

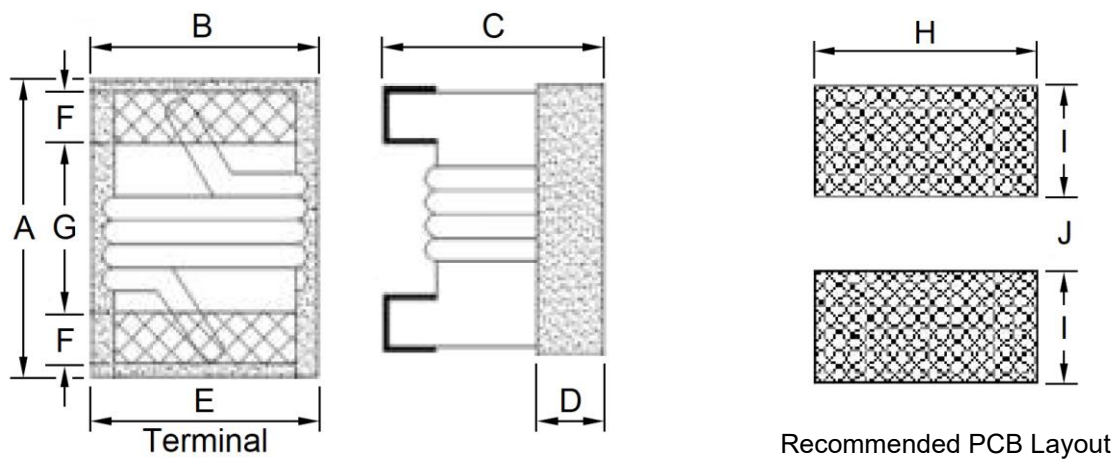
1. Part No. Expression

SC10603C1N6S

(a) (b) (c) (d) (e)

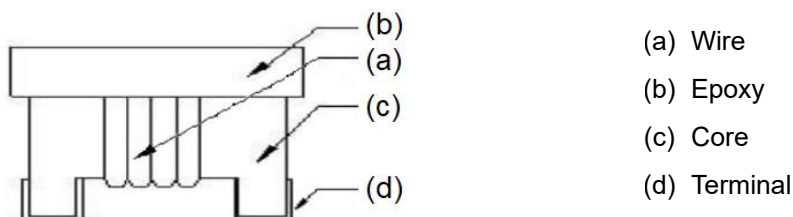
- (a) Series Code (d) Inductance Code
(b) Dimension Code (e) Tolerance Code
(c) Material Code

2. Configuration & Dimensions (Unit: mm)



A	B	C	D	E
1.80 Max	1.12 Max	1.02 Max	0.50 Ref	0.76 Ref
F	G	H	I	J
0.33 Ref	0.86 Ref	1.02 Ref	0.64 Ref	0.64 Ref

3. Material List



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

4. 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) Rated Current: 15°C rise above 25°C ambient.
- (d) Storage Condition (Component in its packaging)
 - i) Temperature: -10°C to +40°C
 - ii) Humidity: Less than 70% RH

5. Electrical Characteristics

Part Number	Inductance (nH)	Q Typ	Test Frequency (L/Q)	Tolerance	I _{rms} (mA) Typ	DCR (Ω) Max	SRF (MHz) Typ
SCI0603C1N6□	1.6	24	0.2V/250MHz	S, J, K	700	0.03	12500
SCI0603C1N8□	1.8	16	0.2V/250MHz	S, J, K	700	0.045	12500
SCI0603C1N9□	1.9	13	0.2V/250MHz	S, J, K	700	0.06	12500
SCI0603C2N0□	2.0	13	0.2V/250MHz	S, J, K	700	0.07	12500
SCI0603C2N2□	2.2	13	0.2V/250MHz	G, J, K	700	0.15	12500
SCI0603C3N3□	3.3	35	0.2V/250MHz	G, J, K	700	0.045	5900
SCI0603C3N6□	3.6	22	0.2V/250MHz	G, J, K	700	0.063	5900
SCI0603C3N9□	3.9	22	0.2V/250MHz	G, J, K	700	0.07	6900
SCI0603C4N1□	4.1	22	0.2V/250MHz	G, J, K	700	0.063	6900
SCI0603C4N3□	4.3	22	0.2V/250MHz	G, J, K	700	0.063	5900
SCI0603C4N7□	4.7	20	0.2V/250MHz	G, J, K	700	0.116	5800
SCI0603C5N1□	5.1	20	0.2V/250MHz	G, J, K	700	0.14	5700
SCI0603C5N6□	5.6	20	0.2V/250MHz	G, J, K	700	0.16	5800

□Tolerance: S= ±0.3nH, G= ±2%, J= ±5%, K= ±10%

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Part Number	Inductance (nH)	Q Typ	Test Frequency (L/Q)	Tolerance	Irms (mA) Typ	DCR (Ω) Max	SRF (MHz) Typ
SC10603C6N0□	6.0	20	0.2V/250MHz	G, J, K	700	0.115	5700
SC10603C6N2□	6.2	26	0.2V/250MHz	G, J, K	700	0.115	5700
SC10603C6N3□	6.3	26	0.2V/250MHz	G, J, K	700	0.14	5700
SC10603C6N8□	6.8	27	0.2V/250MHz	G, J, K	700	0.08	5800
SC10603C7N5□	7.5	28	0.2V/250MHz	G, J, K	700	0.106	4800
SC10603C8N2□	8.2	30	0.2V/250MHz	G, J, K	700	0.109	4700
SC10603C8N7□	8.7	28	0.2V/250MHz	G, J, K	700	0.109	4600
SC10603C9N1□	9.1	28	0.2V/250MHz	G, J, K	700	0.12	4800
SC10603C9N5□	9.5	28	0.2V/250MHz	G, J, K	700	0.135	5400
SC10603C10N□	10	31	0.2V/250MHz	G, J, K	700	0.13	4800
SC10603C11N□	11	33	0.2V/250MHz	G, J, K	700	0.086	4000
SC10603C12N□	12	35	0.2V/250MHz	G, J, K	700	0.13	4000
SC10603C13N□	13	30	0.2V/250MHz	G, J, K	700	0.13	4000
SC10603C15N□	15	35	0.2V/250MHz	G, J, K	700	0.13	4000
SC10603C16N□	16	34	0.2V/250MHz	G, J, K	700	0.104	3300
SC10603C18N□	18	35	0.2V/250MHz	G, J, K	700	0.16	3100
SC10603C19N□	19	35	0.2V/250MHz	G, J, K	700	0.19	3000
SC10603C20N□	20	38	0.2V/250MHz	G, J, K	700	0.18	3000
SC10603C22N□	22	38	0.2V/250MHz	G, J, K	700	0.19	3000
SC10603C23N□	23	38	0.2V/250MHz	G, J, K	700	0.19	2850
SC10603C24N□	24	36	0.2V/250MHz	G, J, K	700	0.13	2650
SC10603C25N□	25	38	0.2V/250MHz	G, J, K	600	0.21	2650

□Tolerance: S= ±0.3nH, G= ±2%, J= ±5%, K= ±10%

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Part Number	Inductance (nH)	Q Typ	Test Frequency (L/Q)	Tolerance	Irms (mA) Typ	DCR (Ω) Max	SRF (MHz) Typ
SC10603C27N□	27	40	0.2V/250MHz	G, J, K	600	0.22	2800
SC10603C30N□	30	37	0.2V/250MHz	G, J, K	600	0.144	2250
SC10603C33N□	33	40	0.2V/250MHz	G, J, K	600	0.22	2300
SC10603C36N□	36	38	0.2V/250MHz	G, J, K	600	0.25	2300
SC10603C39N□	39	40	0.2V/250MHz	G, J, K	600	0.25	2200
SC10603C43N□	43	39	0.2V/250MHz	G, J, K	600	0.28	2000
SC10603C47N□	47	38	0.2V/250MHz	G, J, K	600	0.28	2000
SC10603C51N□	51	38	0.2V/250MHz	G, J, K	600	0.3	2130
SC10603C56N□	56	38	0.2V/250MHz	G, J, K	600	0.31	1900
SC10603C62N□	62	37	0.2V/250MHz	G, J, K	600	0.33	1800
SC10603C68N□	68	37	0.2V/250MHz	G, J, K	600	0.34	1700
SC10603C72N□	72	34	0.2V/150MHz	G, J, K	400	0.42	1700
SC10603C75N□	75	34	0.2V/150MHz	G, J, K	400	0.43	1700
SC10603C79N□	79	34	0.2V/150MHz	G, J, K	400	0.5	1700
SC10603C82N□	82	34	0.2V/150MHz	G, J, K	400	0.54	1700
SC10603C85N□	85	34	0.2V/150MHz	G, J, K	400	0.55	1600
SC10603C91N□	91	34	0.2V/150MHz	G, J, K	400	0.56	1500
SC10603CR10□	100	34	0.2V/150MHz	G, J, K	400	0.58	1400
SC10603CR11□	110	32	0.2V/150MHz	G, J, K	300	0.61	1350
SC10603CR12□	120	32	0.2V/150MHz	G, J, K	300	0.84	1300
SC10603CR13□	130	32	0.2V/150MHz	G, J, K	280	0.75	1200
SC10603CR14□	140	30	0.2V/150MHz	G, J, K	280	0.9	1000

□Tolerance: S= ±0.3nH, G= ±2%, J= ±5%, K= ±10%

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Part Number	Inductance (μH) @0A	Q Typ	Test Frequency (L/Q)	Tolerance	Irms (mA) Typ	DCR (Ω) Max	SRF (MHz) Typ
SC10603CR15□	150	28	0.2V/150MHz	G, J, K	280	0.92	990
SC10603CR16□	160	28	0.2V/100MHz	G, J, K	260	1.05	990
SC10603CR17□	170	25	0.2V/100MHz	G, J, K	240	1.15	990
SC10603CR18□	180	25	0.2V/100MHz	G, J, K	240	1.25	990
SC10603CR19□	190	25	0.2V/100MHz	G, J, K	200	1.35	990
SC10603CR20□	200	25	0.2V/100MHz	G, J, K	200	1.5	990
SC10603CR21□	210	27	0.2V/100MHz	G, J, K	200	2.06	895
SC10603CR22□	220	25	0.2V/100MHz	G, J, K	250	2.02	900
SC10603CR24□	240	25	0.2V/100MHz	G, J, K	200	1.9	900
SC10603CR25□	250	25	0.2V/100MHz	G, J, K	250	2.34	900
SC10603CR27□	270	24	0.2V/100MHz	G, J, K	170	2.36	900
SC10603CR30□	300	26	0.2V/100MHz	G, J, K	150	2.7	900
SC10603CR33□	330	25	0.2V/100MHz	G, J, K	100	3.4	900
SC10603CR34□	340	25	0.2V/100MHz	G, J, K	100	2.9	900
SC10603CR36□	360	25	0.2V/100MHz	G, J, K	100	3.07	900
SC10603CR37□	370	25	0.2V/100MHz	G, J, K	100	3.1	900
SC10603CR39□	390	25	0.2V/100MHz	G, J, K	100	3.6	900
SC10603CR47□	470	25	0.2V/100MHz	G, J, K	100	4.0	750
SC10603CR56□	560	23	0.2V/100MHz	G, J, K	90	4.7	460

□Tolerance: S= ±0.3nH, G= ±2%, J= ±5%, K= ±10%

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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

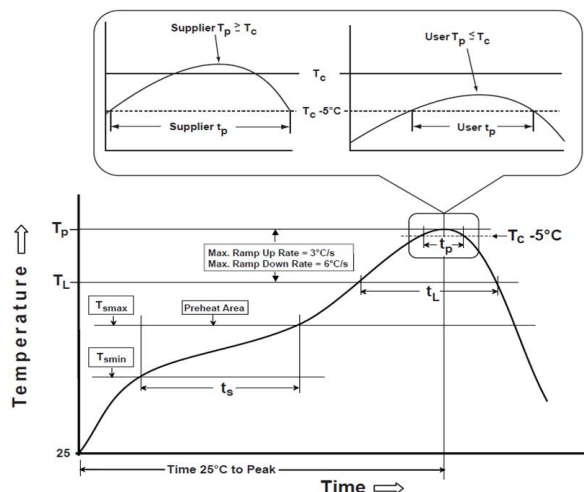
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

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).

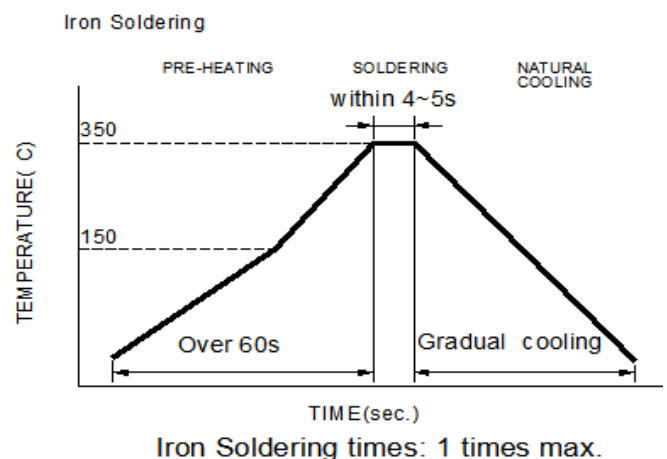
Note:

- 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)

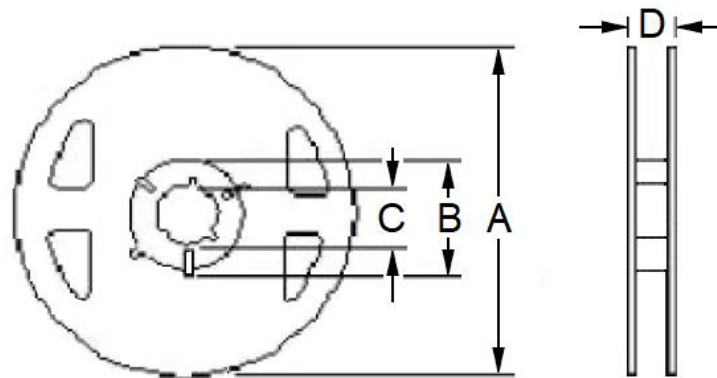
	Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

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

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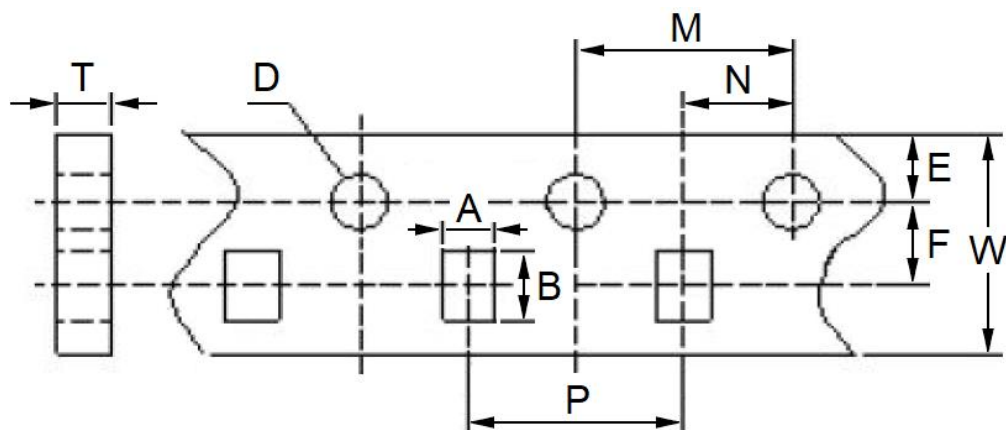
7. Packaging Information

7-1. Reel Dimension (Unit: mm)



Type	A	B	C	D
7"x8mm	180.0 Ref	60.0 Ref	13.0 Ref	14.4 Ref

7-2. Tape Dimension (Unit: mm)



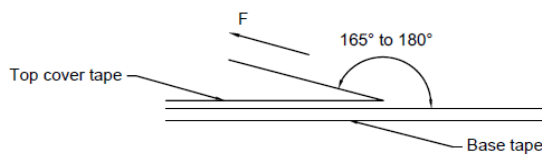
A	B	T	W	P
1.25 Ref	1.85 Ref	1.10 Ref	8.00 Ref	4.00 Ref
D	M	N	E	F
1.55 Ref	4.00±0.10	2.00±0.05	1.75±0.10	3.50 Ref

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

7-3. Packaging Quantity (Unit: Pcs)

Chip/ Reel	4,000
Inner Carton	20,000
Outer Carton	200,000

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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