100KHz	17.0	35	3.60
SDB1507220MZF	22.0	45	1V/100KHz	15.0	45	3.15
SDB1507330MZF	33.0	55	1V/100KHz	10.0	60	2.80
SDB1507470MZF	47.0	45	1V/100KHz	8.5	80	2.45
SDB1507680MZF	68.0	50	1V/100KHz	6.5	115	2.00
SDB1507101MZF	100.0	70	1V/100KHz	5.5	180	1.70
SDB1507151MZF	150.0	60	1V/100KHz	5.0	220	1.35
SDB1507221MZF	220.0	65	1V/100KHz	4.0	320	1.15
SDB1507331MZF	330.0	80	1V/100KHz	3.0	500	0.90
SDB1507471MZF	470.0	90	1V/100KHz	2.5	750	0.75
SDB1507681MZF	680.0	100	1V/100KHz	2.3	1100	0.65
SDB1507102MZF	1000.0	90	1V/100KHz	1.9	1500	0.55

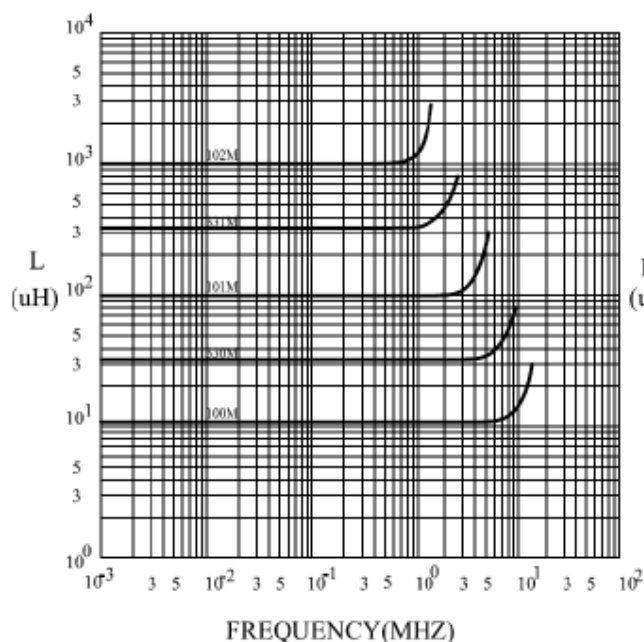
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7. Characteristics Curve

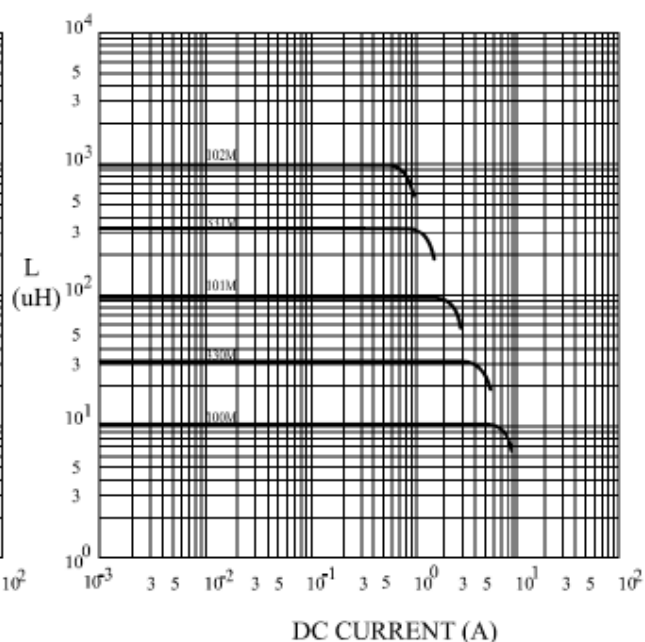
@ TEMP. RISE VS. DC SUPERPOSITION RESPONSE CURVE



@ INDUCTANCE VS. FREQUENCY RESPONSE CURVE



@ INDUCTANCE VS. DC SUPERPOSITION RESPONSE CURVE



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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

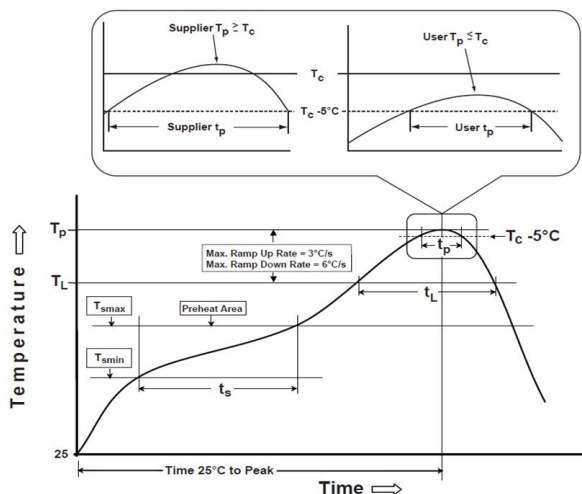
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

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

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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)

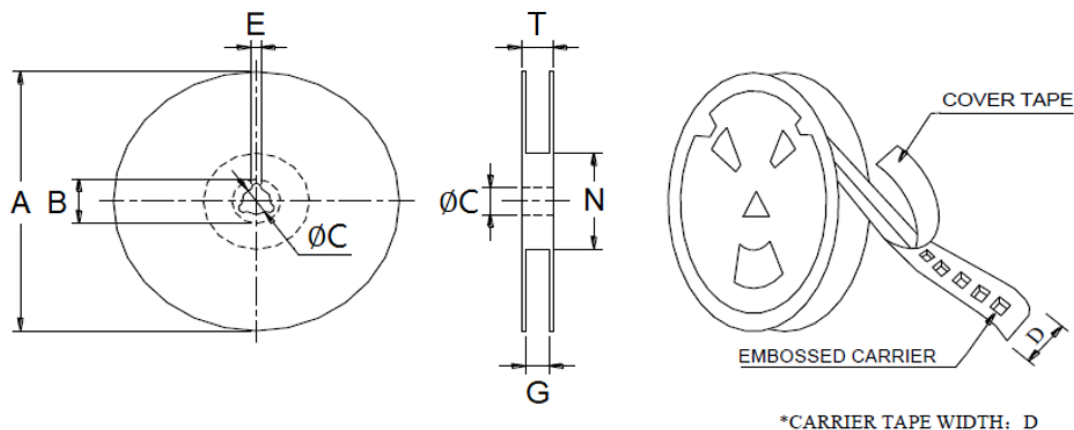
	Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

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

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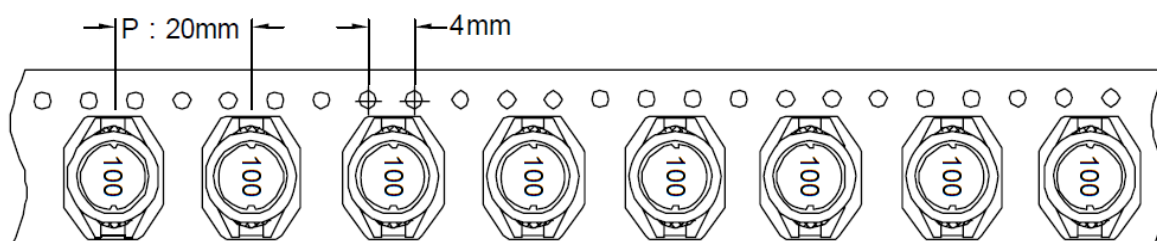
9. Packaging Information

9-1. Reel Dimension (Unit: mm)



Type	A	B	C	D	E	G	N	T
13"x32mm	330.0	21.0 Ref	13.0 Ref	32.0	2.0 Ref	34.0 Max	100.0 Min	38.4

9-2. Tape Dimension (Unit: mm)

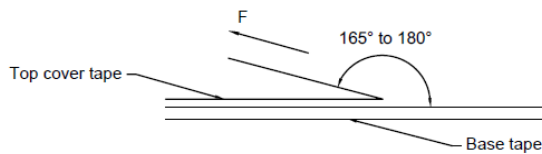


9-3. Packaging Quantity & G.W & Size

INNER : REEL		OUTER : CARTON		
QTY(PCS)	G.W(gw)	QTY(PCS)	G.W(Kg)	SIZE(cm)
350	1,750	1,400	10.5	40x40x26

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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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