

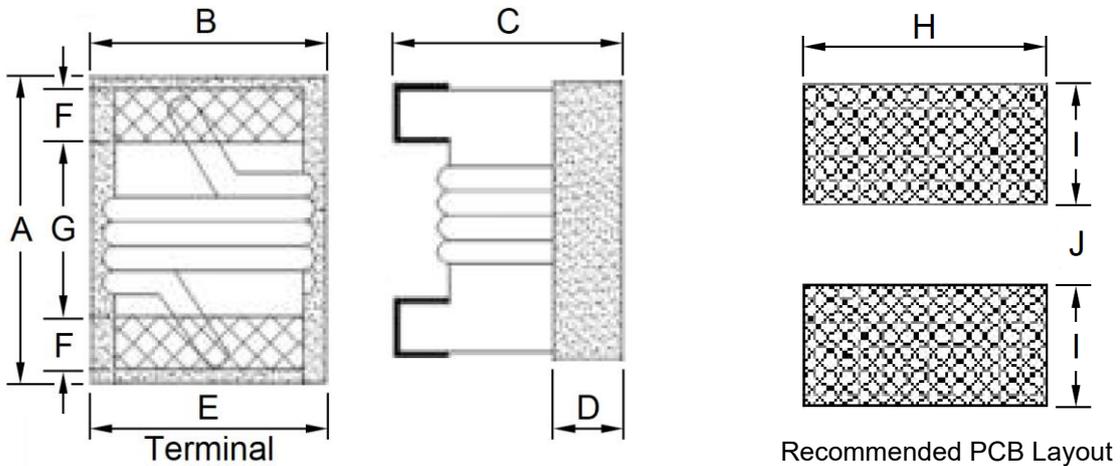
## 1. Part No. Expression

**SCI0805C2N2K**

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

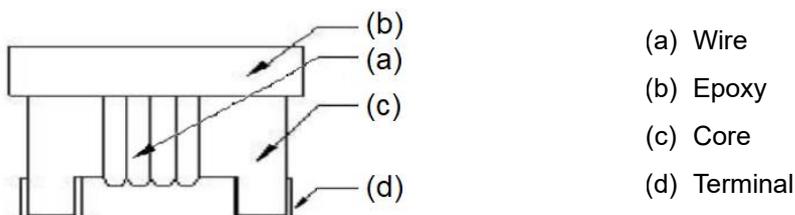
- (a) Series Code
- (b) Dimension Code
- (c) Material Code
- (d) Inductance Code
- (e) Tolerance Code

## 2. Configuration & Dimensions (Unit: mm)



A	B	C	D	E
2.35 Max	1.73 Max	1.52 Max	0.70 Ref	1.27 Ref
F	G	H	I	J
0.51 Ref	1.02 Ref	1.78 Ref	1.02 Ref	0.76 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		Q		Tolerance	I <sub>rms</sub> (mA) Typ	DCR (Ω) Max	SRF (MHz) Typ
	(nH)	Test Frequency	Typ	Test Frequency				
SCI0805C2N2□	2.2	0.2V/250MHz	50	0.2V/1500MHz	K	800	0.05	7900
SCI0805C2N7□	2.7	0.2V/250MHz	50	0.2V/1500MHz	B, C, J, K	800	0.058	7900
SCI0805C2N8□	2.8	0.2V/250MHz	80	0.2V/1500MHz	B, C, J, K	800	0.06	7900
SCI0805C3N0□	3.0	0.2V/250MHz	65	0.2V/1500MHz	B, C, J, K	800	0.06	7900
SCI0805C3N3□	3.3	0.2V/250MHz	50	0.2V/1500MHz	B, C, J, K	600	0.08	7900
SCI0805C4N1□	4.1	0.2V/250MHz	60	0.2V/1000MHz	B, C, J, K	600	0.06	5800
SCI0805C5N1□	5.1	0.2V/250MHz	60	0.2V/1000MHz	G, J, K	600	0.06	5800
SCI0805C5N6□	5.6	0.2V/250MHz	65	0.2V/1000MHz	G, J, K	600	0.06	5500
SCI0805C6N2□	6.2	0.2V/250MHz	50	0.2V/1000MHz	G, J, K	600	0.11	5500
SCI0805C6N8□	6.8	0.2V/250MHz	50	0.2V/1000MHz	G, J, K	600	0.06	5500
SCI0805C7N5□	7.5	0.2V/250MHz	50	0.2V/1000MHz	G, J, K	600	0.06	4500
SCI0805C8N2□	8.2	0.2V/250MHz	50	0.2V/1000MHz	G, J, K	600	0.06	4700
SCI0805C8N7□	8.7	0.2V/250MHz	50	0.2V/1000MHz	G, J, K	600	0.23	4700

□Tolerance: B=±0.1nH, C=±0.2nH, G=±2%, J=±5%, K=±10%

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Part Number	Inductance		Q		Tolerance	I <sub>rms</sub> (mA) Typ	DCR (Ω) Max	SRF (MHz) Typ
	(nH)	Test Frequency	Typ	Test Frequency				
SCI0805C10N□	10	0.2V/250MHz	60	0.2V/500MHz	G, J, K	600	0.08	4200
SCI0805C12N□	12	0.2V/250MHz	50	0.2V/500MHz	G, J, K	600	0.08	4000
SCI0805C14N□	14	0.2V/250MHz	50	0.2V/500MHz	G, J, K	600	0.17	3400
SCI0805C15N□	15	0.2V/250MHz	50	0.2V/500MHz	G, J, K	700	0.1	3400
SCI0805C16N□	16	0.2V/250MHz	50	0.2V/500MHz	G, J, K	600	0.19	3300
SCI0805C18N□	18	0.2V/250MHz	50	0.2V/500MHz	G, J, K	600	0.1	3300
SCI0805C22N□	22	0.2V/250MHz	55	0.2V/500MHz	G, J, K	500	0.12	2600
SCI0805C24N□	24	0.2V/250MHz	50	0.2V/500MHz	G, J, K	500	0.12	2000
SCI0805C27N□	27	0.2V/250MHz	55	0.2V/500MHz	G, J, K	500	0.12	2500
SCI0805C33N□	33	0.2V/250MHz	60	0.2V/500MHz	G, J, K	500	0.13	2050
SCI0805C36N□	36	0.2V/250MHz	55	0.2V/500MHz	G, J, K	500	0.13	1700
SCI0805C39N□	39	0.2V/250MHz	60	0.2V/500MHz	G, J, K	500	0.15	2000
SCI0805C43N□	43	0.2V/200MHz	60	0.2V/500MHz	G, J, K	500	0.15	1650
SCI0805C47N□	47	0.2V/200MHz	60	0.2V/500MHz	G, J, K	500	0.17	1650
SCI0805C50N□	50	0.2V/200MHz	60	0.2V/500MHz	G, J, K	500	0.34	1650
SCI0805C56N□	56	0.2V/200MHz	60	0.2V/500MHz	G, J, K	500	0.19	1550
SCI0805C68N□	68	0.2V/200MHz	60	0.2V/500MHz	G, J, K	500	0.22	1450
SCI0805C75N□	75	0.2V/150MHz	60	0.2V/500MHz	G, J, K	400	0.4	1400
SCI0805C82N□	82	0.2V/150MHz	65	0.2V/500MHz	G, J, K	400	0.4	1300
SCI0805C84N□	84	0.2V/150MHz	65	0.2V/500MHz	G, J, K	400	0.48	1300
SCI0805C91N□	91	0.2V/150MHz	65	0.2V/500MHz	G, J, K	400	0.48	1200

□Tolerance: B=±0.1nH, C=±0.2nH, G=±2%, J=±5%, K=±10%

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Part Number	Inductance		Q		Tolerance	I <sub>rms</sub> (mA) Typ	DCR (Ω) Max	SRF (MHz) Typ
	(nH)	Test Frequency	Typ	Test Frequency				
SCI0805CR10□	100	0.2V/150MHz	65	0.2V/500MHz	G, J, K	400	0.46	1200
SCI0805CR11□	110	0.2V/150MHz	50	0.2V/250MHz	G, J, K	400	0.48	1000
SCI0805CR12□	120	0.2V/150MHz	50	0.2V/250MHz	G, J, K	400	0.51	1100
SCI0805CR13□	130	0.2V/150MHz	50	0.2V/250MHz	G, J, K	400	0.55	1100
SCI0805CR15□	150	0.2V/100MHz	50	0.2V/250MHz	G, J, K	400	0.56	920
SCI0805CR16□	160	0.2V/100MHz	50	0.2V/250MHz	G, J, K	400	0.6	900
SCI0805CR18□	180	0.2V/100MHz	50	0.2V/250MHz	G, J, K	400	0.64	870
SCI0805CR20□	200	0.2V/100MHz	50	0.2V/250MHz	G, J, K	400	0.68	865
SCI0805CR22□	220	0.2V/100MHz	50	0.2V/250MHz	G, J, K	400	0.7	850
SCI0805CR24□	240	0.2V/100MHz	44	0.2V/250MHz	G, J, K	350	1	690
SCI0805CR25□	250	0.2V/100MHz	48	0.2V/250MHz	G, J, K	350	1	680
SCI0805CR27□	270	0.2V/100MHz	48	0.2V/250MHz	G, J, K	350	1	650
SCI0805CR30□	300	0.2V/100MHz	48	0.2V/250MHz	G, J, K	330	1.4	790
SCI0805CR33□	330	0.2V/100MHz	48	0.2V/250MHz	G, J, K	310	1.4	750
SCI0805CR36□	360	0.2V/100MHz	48	0.2V/250MHz	G, J, K	300	1.45	650
SCI0805CR39□	390	0.2V/100MHz	48	0.2V/250MHz	G, J, K	290	1.5	560
SCI0805CR43□	430	0.2V/50MHz	33	0.2V/100MHz	G, J, K	270	1.70	430
SCI0805CR47□	470	0.2V/50MHz	33	0.2V/100MHz	G, J, K	250	1.76	450
SCI0805CR51□	510	0.2V/25MHz	23	0.2V/50MHz	G, J, K	230	1.90	340
SCI0805CR56□	560	0.2V/25MHz	23	0.2V/50MHz	G, J, K	230	1.90	340
SCI0805CR62□	620	0.2V/25MHz	23	0.2V/50MHz	G, J, K	210	2.00	220

□Tolerance: B=±0.1nH, C=±0.2nH, G=±2%, J=±5%, K=±10%

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Part Number	Inductance		Q		Tolerance	I <sub>rms</sub> (mA) Typ	DCR (Ω) Max	SRF (MHz) Typ
	(nH)	Test Frequency	Typ	Test Frequency				
SCI0805CR68□	680	0.2V/25MHz	23	0.2V/50MHz	G, J, K	190	2.15	188
SCI0805CR75□	750	0.2V/25MHz	23	0.2V/50MHz	G, J, K	180	2.25	200
SCI0805CR82□	820	0.2V/25MHz	23	0.2V/50MHz	G, J, K	180	2.35	215
SCI0805CR88□	880	0.2V/25MHz	22	0.2V/50MHz	G, J, K	180	2.38	212
SCI0805CR91□	910	0.2V/25MHz	22	0.2V/50MHz	G, J, K	180	2.40	210
SCI0805CR93□	930	0.2V/25MHz	22	0.2V/50MHz	G, J, K	180	2.45	200
SCI0805C1R0□	1000	0.2V/25MHz	20	0.2V/50MHz	G, J, K	180	2.50	200
SCI0805C1R2□	1200	0.2V/7.9MHz	18	0.2V/7.9MHz	G, J, K	170	2.45	160
SCI0805C1R5□	1500	0.2V/7.9MHz	16	0.2V/7.9MHz	G, J, K	170	2.50	120
SCI0805C1R8□	1800	0.2V/7.9MHz	16	0.2V/7.9MHz	G, J, K	170	2.50	80
SCI0805C2R2□	2200	0.2V/7.9MHz	16	0.2V/7.9MHz	G, J, K	160	3.90	65
SCI0805C2R7□	2700	0.2V/7.9MHz	16	0.2V/7.9MHz	G, J, K	160	4.00	50
SCI0805C3R3□	3300	0.2V/7.9MHz	15	0.2V/7.9MHz	G, J, K	90	4.40	20
SCI0805C4R7□	4700	0.2V/7.9MHz	15	0.2V/7.9MHz	G, J, K	130	6.40	40

□Tolerance: B=±0.1nH, C=±0.2nH, 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

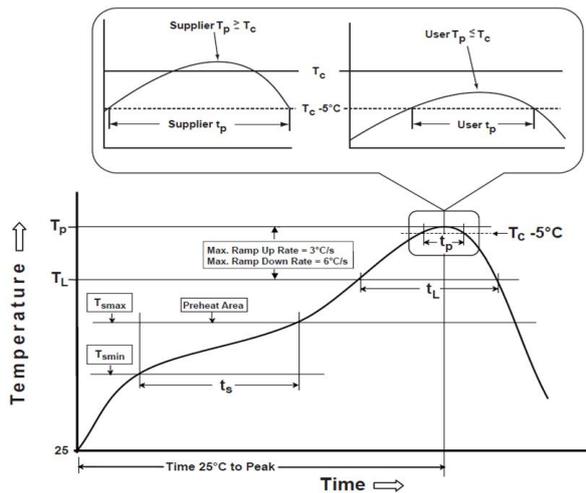
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020F).

#### 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).

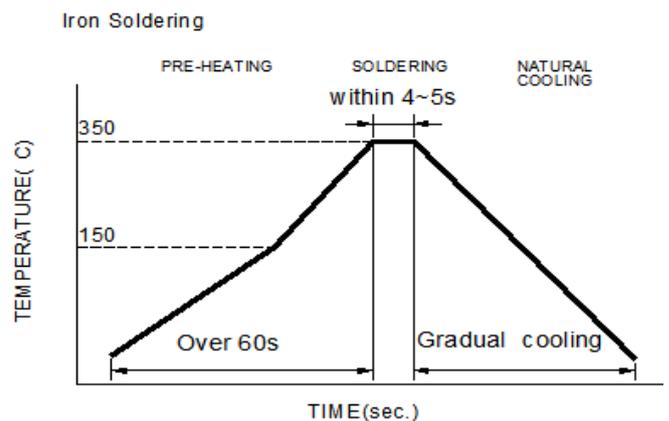
Note:

- (a) Preheat circuit and products to 150°C.
- (b) 350°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



Iron Soldering times : 1 times 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<sub>p</sub>**: maximum peak package body temperature, **T<sub>c</sub>**: the classification temperature.

For user (customer) **T<sub>p</sub>** should be equal to or less than **T<sub>c</sub>**.

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

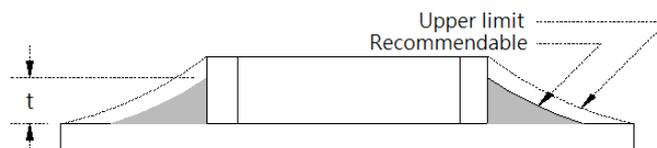
	Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> 350-2000	Volume mm <sup>3</sup> >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

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

### 6-3. Soldering Volume

Accordingly increasing the solder volume, the mechanical stress to product is also increased. Exceeding solder volume may cause the failure of mechanical or electrical performance. Solder shall be used not to be exceeded as shown in the Figure below.

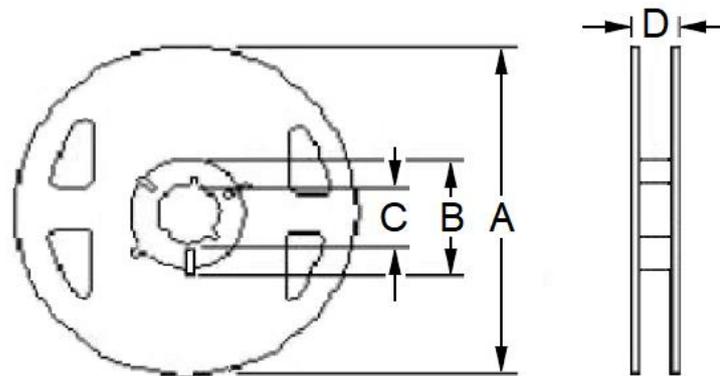
Minimum fillet height = soldering thickness + 25% product height.



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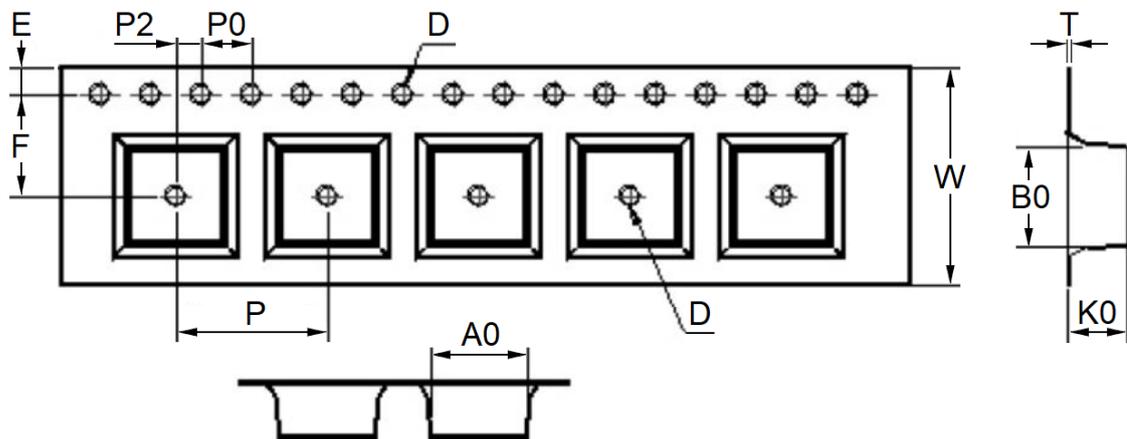
7. Packaging Information

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)



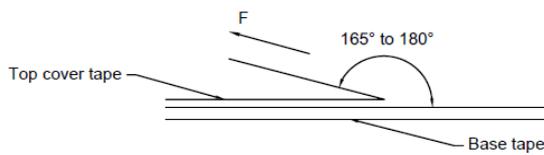
A0	B0	T	W	P	P0
1.85 Ref	2.45 Ref	0.23 Ref	8.00 Ref	4.00 Ref	4.00 Ref
P2	F	E	D	K0	-
2.00 Ref	3.50 Ref	1.75 Ref	1.50 Ref	1.55 Ref	-

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### 7-3. Packaging Quantity (Unit: Pcs)

Chip/ Reel	2,000
Inner Carton	10,000
Outer Carton	100,000

### 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) Products meet IPC/JEDEC J-STD-020F standard-MSL, level 1.
- (b) Recommended products should be used within 12 months from the time of delivery.
- (c) 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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