

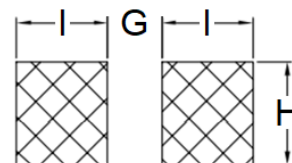
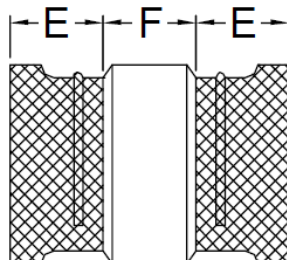
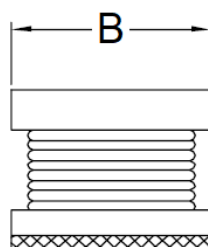
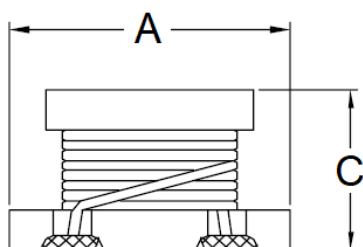
1. Part No. Expression

S D I 5 6 5 0 4 7 R 1 2 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)



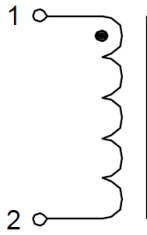
Recommended PCB Layout

Note: The above PCB layout reference only.

A	B	C	E	F	G	H	I
5.7±0.3	5.0±0.3	4.7±0.3	1.3 Min	1.7 Min	2.0 Ref	5.0 Ref	2.0 Ref

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

3. Schematic



4. General Specifications

- (a) Operating Temp.: - 30°C to + 105°C (including self-temperature rise)
- (b) All test data referenced to 25°C ambient.
- (c) Storage Condition (Component in its packaging)
 - i) Temperature: -10°C to +40°C
 - ii) Humidity: Less than 60% RH

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5. Electrical Characteristics

Part Number	Inductance (μ H) @0A	Tolerance	Test Frequency (Hz)	SRF (MHz) Min	DCR (Ω) Max	IDC (mA) Max
SDI565047-R12□F	0.12	M	1M	450.0	0.0098	6000
SDI565047-R27□F	0.27	M	1M	300.0	0.0140	5300
SDI565047-R47□F	0.47	M	1M	200.0	0.0182	4600
SDI565047-1R0□F	1.00	M	1M	150.0	0.0270	4000
SDI565047-1R5□F	1.50	M	1M	110.0	0.0310	3700
SDI565047-2R2□F	2.20	M	1M	80.0	0.0410	3200
SDI565047-3R3□F	3.30	M	1M	40.0	0.0500	2900
SDI565047-4R7□F	4.70	M	1M	30.0	0.0574	2700
SDI565047-6R8□F	6.80	M	1M	25.0	0.1040	2000
SDI565047-100□F	10.00	M, K	1M	20.0	0.1300	1700
SDI565047-150□F	15.00	M, K	1M	17.0	0.2100	1400
SDI565047-220□F	22.00	M, K	1M	15.0	0.2660	1200
SDI565047-330□F	33.00	M, K	1M	12.0	0.4480	900
SDI565047-470□F	47.00	M, K	1M	10.0	0.5600	800
SDI565047-680□F	68.00	M, K	1M	7.6	0.9380	640
SDI565047-101□F	100.00	M, K	100K	6.5	1.2040	560
SDI565047-151□F	150.00	M, K	100K	5.0	2.6600	420
SDI565047-221□F	220.00	M, K	100K	4.0	3.3600	320
SDI565047-331□F	330.00	M, K	100K	3.1	6.1600	270
SDI565047-471□F	470.00	M, K	100K	2.4	7.5600	240
SDI565047-681□F	680.00	M, K	100K	1.9	11.3400	190
SDI565047-102□F	1000.00	M, K	10K	1.7	14.4200	150
SDI565047-222□F	2200.00	M, K	10K	1.2	30.1000	100
SDI565047-472□F	4700.00	M, K	10K	0.8	61.0400	70
SDI565047-103□F	10000.00	M, K	10K	0.5	140.0000	50

Note:

Tolerance Code: J=±5%, K=±10%, M=±20%

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6. 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.

6-1. IR Soldering Reflow

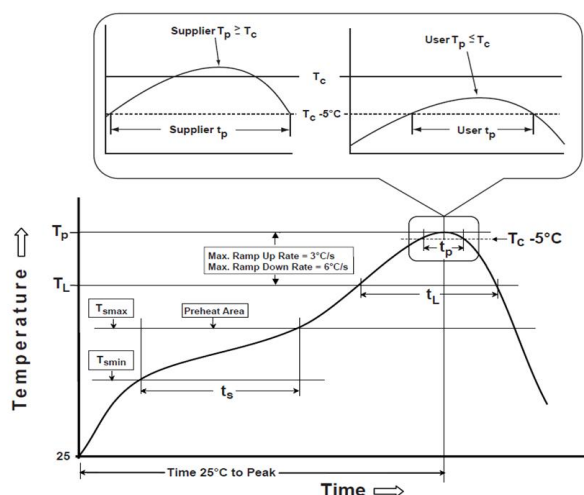
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

6-2. 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).

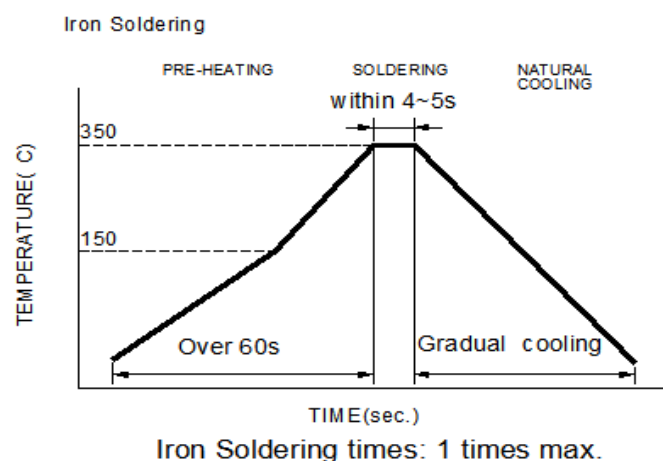
Note:

- 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_{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)

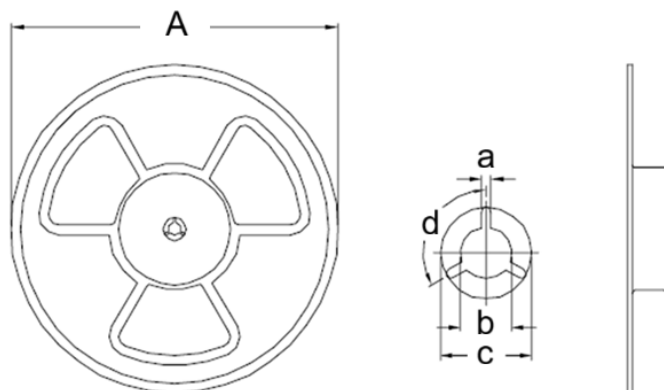
	Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

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

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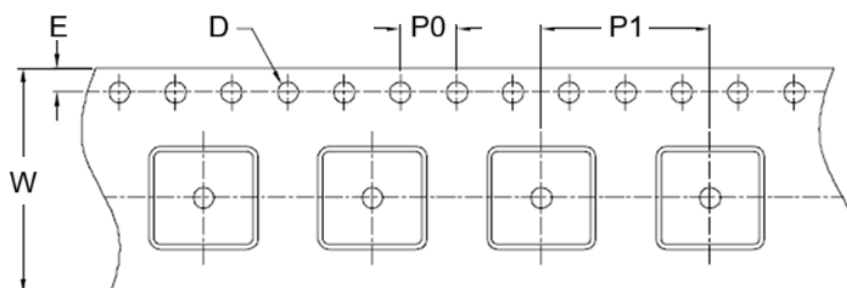
7. Packaging Information

7-1. Reel Dimension (Unit: mm)

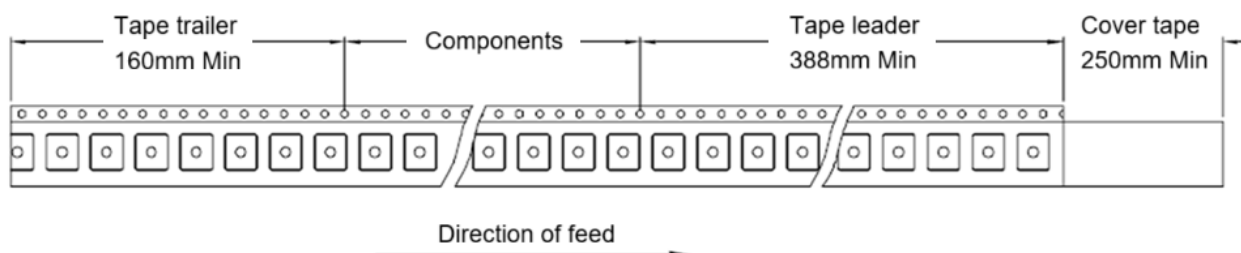


Type	A	a	b	c	d
13"x16mm	330.0 Ref	2.5 Ref	13.0 Ref	23.0 Ref	120°

7-2. 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	12.00

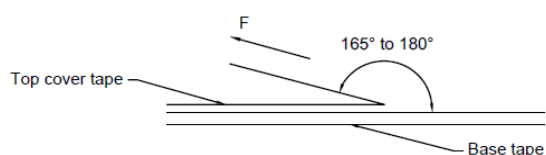


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7-3. Packaging Quantity (Unit: Pcs)

Inner: Reel		Outer: Carton		
Qty (Pcs)	G.W. (Kg)	Qty (Pcs)	G.W. (Kg)	Size (cm)
1,000	0.78	16,000	16	36 x 36 x 40

7-4. 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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