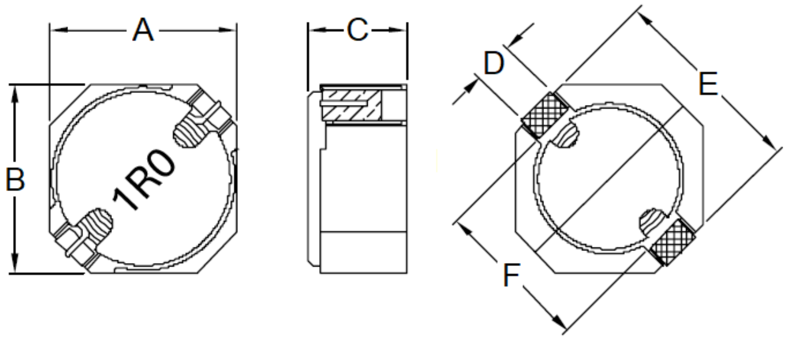
Shielded Power Inductor – *SSC0804 Series*

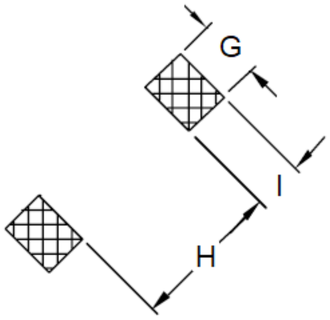
1. Part No. Expression

SSC 0804 1R0 Y Z F
(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)



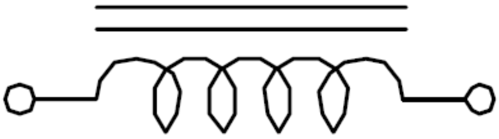


Recommended PCB Layout

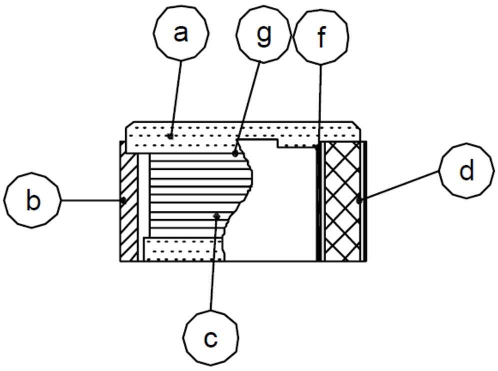
Note: 1. The above PCB layout reference only.
2. Marking: Inductance Code

A	B	C	D	E
8.0±0.3	8.0±0.3	4.7±0.3	1.8 Ref	10.0 Ref
F	G	H	I	-
6.5 Ref	2.3 Ref	6.1 Ref	1.8 Ref	-

3. Schematic



4. Material List



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

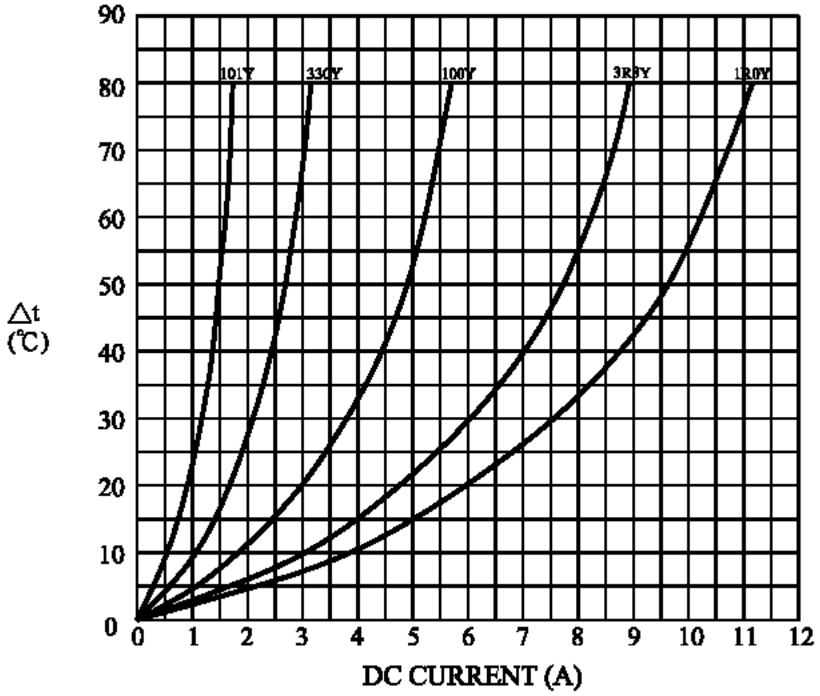
5. General Specifications

- (a) Operating Temp.: -40°C to +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 approximately ΔT of 40°C.
- (d) Saturation Current (Isat) will cause inductance L0 to drop 35% 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

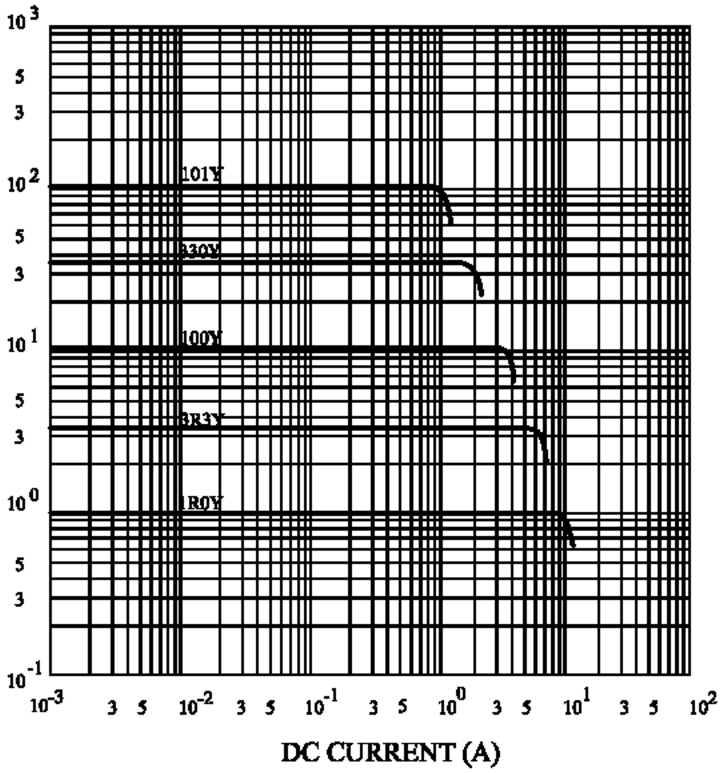
6. Electrical Characteristics

Part Number	Inductance (μH) @0A ±30%	Test Frequency	DCR (mΩ) Max	Isat (A)	Irms (A)	SRF (MHz) Typ
SSC08041R0YZF	1.0	1V/100KHz	9.5	11.0	8.0	100.0
SSC08041R8YZF	1.8	1V/100KHz	11.0	8.0	7.5	80.0
SSC08042R2YZF	2.2	1V/100KHz	13.0	7.0	6.5	50.0
SSC08043R3YZF	3.3	1V/100KHz	15.0	6.5	6.0	40.0
SSC08044R7YZF	4.7	1V/100KHz	18.0	5.5	5.5	35.0
SSC08046R8YZF	6.8	1V/100KHz	22.0	4.4	5.0	25.0
SSC0804100YZF	10.0	1V/100KHz	35.0	3.8	4.0	22.0
SSC0804150YZF	15.0	1V/100KHz	45.0	3.0	3.0	18.0
SSC0804220YZF	22.0	1V/100KHz	65.0	2.4	2.8	15.0
SSC0804330YZF	33.0	1V/100KHz	90.0	2.0	2.2	10.0
SSC0804470YZF	47.0	1V/100KHz	120.0	1.8	1.8	9.0
SSC0804680YZF	68.0	1V/100KHz	170.0	1.4	1.5	7.0
SSC0804101YZF	100.0	1V/100KHz	270.0	1.2	1.2	6.5

7. Characteristics Curves



@ TEMP. RISE VS. DC SUPERPOSITION RESPONSE CURVE



@ INDUCTANCE VS. DC SUPERPOSITION RESPONSE CURVE

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

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:

(a) Preheat circuit and products to 150°C.

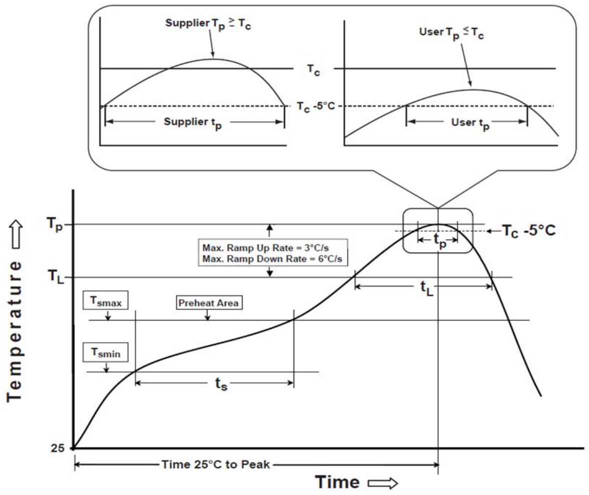
(b) 355°C tip temperature (Max.)

(c) Never contact the ceramic with the iron tip

(d) 1.0mm tip diameter (Max.)

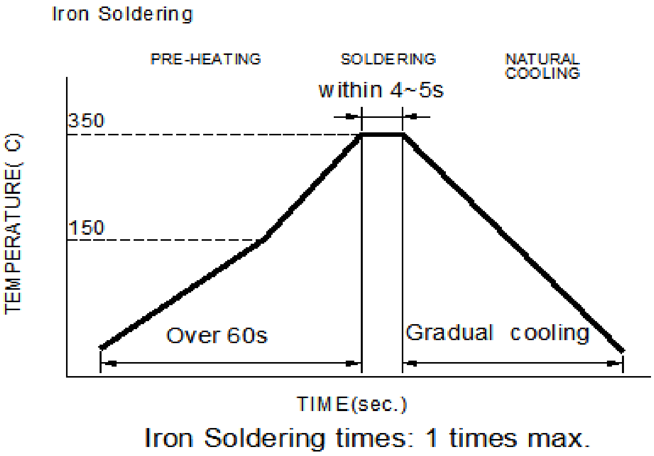
(e) Use a 20 watt soldering iron with tip diameter of 1.0mm

(f) Limit soldering time to 4~5 sec.



Reflow times: 3 times Max

Figure 1: IR Soldering Reflow



Soldering iron method: 350±5°C Max

Figure 2: Iron soldering temperature profiles

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.**

*Tolerance for peak profile temperature (Tp) is defined as a supplier minimum and a user maximum.

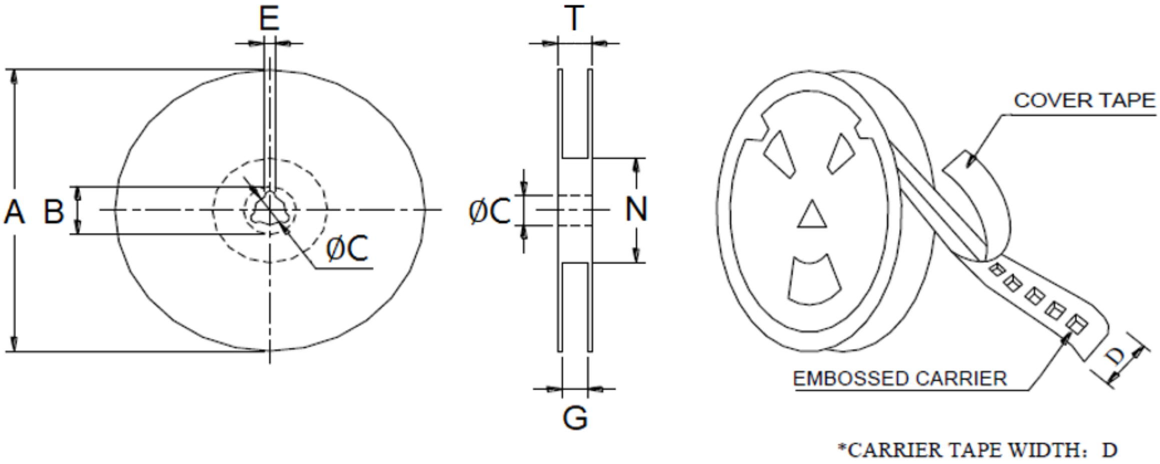
Table (1.2) Package Thickness/Volume and Classification Temperature (T_c)

	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.

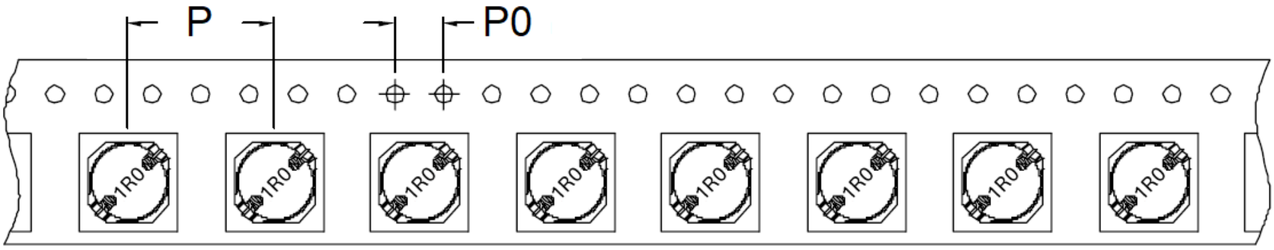
9. Packaging Information

9-1. Reel Dimension (Unit: mm)



Type	A	B	C	D	E	G	N	T
13”x16mm	330.0 Ref	21.0 Ref	13.0 Ref	16.0 Ref	2.0 Ref	18.0 Max	50.0 Min	22.4 Ref

9-2. Tape Dimension (Unit: mm)

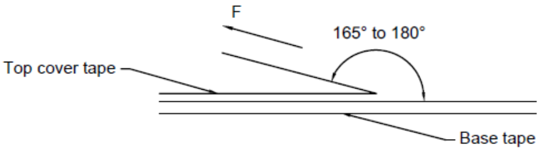


P	P0
12	4

9-3. Packaging Quantity (Unit: Pcs)

INNER : REEL			OUTER : CARTON		
QTY(PCS)	G.W(gw)	STYLE	QTY(PCS)	G.W.(Kg)	SIZE(cm)
1,000	1,200	13-16	4,000	8.3	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.