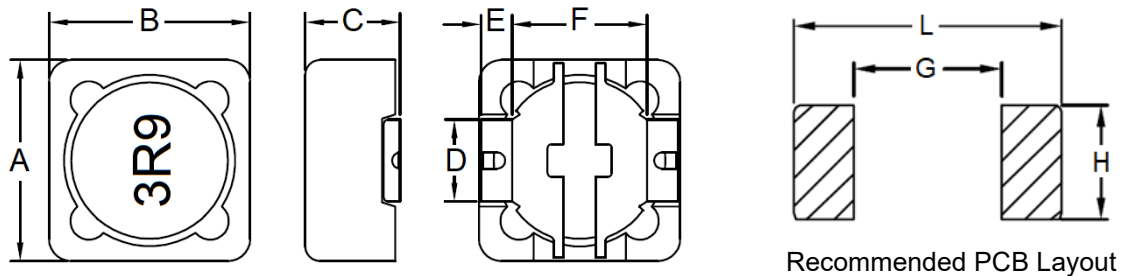


1. Part No. Expression

S D C 1 2 0 4 3 R 9 Y F
 (a) (b) (c) (d) (e)

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

2. Configuration & Dimensions (Unit: mm)



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

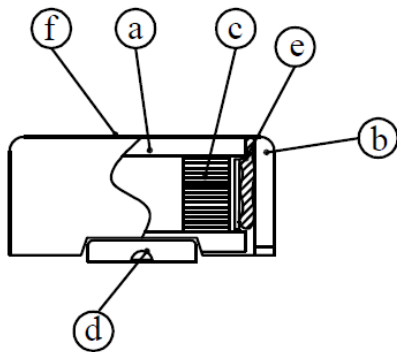
A	B	C	D	E
12.8 Max	12.8 Max	5.0 Max	5.0 Ref	2.2 Ref
F	G	H	L	-
7.6±0.2	7.0 Ref	5.4 Ref	12.6 Ref	-

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

3. Schematic



4. Material List



- (a) Core
- (b) Core
- (c) Wire
- (d) Clip
- (e) Adhesive
- (f) 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 approximately ΔT of 40°C.
- (e) Saturation Current (Isat) will cause inductance L_0 to drop 35% 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

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

6. Electrical Characteristics

Part Number	Inductance (uH) @0A	Test Frequency	DCR (mΩ) Max	IDC (A) Max
SDC12043R9YF	3.9	1V/100KHz	15	6.50
SDC12044R7YF	4.7	1V/100KHz	18	5.70
SDC12046R8YF	6.8	1V/100KHz	23	4.90
SDC12048R2YF	8.2	1V/100KHz	26	4.60
SDC1204100MF	10	1V/100KHz	28	4.50
SDC1204120MF	12	1V/100KHz	38	4.00
SDC1204150MF	15	1V/100KHz	52	3.20
SDC1204180MF	18	1V/100KHz	60	3.10
SDC1204220MF	22	1V/100KHz	70	2.90
SDC1204270MF	27	1V/100KHz	80	2.80
SDC1204330MF	33	1V/100KHz	97	2.70
SDC1204390MF	39	1V/100KHz	132	2.10
SDC1204470MF	47	1V/100KHz	160	1.90
SDC1204560MF	56	1V/100KHz	190	1.80
SDC1204680MF	68	1V/100KHz	220	1.50
SDC1204820MF	82	1V/100KHz	260	1.30
SDC1204101MF	100	1V/100KHz	308	1.20
SDC1204121MF	120	1V/100KHz	380	1.10
SDC1204151MF	150	1V/100KHz	530	0.95
SDC1204181MF	180	1V/100KHz	620	0.85
SDC1204221MF	220	1V/100KHz	700	0.80
SDC1204271MF	270	1V/100KHz	870	0.60
SDC1204331MF	330	1V/100KHz	990	0.50

Note:

Tolerance Code: M=±20%, Y=±30%

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

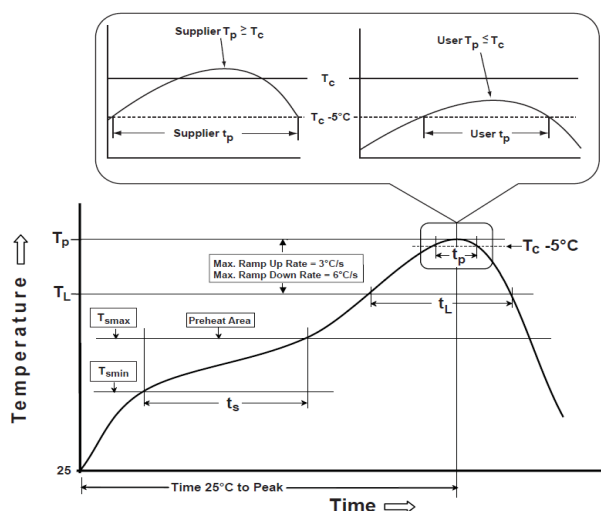
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

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).

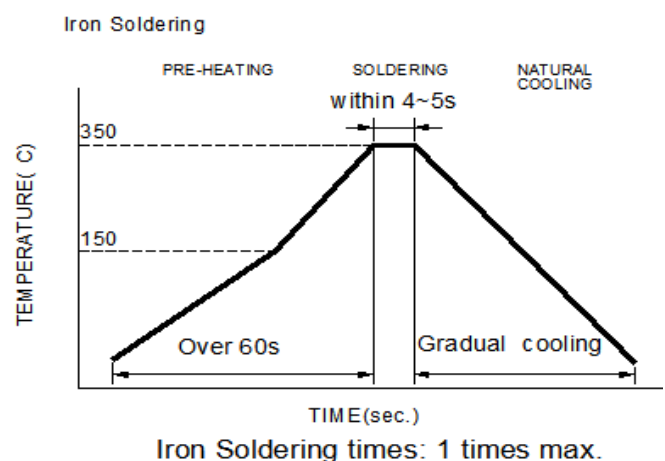
Note:

- 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

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)

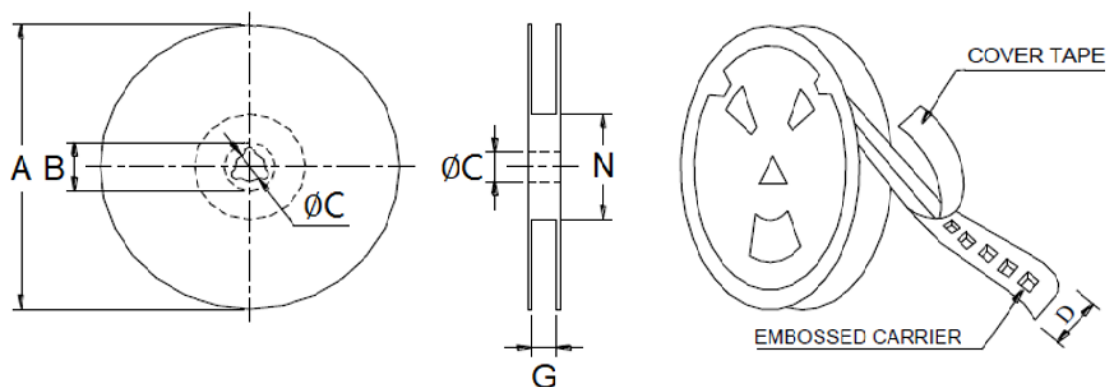
	Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

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

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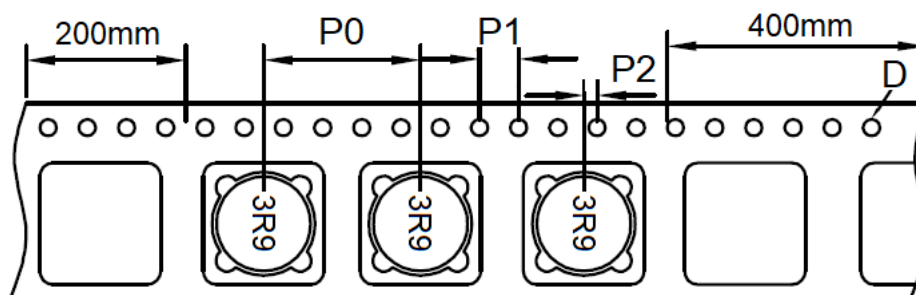
8. Packaging Information

8-1. Reel Dimension (Unit: mm)



Type	A	B	C	D	G	N
13"x24mm	330.0	21.0	13.0	24.0	24.5	100.0

8-2. Tape Dimension (Unit: mm)



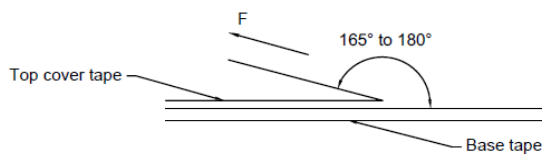
P0	P1	P2	D
16.00 Ref	4.00 Ref	2.00±0.10	1.50+0.25/-0.00

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

8-3. Packaging Quantity (Unit: Pcs)

INNER : REEL	OUTER : CARTON	
QTY(PCS)	QTY(PCS)	SIZE(cm)
600	2,400	36x35.5x14.3

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.

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