

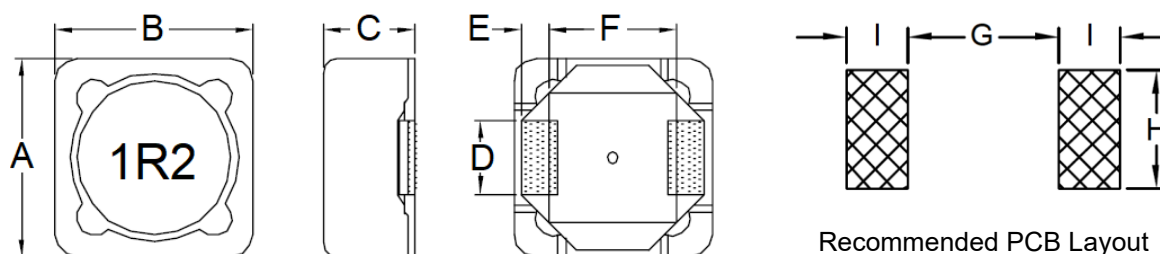
1. Part No. Expression

S D B 1 2 0 7 1 R 2 Y 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

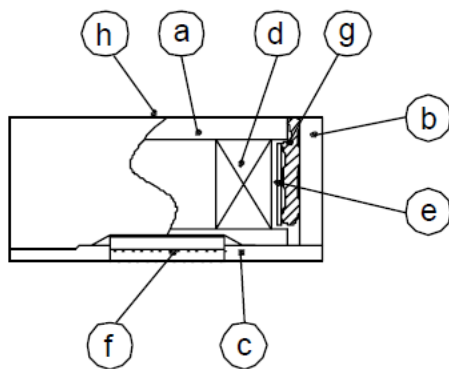
A	B	C	D	E
12.5±0.3	12.5±0.3	8.0 Max	5.0±0.2	2.2±0.2
F	G	H	I	-
7.6±0.2	7.0 Ref	5.4 Ref	2.8 Ref	-

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) Base
- (d) Wire
- (e) Tape
- (f) Terminal
- (g) Adhesive
- (h) Ink

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) 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 20% 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

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6. Electrical Characteristics

Part Number	Inductance (μ H) @0A	Test Frequency	RDC (m Ω) Max	Isat (A) Max	Irms (A) Max
SDB12071R2YZF	1.2	1V/100KHz	7.0	9.80	8.90
SDB12072R7YZF	2.7	1V/100KHz	11.5	8.00	7.20
SDB12073R9YZF	3.9	1V/100KHz	13.5	7.50	6.90
SDB12074R7YZF	4.7	1V/100KHz	15.8	6.80	6.60
SDB12075R6YZF	5.6	1V/100KHz	17.6	6.60	6.30
SDB12077R6YZF	7.6	1V/100KHz	20.0	5.90	6.00
SDB1207100MZF	10	1V/1KHz	21.6	5.40	5.20
SDB1207120MZF	12	1V/1KHz	24.3	4.90	5.20
SDB1207150MZF	15	1V/1KHz	27.0	4.50	4.90
SDB1207180MZF	18	1V/1KHz	39.2	3.90	4.50
SDB1207220MZF	22	1V/1KHz	43.2	3.60	4.20
SDB1207270MZF	27	1V/1KHz	45.9	3.40	4.00
SDB1207330MZF	33	1V/1KHz	64.8	3.00	3.40
SDB1207390MZF	39	1V/1KHz	72.9	2.75	3.20
SDB1207470MZF	47	1V/1KHz	100	2.50	2.60
SDB1207560LZF	56	1V/1KHz	110	2.35	2.50
SDB1207680LZF	68	1V/1KHz	140	2.10	2.30
SDB1207820LZF	82	1V/1KHz	160	1.95	2.00
SDB1207101LZF	100	1V/1KHz	220	1.70	1.90
SDB1207121LZF	120	1V/1KHz	250	1.60	1.80
SDB1207151LZF	150	1V/1KHz	280	1.42	1.70
SDB1207181KZF	180	1V/1KHz	350	1.30	1.40
SDB1207221KZF	220	1V/1KHz	390	1.16	1.30
SDB1207271KZF	270	1V/1KHz	560	1.06	1.20
SDB1207331KZF	330	1V/1KHz	640	0.95	1.10

Note:

Tolerance Code: K=±10%, L=±15%, M=±20%, Y=±30%

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Part Number	Inductance (μ H) @0A	Test Frequency	RDC (m Ω) Max	Isat (A) Max	Irms (A) Max
SDB1207391KZF	390	1V/1KHz	700	0.88	1.10
SDB1207471KZF	470	1V/1KHz	980	0.79	0.90
SDB1207561KZF	560	1V/1KHz	1070	0.73	0.90
SDB1207681KZF	680	1V/1KHz	1460	0.67	0.80
SDB1207821KZF	820	1V/1KHz	1640	0.60	0.60
SDB1207102KZF	1000	1V/1KHz	1820	0.55	0.60

Note:

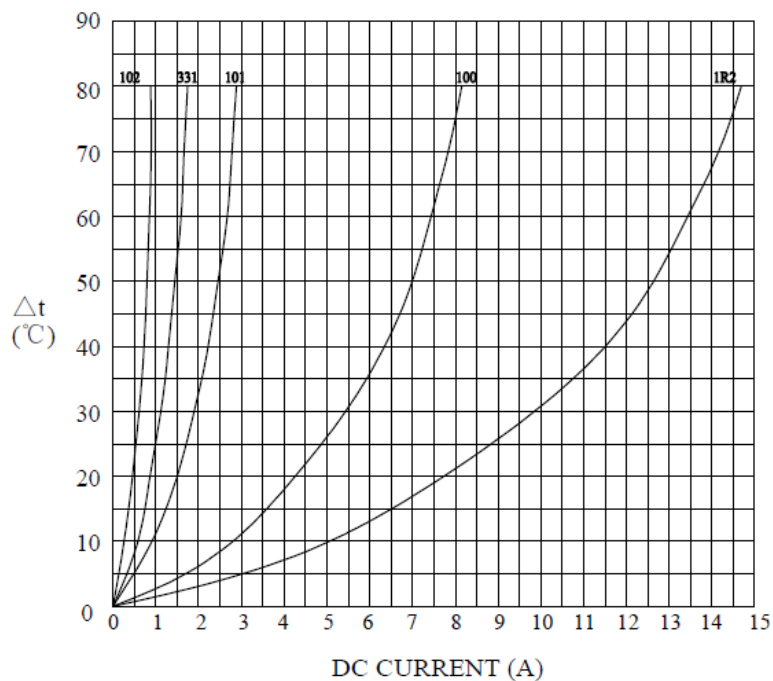
Tolerance Code: K= \pm 10%, L= \pm 15%, M= \pm 20%, Y= \pm 30%

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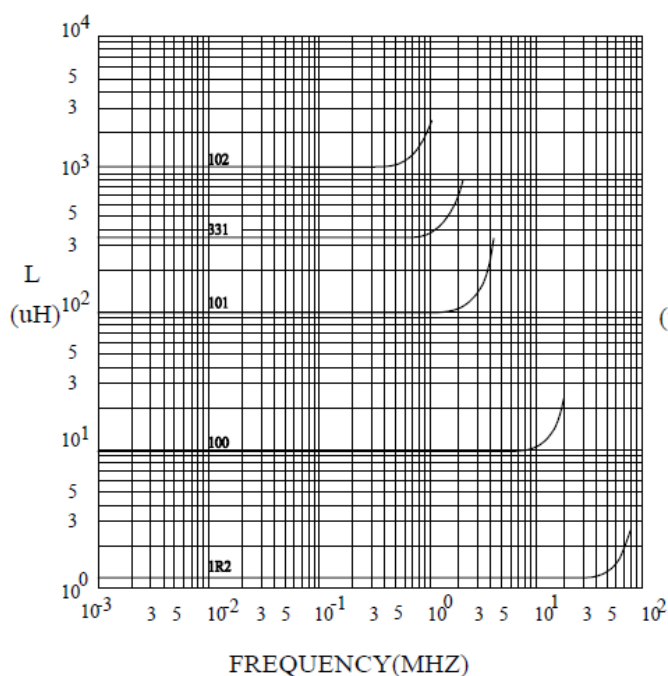


7. Characteristics Curve

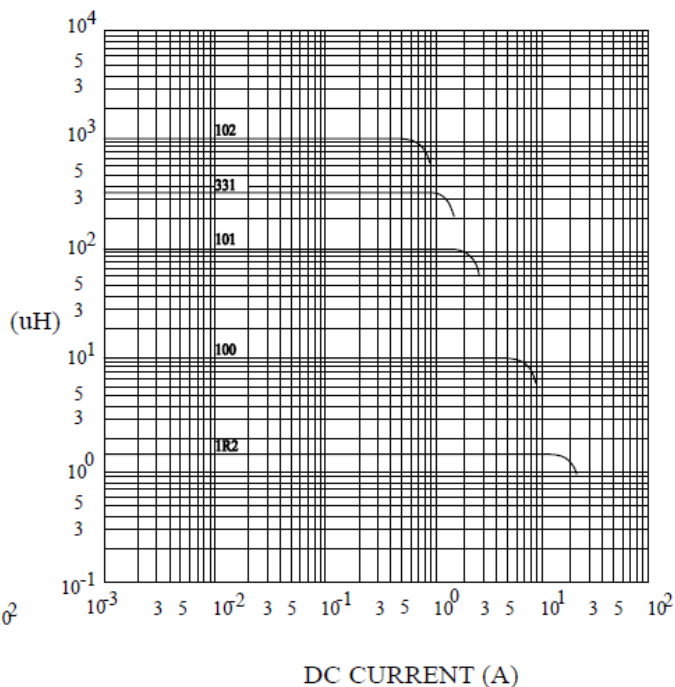
@ TEMP. RISE VS. DC SUPERPOSITION RESPONSE CURVE



@ 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

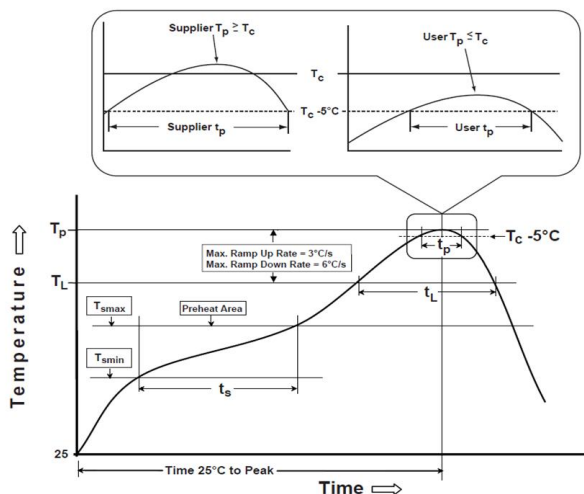
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

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).

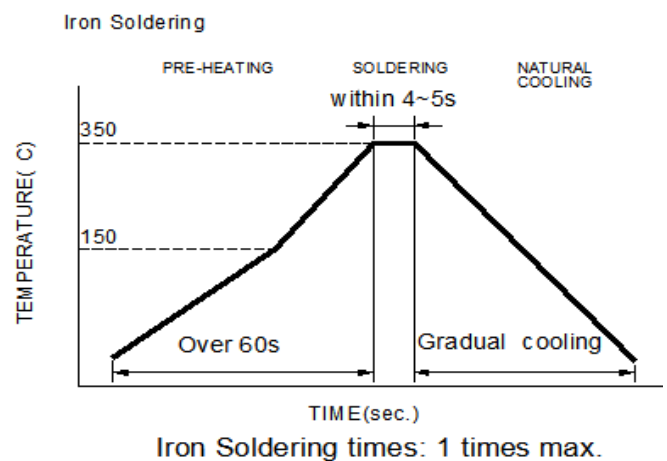
Note:

- 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

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_{\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)

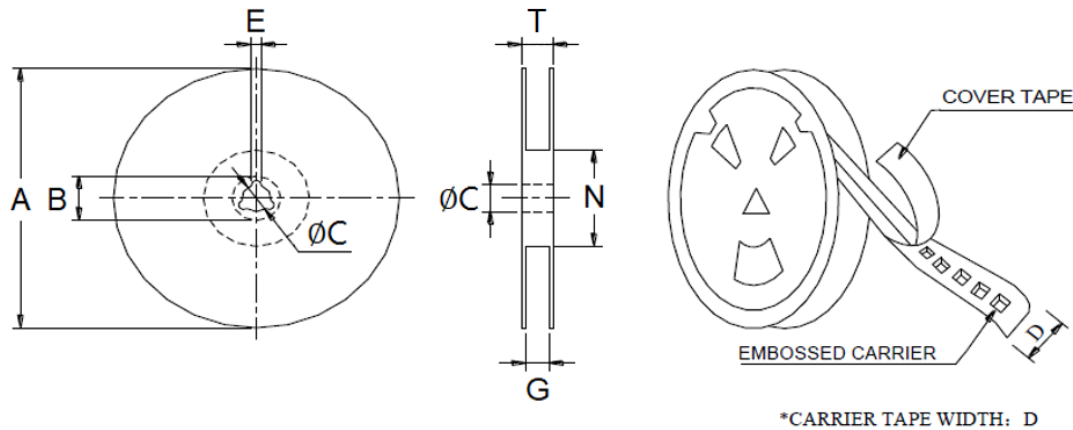
	Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

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

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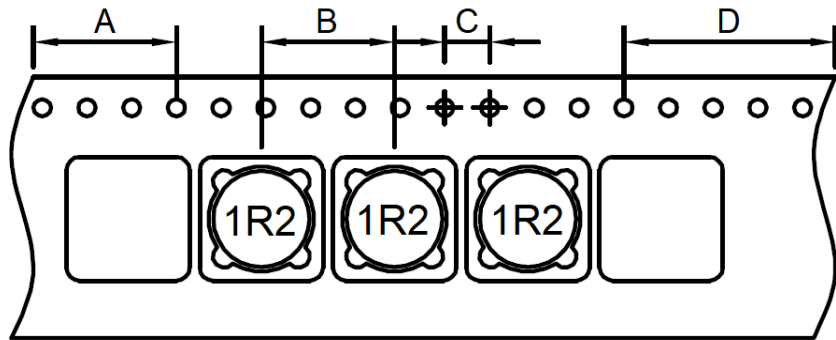
9. Packaging Information

9-1. Reel Dimension (Unit: mm)



Type	A	B	C	D	E	G	N	T
13"x24mm	330.0	21.0 Ref	13.0 Ref	24.0	2.0 Ref	26.0 Max	100.0 Min	30.4

9-2. Tape Dimension (Unit: mm)



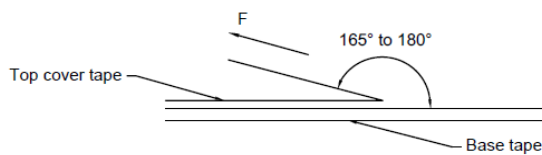
A	B	C	D
200	16	4	400

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

INNER : REEL		OUTER : CARTON		
QTY(PCS)	G.W(gw)	QTY(PCS)	G.W(Kg)	SIZE(cm)
400	2,100	1,600	11.9	36x35.5x14.3

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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