

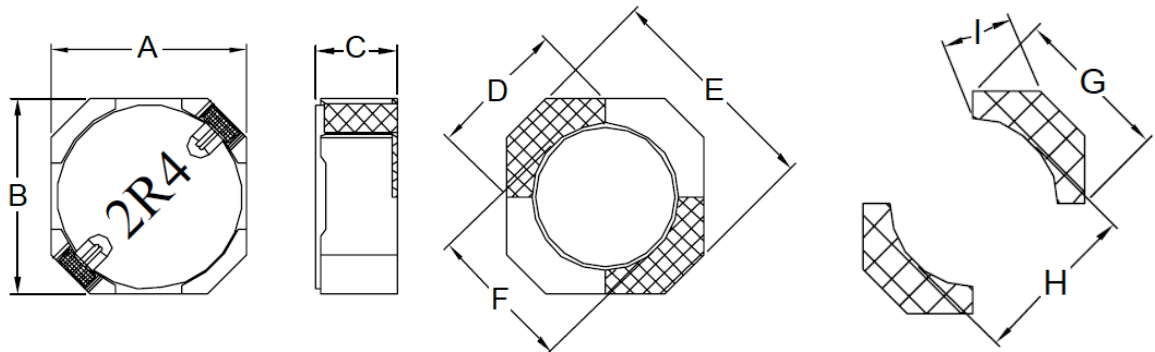
1. Part No. Expression

SSC10052R4YZF

(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)



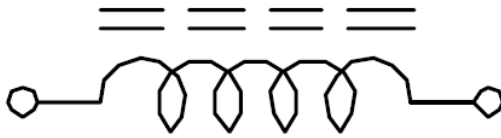
Recommended PCB Layout

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

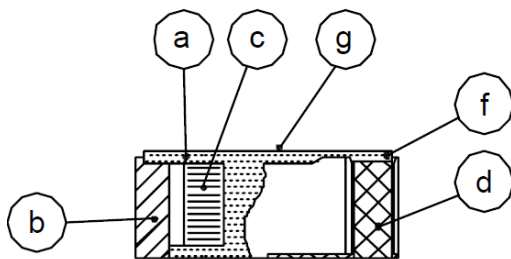
A	B	C	D	E
10.0±0.3	10.0±0.3	5.0 Max	6.8 Ref	11.5 Ref
F	G	H	I	-
7.7 Ref	7.3 Ref	7.2 Ref	3.5 Ref	-

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

3. Schematic



4. Material List



- (a) DR Core
- (b) RI Core
- (c) Wire
- (d) Terminal
- (e) Adhesive
- (f) Adhesive
- (g) Ink

5. General Specifications

- (a) Operating Temp.: -40°C to $+105^{\circ}\text{C}$ (including self-temperature rise)
- (b) All test data referenced to 25°C ambient.
- (c) Heat Rated Current (I_{rms}) will cause the coil temperature rise approximately ΔT of 40°C .
- (d) Saturation Current (I_{sat}) will cause inductance L_0 to drop approximately 35%.
- (e) Rated Current: The lower value of I_{sat} and I_{rms} .
- (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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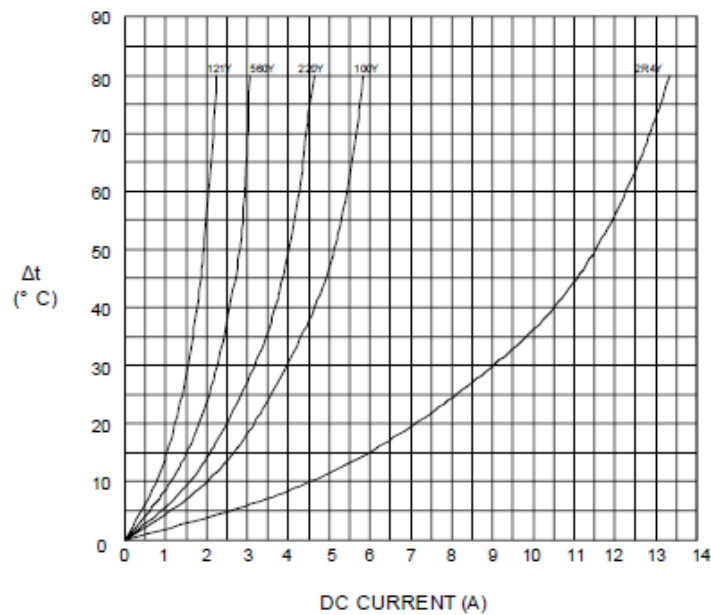
6. Electrical Characteristics

Part Number	Inductance (μ H) @0A $\pm 30\%$	Test Frequency	DCR (m Ω) Max	Isat (A)	Irms (A)	SRF (MHz) Typ
SSC10052R4YZF	2.4 $\pm 30\%$	1V/100KHz	12.5	11.5	9.6	50.0
SSC10053R6YZF	3.6 $\pm 30\%$	1V/100KHz	15.0	9.4	8.2	40.0
SSC10055R0YZF	5.0 $\pm 30\%$	1V/100KHz	16.9	8.0	6.8	35.0
SSC10056R6YZF	6.6 $\pm 30\%$	1V/100KHz	22.5	7.1	5.7	30.0
SSC10058R5YZF	8.5 $\pm 30\%$	1V/100KHz	28.8	6.3	4.8	25.0
SSC1005100YZF	10.0 $\pm 30\%$	1V/100KHz	40.0	5.5	4.3	22.0
SSC1005120YZF	12.0 $\pm 30\%$	1V/100KHz	42.5	4.9	3.6	20.0
SSC1005150YZF	15.0 $\pm 30\%$	1V/100KHz	46.0	4.5	3.4	18.0
SSC1005180YZF	18.0 $\pm 30\%$	1V/100KHz	50.0	4.1	3.2	16.0
SSC1005220YZF	22.0 $\pm 30\%$	1V/100KHz	56.0	4.0	2.8	15.0
SSC1005270YZF	27.0 $\pm 30\%$	1V/100KHz	63.0	3.6	2.7	14.0
SSC1005330YZF	33.0 $\pm 30\%$	1V/100KHz	90.0	3.1	2.1	12.0
SSC1005390YZF	39.0 $\pm 30\%$	1V/100KHz	105.0	3.0	1.9	11.0
SSC1005470YZF	47.0 $\pm 30\%$	1V/100KHz	120.0	2.6	1.8	10.0
SSC1005560YZF	56.0 $\pm 30\%$	1V/100KHz	150.0	2.4	1.6	9.0
SSC1005680YZF	68.0 $\pm 30\%$	1V/100KHz	175.0	2.1	1.5	8.0
SSC1005820YZF	82.0 $\pm 30\%$	1V/100KHz	220.0	2.0	1.3	7.0
SSC1005101YZF	100.0 $\pm 30\%$	1V/100KHz	275.0	1.8	1.1	6.0
SSC1005121YZF	120.0 $\pm 30\%$	1V/100KHz	312.5	1.6	1.0	5.0

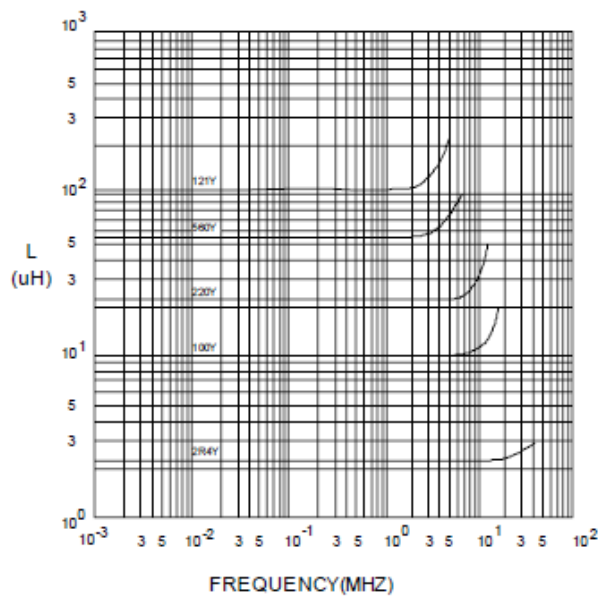
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7. Characteristics Curves

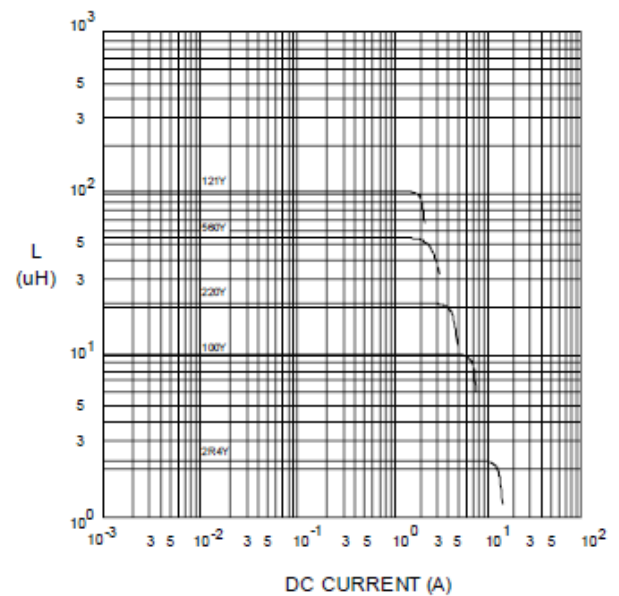
@ TEMP. RISE VS. DC SUPERPOSITION RESPONSE CURVE



@ 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

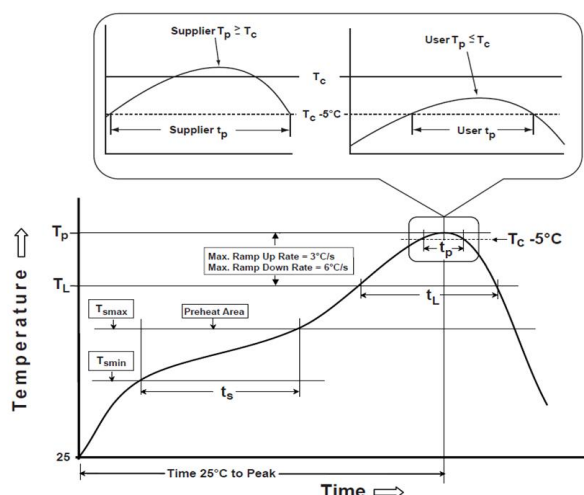
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

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).

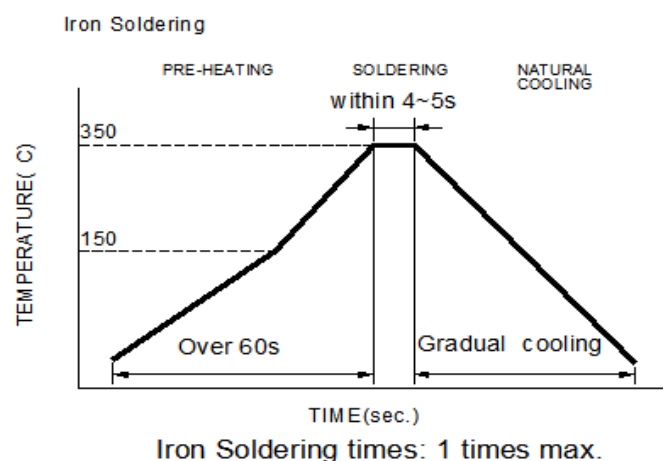
Note:

- 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

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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)

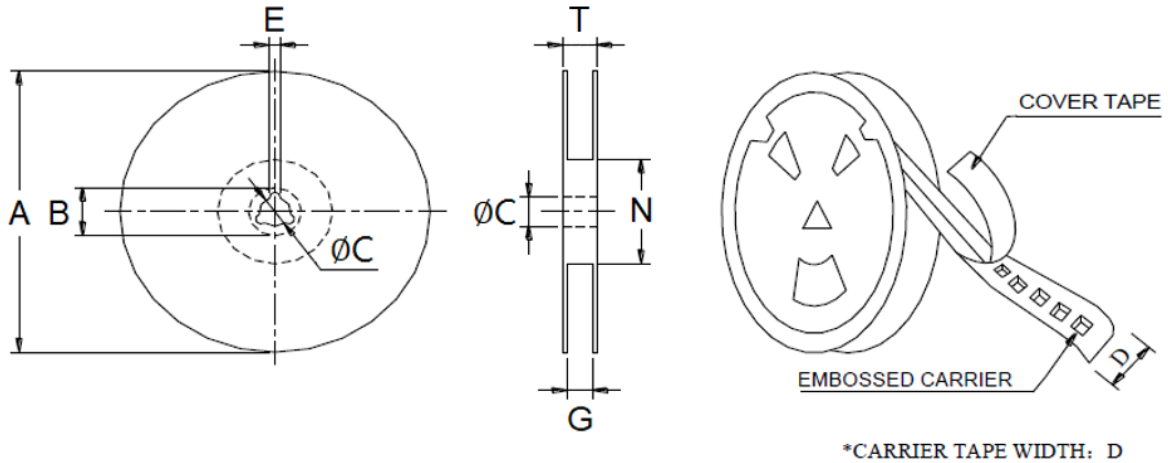
	Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

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

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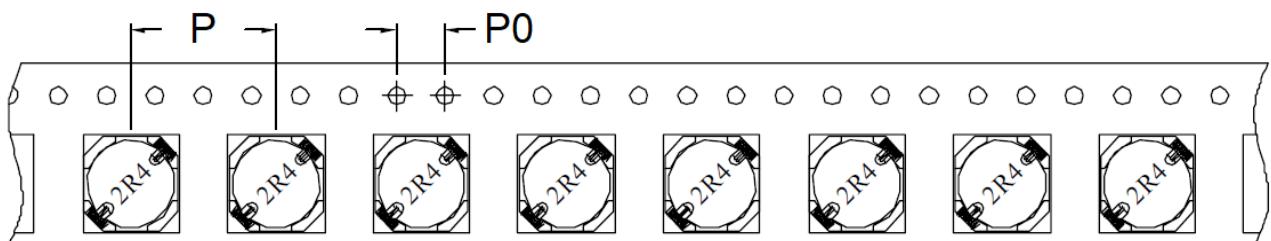
9. Packaging Information

9-1. Reel Dimension (Unit: mm)



Type	A	B	C	D	E	G	N	T
13"x24mm	330.0 Ref	21.0 Ref	13.0 Ref	24.0 Ref	2.0 Ref	26.0 Max	50.0 Min	30.4 Ref

9-2. Tape Dimension (Unit: mm)



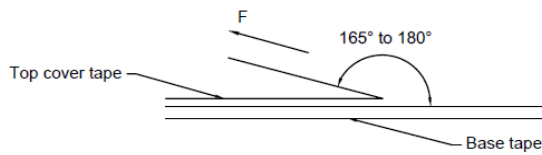
P	P0
8	4

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9-3. Packaging Quantity (Unit: Pcs)

INNER : REEL			OUTER : CARTON		
QTY(PCS)	G.W(gw)	STYLE	QTY(PCS)	G.W.(Kg)	SIZE(cm)
600	900	13-24	2,400	7.1	40 x 40 x 24

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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