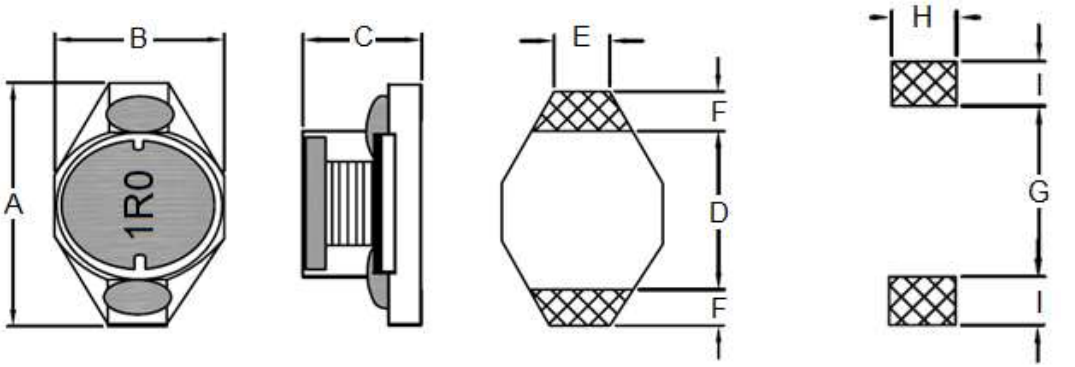
1. Part No. Expression

S D B 1 6 0 8 1 R 0 M F

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

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

2. Configuration & Dimensions (Unit: mm)

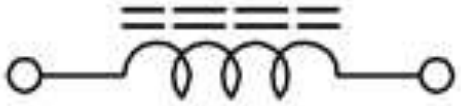


Recommended PCB Layout

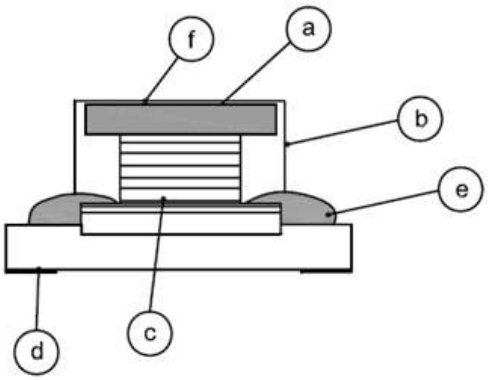
Note: 1. The above PCB layout reference only.
2. Marking: Inductance Code

A	B	C	D	E
6.60 Max	4.45 Max	2.92 Max	4.32 Ref	1.27 Ref
F	G	H	I	-
1.02 Ref	4.06 Ref	3.56 Ref	1.40 Ref	-

3. Schematic



4. Material List



(a) Core
(b) Core
(c) Wire
(d) Base
(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 ΔT of 40°C Max.
(d) Rated Current: The lower value of Isat and Irms.
(e) Storage Condition (Component in its packaging)
    i) Temperature: -10°C to 40°C
    ii) Humidity: Less than 60% RH

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

6. Electrical Characteristics

Part Number	Inductance (μH) @0A ±20%	Test Frequency	Q Min	Test Frequency	SRF (MHz) Typ	RDC (Ω) Max	Irms (A)
SDB16081R0MF	1.0	0.1V/100KHz	30	0.1V/200KHz	250	0.040	3.0
SDB16081R5MF	1.5	0.1V/100KHz	30	0.1V/200KHz	125	0.045	2.8
SDB16082R2MF	2.2	0.1V/100KHz	40	0.1V/200KHz	120	0.050	1.8
SDB16083R3MF	3.3	0.1V/100KHz	40	0.1V/200KHz	120	0.055	1.6
SDB16084R7MF	4.7	0.1V/100KHz	40	0.1V/200KHz	105	0.060	1.4
SDB16086R8MF	6.8	0.1V/100KHz	40	0.1V/200KHz	50	0.065	1.2
SDB1608100MF	10	0.1V/100KHz	40	0.1V/200KHz	38	0.075	1.0
SDB1608150MF	15	0.1V/100KHz	40	0.1V/100KHz	33	0.090	0.80
SDB1608220MF	22	0.1V/100KHz	40	0.1V/100KHz	25	0.110	0.70
SDB1608330MF	33	0.1V/100KHz	40	0.1V/100KHz	20	0.190	0.60
SDB1608470MF	47	0.1V/100KHz	40	0.1V/100KHz	20	0.230	0.50
SDB1608680MF	68	0.1V/100KHz	40	0.1V/100KHz	15	0.290	0.40
SDB1608101MF	100	0.1V/100KHz	40	0.1V/100KHz	10	0.480	0.30
SDB1608151MF	150	0.1V/100KHz	40	0.1V/100KHz	9	0.590	0.26
SDB1608221MF	220	0.1V/100KHz	40	0.1V/100KHz	6	0.900	0.22
SDB1608331MF	330	0.1V/100KHz	40	0.1V/100KHz	5	1.400	0.20
SDB1608471MF	470	0.1V/100KHz	40	0.1V/100KHz	4	1.800	0.19
SDB1608681MF	680	0.1V/100KHz	40	0.1V/100KHz	3	2.200	0.18
SDB1608102MF	1000	0.1V/100KHz	40	0.1V/100KHz	2	3.400	0.15
SDB1608152MF	1500	0.1V/100KHz	50	0.1V/100KHz	2	4.200	0.12
SDB1608222MF	2200	0.1V/100KHz	50	0.1V/100KHz	2	8.500	0.10
SDB1608332MF	3300	0.1V/100KHz	50	0.1V/100KHz	1	11.000	0.08
SDB1608472MF	4700	0.1V/100KHz	50	0.1V/100KHz	1	13.900	0.06
SDB1608682MF	6800	0.1V/100KHz	50	0.1V/100KHz	1	25.000	0.04
SDB1608103MF	10000	0.1V/100KHz	50	0.1V/100KHz	0.8	32.800	0.02

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

7. 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.

7-1. IR Soldering Reflow

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

7-2. 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.

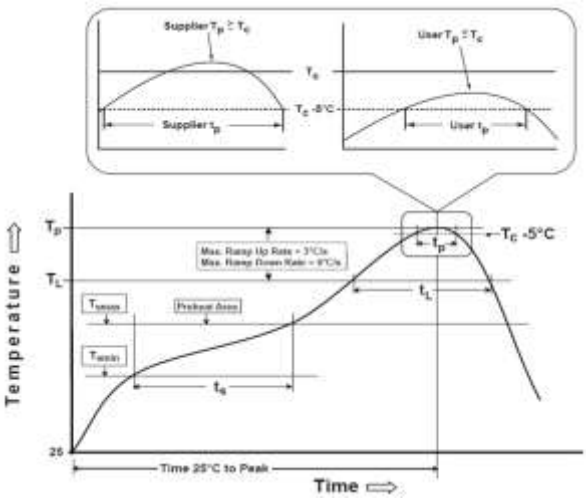
(b) 350°C tip temperature (Max.)

(c) Never contact the ceramic with the iron tip

(d) 1.0mm tip diameter (Max.)

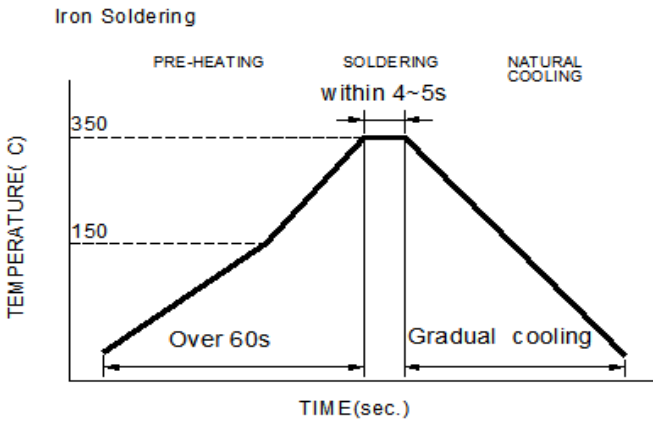
(e) Use a 20 watt soldering iron with tip diameter of 1.0mm

(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

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}) -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.**

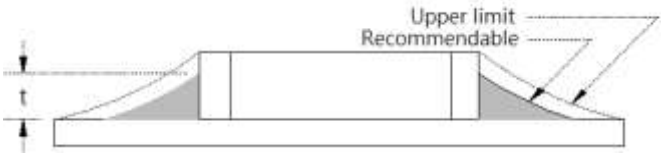
Table (1.2) Package Thickness/Volume and Classification Temperature (T_c)

	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.

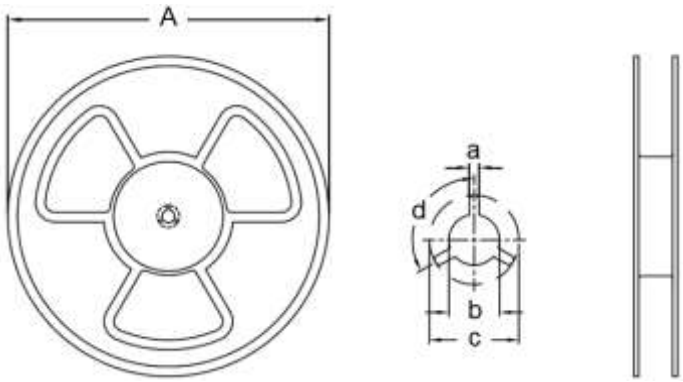
7-3. Soldering Volume

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.



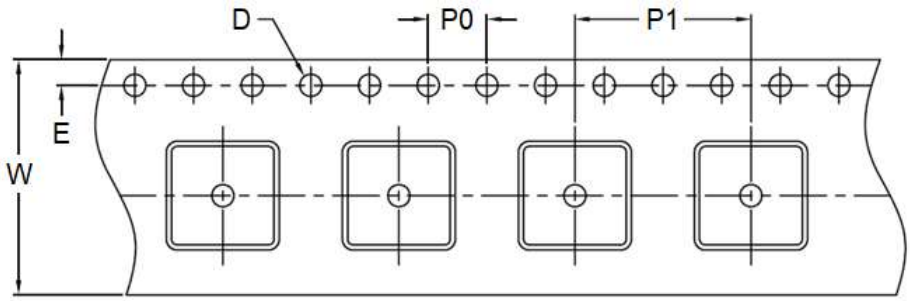
8. Packaging Information

8-1. Reel Dimension (Unit: mm)

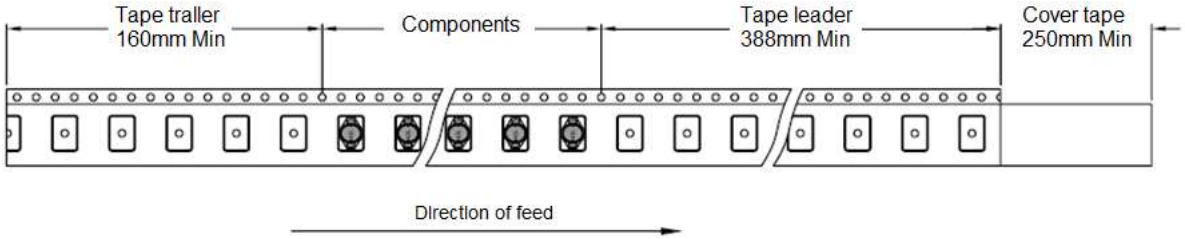


Type	A	a	b	c	d
13”x16mm	330.0 Ref	2.5 Ref	13.0 Ref	23.0 Ref	120°

8-2. Tape Dimension (Unit: mm)



W	E	D	P0	P1
16.00	1.75±0.10	1.50+0.10/-0.00	4.00±0.10	8.00

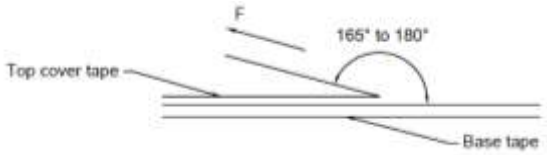


NOTE: Specifications subject to change without notice. Please check our website for latest information.

8-3. Packaging Quantity & G.W

INNER : REEL		OUTER : CARTON	
QTY(PCS)	G.W(gw)	QTY(PCS)	G.W(Kg)
2,000	0.82	14,000	7

8-4. 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.