

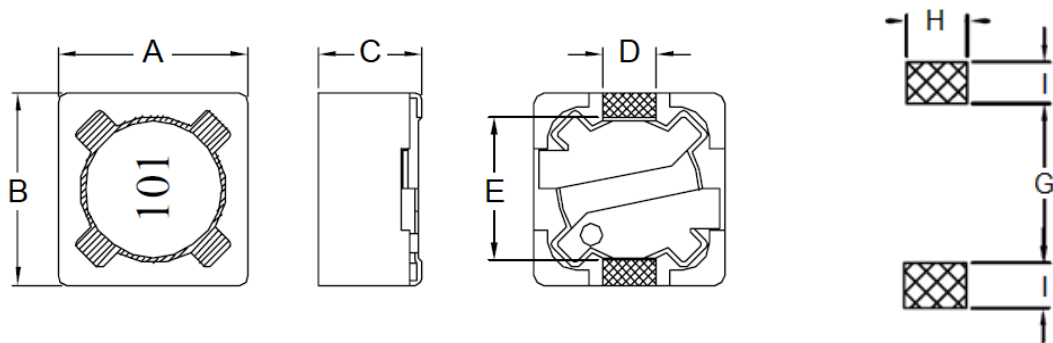
1. Part No. Expression

S D C 0 7 0 3 1 0 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

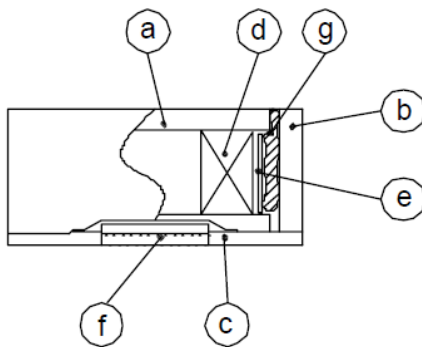
A	B	C	D	E	G	H	I
7.3±0.2	7.3±0.2	3.4 Max	1.8 Ref	5.0 Ref	4.8 Ref	2.2 Ref	1.6 Ref

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

3. Schematic



4. Material List



- (a) Core
- (b) Core
- (c) Base
- (d) Wire
- (e) Tape
- (f) Terminal
- (g) Adhesive

5. General Specifications

- (a) Operating Temp.: -30°C to +105°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) Saturation Current (Isat) will cause inductance L0 to drop 25% 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 (uH) @0A ±20%	Test Frequency	DCR (Ω) Max	IDC (A) Max
SDC0703100MF	10	0.25V/1KHz	0.072	1.68
SDC0703120MF	12	0.25V/1KHz	0.098	1.52
SDC0703150MF	15	0.25V/1KHz	0.130	1.33
SDC0703180MF	18	0.25V/1KHz	0.140	1.20
SDC0703220MF	22	0.25V/1KHz	0.190	1.07
SDC0703270MF	27	0.25V/1KHz	0.210	0.96
SDC0703330MF	33	0.25V/1KHz	0.240	0.91
SDC0703390MF	39	0.25V/1KHz	0.320	0.77
SDC0703470MF	47	0.25V/1KHz	0.360	0.76
SDC0703560MF	56	0.25V/1KHz	0.470	0.68
SDC0703680MF	68	0.25V/1KHz	0.520	0.61
SDC0703820MF	82	0.25V/1KHz	0.690	0.57
SDC0703101MF	100	0.25V/1KHz	0.790	0.50
SDC0703121MF	120	0.25V/1KHz	0.890	0.49
SDC0703151MF	150	0.25V/1KHz	1.270	0.43
SDC0703181MF	180	0.25V/1KHz	1.450	0.39
SDC0703221MF	220	0.25V/1KHz	1.650	0.35
SDC0703271MF	270	0.25V/1KHz	2.310	0.32
SDC0703331MF	330	0.25V/1KHz	2.620	0.28
SDC0703391MF	390	0.25V/1KHz	2.940	0.26
SDC0703471MF	470	0.25V/1KHz	4.180	0.24
SDC0703561MF	560	0.25V/1KHz	4.670	0.22
SDC0703681MF	680	0.25V/1KHz	5.730	0.19
SDC0703821MF	820	0.25V/1KHz	6.540	0.18
SDC0703102MF	1000	0.25V/1KHz	9.440	0.16

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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

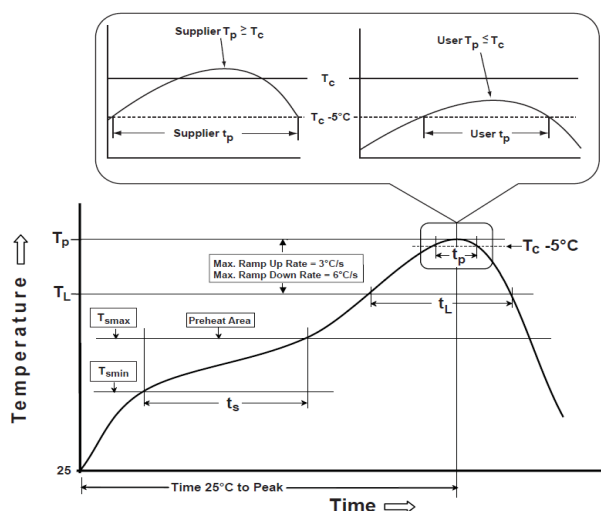
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

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).

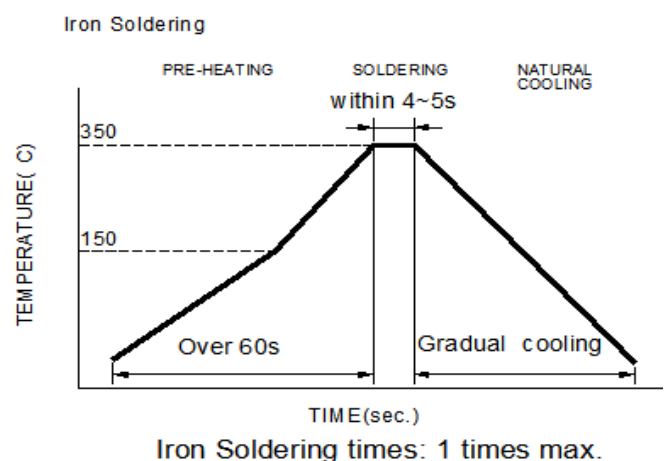
Note:

- 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)

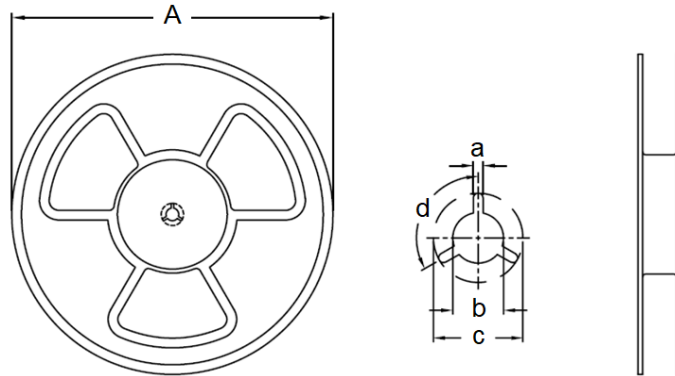
	Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

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

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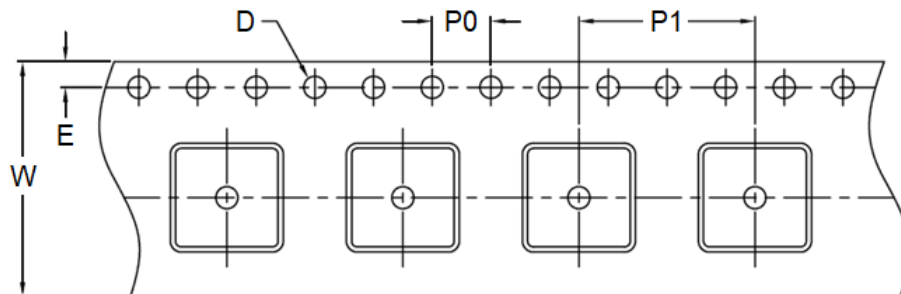
8. Packaging Information

8-1. Reel Dimension (Unit: mm)

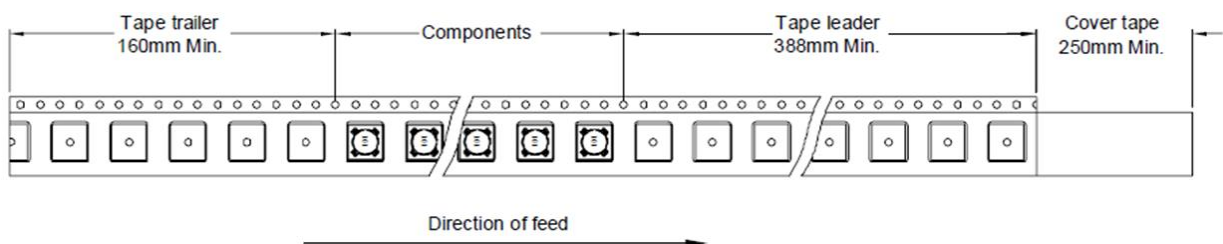


Type	A	a	b	c	d
13"x16mm	330.0	2.5 Ref	13.0 Ref	23.0 Ref	120°

8-2. Tape Dimension (Unit: mm)



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

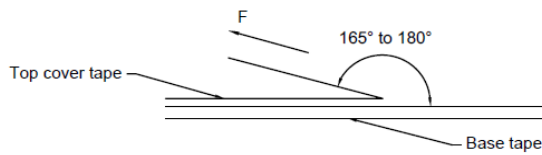


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8-3. Packaging Quantity (Unit: Pcs)

INNER : REEL		OUTER : CARTON		
QTY(PCS)	G.W(gw)	QTY(PCS)	G.W(Kg)	SIZE(cm)
1,000	1.00	16,000	20	36x36x40

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) 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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