

# PRODUCT SPECIFICATION

SPEC. NO.

B-0812-001

## 1. Scope

This specification applies Ceramic Chip Inductance SWI0603US- Series to be delivered to user

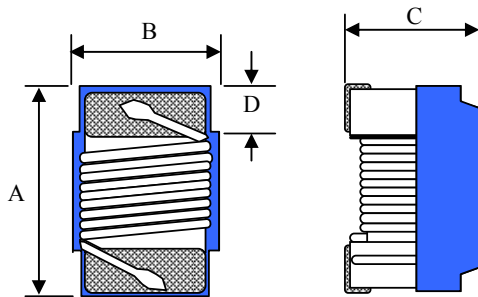
## 2. Product Identification

SWI 0603 U S - R11 J

(1) (2) (3) (4) (5) (6)

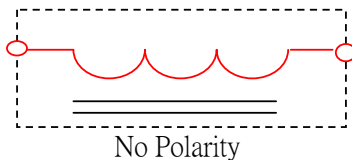
- (1) Product name
- (2) Shapes and dimension
- (3) Share of Core : H: H Type Core , U: U Type Core
- (4) Use Signal Line
- (5) Inductance  
R11 : 110 nH
- (6) Tolerance  
B=±0.2nH , S=±0.3nH , D=±0.5nH , G=±2% , J=±5% , K=±10%

## 3. Shapes and Dimensions



A :	1.6±0.3 max.	mm
B :	0.8±0.3 max.	mm
C :	0.8±0.3 max.	mm
D :	0.3 ± 0.1	mm

Equivalent circuit



# PRODUCT SPECIFICATION

SPEC. NO.

B-0812-001

## 4. Electrical Characteristics

### 4-1 Electrical Spec.

Customer Part Number	Our Product Part Number	Inductance (nH)/MHz	Inductance Tolerance	Q/MHz Min.	SRF(Min.) (MHz)	DCR ( $\Omega$ )Max.	Rated Current (mA)
	SWI0603US-2N2□	2.2/100	B,D	16/250	6000	0.049	700
	SWI0603US-3N6□	3.6/100	B,D	25/250	6000	0.059	850
	SWI0603US-3N9□	3.9/100	B,D	35/250	6000	0.059	850
	SWI0603US-4N3□	4.3/100	B,D	35/250	6000	0.059	850
	SWI0603US-4N7□	4.7/100	B,D	35/250	6000	0.059	850
	SWI0603US-5N6□	5.6/100	B,D	35/250	6000	0.082	750
	SWI0603US-6N2□	6.2/100	B,D	35/250	6000	0.082	750
	SWI0603US-6N8□	6.8/100	B,D	35/250	6000	0.082	750
	SWI0603US-7N5□	7.5/100	D	35/250	6000	0.082	750
	SWI0603US-8N2□	8.2/100	D	35/250	6000	0.110	650
	SWI0603US-8N7□	8.7/100	D	35/250	6000	0.110	650
	SWI0603US-9N1□	9.1/100	D	35/250	6000	0.110	650
	SWI0603US-9N5□	9.5/100	D	35/250	6000	0.110	650
	SWI0603US-10N□	10/100	G,J,K	35/250	6000	0.110	650
	SWI0603US-11N□	11/100	G,J,K	35/250	6000	0.110	650
	SWI0603US-12N□	12/100	G,J,K	35/250	6000	0.130	600
	SWI0603US-13N□	13/100	G,J,K	35/250	6000	0.130	600
	SWI0603US-15N□	15/100	G,J,K	40/250	6000	0.130	600
	SWI0603US-16N□	16/100	G,J,K	40/250	5500	0.160	550
	SWI0603US-18N□	18/100	G,J,K	40/250	5500	0.160	550
	SWI0603US-20N□	20/100	G,J,K	40/250	4900	0.160	550
	SWI0603US-22N□	22/100	G,J,K	40/250	4600	0.170	500
	SWI0603US-24N□	24/100	G,J,K	40/250	3800	0.210	500
	SWI0603US-27N□	27/100	G,J,K	40/250	3700	0.210	440
	SWI0603US-30N□	30/100	G,J,K	40/250	3300	0.230	420
	SWI0603US-33N□	33/100	G,J,K	40/250	3200	0.230	420
	SWI0603US-36N□	36/100	G,J,K	40/250	2900	0.260	400
	SWI0603US-39N□	39/100	G,J,K	40/250	2800	0.260	400
	SWI0603US-43N□	43/100	G,J,K	40/200	2700	0.290	380
	SWI0603US-47N□	47/100	G,J,K	38/200	2600	0.290	380
	SWI0603US-51N□	51/100	G,J,K	38/200	2500	0.330	370
	SWI0603US-56N□	56/100	G,J,K	38/200	2400	0.350	360
	SWI0603US-62N□	62/100	G,J,K	38/200	2300	0.510	280
	SWI0603US-68N□	68/100	G,J,K	38/200	2200	0.380	340
	SWI0603US-72N□	72/100	G,J,K	34/150	2100	0.560	270
	SWI0603US-75N□	75/100	G,J,K	34/150	2050	0.560	270
	SWI0603US-82N□	82/100	G,J,K	34/150	2000	0.600	250
	SWI0603US-91N□	91/100	G,J,K	34/150	1900	0.640	230
	SWI0603US-R10□	100/100	G,J,K	34/150	1800	0.680	220
	SWI0603US-R11□	110/100	G,J,K	32/150	1700	1.200	200
	SWI0603US-R12□	120/100	G,J,K	32/150	1600	1.300	180
	SWI0603US-R13□	130/100	G,J,K	32/150	1450	1.400	170
	SWI0603US-R15□	150/100	G,J,K	32/150	1400	1.500	160
	SWI0603US-R16□	160/100	G,J,K	32/150	1350	2.100	150
	SWI0603US-R18□	180/100	G,J,K	25/100	1300	2.200	140
	SWI0603US-R20□	200/100	G,J,K	25/100	1250	2.400	120
	SWI0603US-R22□	220/100	G,J,K	25/100	1200	2.500	120
	SWI0603US-R27□	270/100	G,J,K	30/100	960	3.400	110
	SWI0603US-R33□	330/100	G,J,K	30/100	800	5.500	85
	SWI0603US-R39□	390/100	G,J,K	30/100	800	6.200	80
	SWI0603US-R47□	470/100	G,J,K	30/100	700	7.000	75

1. Inductance and Q is measured in HP-E4991A impedance analyzer with HP-16197A fixture.

2. Tolerance : B= $\pm 0.2nH$  , S= $\pm 0.3nH$  , D= $\pm 0.5nH$  , G= $\pm 2\%$  , J= $\pm 5\%$  , K= $\pm 10\%$  (Table shows stock tolerances in □)

3. SRF is measured in HP ENA-E5071B network analyzer.

4. RDC is measured in Chroma 16502 mill ohm meter.(or equivalent)

**PRODUCT SPECIFICATION**

SPEC. NO.

B-0812-001

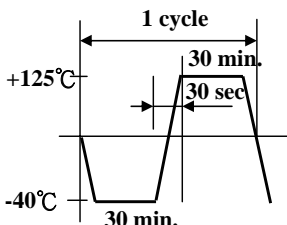
**5. Reliability Test**

Item	Specifications	Test conditions
Solderability	The metalized area must have 90% minimum solder coverage.	Dip pads in flux and dip in solder pot(63 Sn/37 Pb or 96.5 Sn/3.5 Ag solder) at 232°C ±5°C.
Resistance to soldering heat	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be reflowed onto a PC board using 96.5 Sn/3.5 Ag or 63 Sn/37 Pb solder paste. Solder process shall be at a maximum temperature of 260°C. For 63 Sn/37 Pb solder paste: >183°C for 120 seconds. For 96.5 Sn/3.5 Ag solder paste:>217°C for 90 seconds
Vibration	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Solder specimen inductor on the test printed circuit board. Apply vibrations in each of the x,y and z directions for 2 house for a total of 6 hours. Frequency : 10~50 Hz Amplitude : 1.5mm
High temperature resistance	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be subjected to temperature 125±2°C for 500±12 hours. Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.
Static Humidity	Inductors must not have a shorted or openwinding.	Inductors shall be subjected to temperature 85±2°C and 90 to 95%RH. for ten 24-hours. Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.
Component (push test)	Inductors shall be subjected to 0.9 Kg	Inductors shall be reflow soldered (232°C ±5°C for A force gauge shall be applied to the side of the component. The device must withstand the stated force without a failure of the termination.

**PRODUCT SPECIFICATION**

SPEC. NO.

B-0812-001

Low temperature storage	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	Inductors shall be subjected to temperature $-40\pm 2^{\circ}\text{C}$ for $48\pm 12$ hours. Measure the test items after leaving the inductors at room temperature and humidity for 1 to 2 hours.
<b>Resistance to solvent</b>	There must be no case deformation, change in dimensions, or obliteration of marking.	Inductors must withstand 6 minutes of alcohol or water.
Thermal shock	There must be no case deformation or change in dimensions. Inductance must not change more than the stated tolerance.	<p>Inductors shall be subjected to 10 cycles to the the following temperature cycle:</p>  <p>Measure the test items after leaving the inductors at room temperature and humidity for 2 hours.</p>

# PRODUCT SPECIFICATION

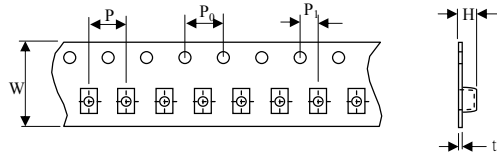
SPEC. NO.

B-0812-001

## 6. Packaging

The packaging must be done not to receive any damage during transporting and storing.

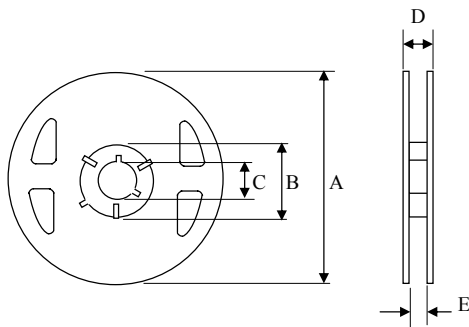
### 6-1 Tape dimensions



(Dimensions in mm)

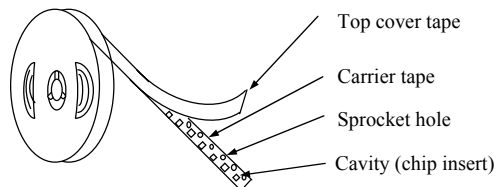
Symbol	W	P	P <sub>0</sub>	P <sub>1</sub>	H	T
Dimension	8	4	4	2	NA	1

### 6-2 Reel dimensions



Symbol	T
A	180
B	60
C	13
D	14.4
E	8.4

### 6-3 Tapping figure



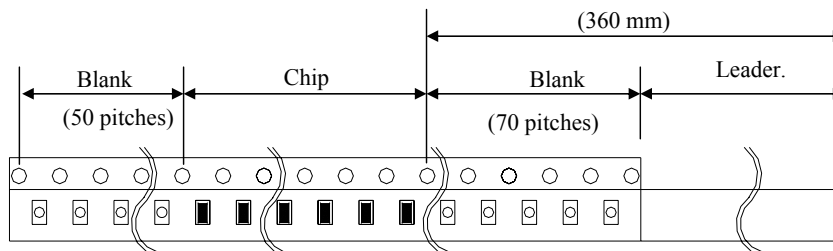
# PRODUCT SPECIFICATION

SPEC. NO.

B-0812-001

## 6-4 Packaging Form

There shall not continuation more than two vacancies of the product.



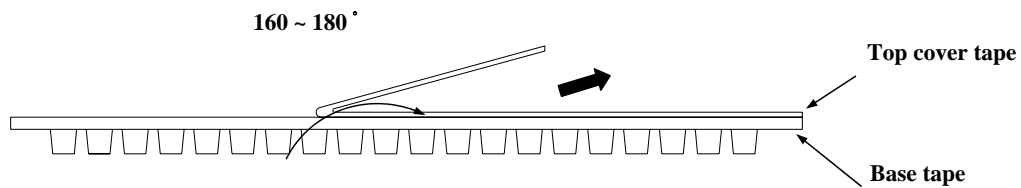
## 6-5 Cover Tape Peel Strength

The force for tearing off cover tape is 0.1~0.6(N) in the arrow direction at the following conditions:

Temperature : 5 ~ 35°C

Humidity : 45 ~ 85%

Atmospheric pressure : 860 ~ 1060 hpa



## 6-6 Packing Quantity

φ180 mm reel type : 4,000 pcs./reel

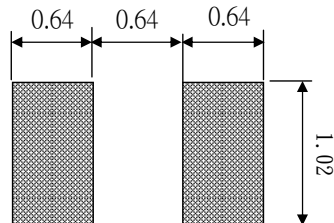
# PRODUCT SPECIFICATION

SPEC. NO.

B-0812-001

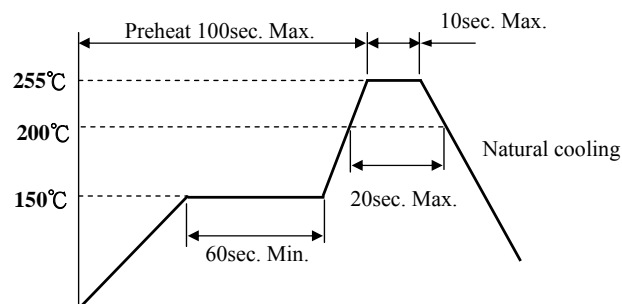
## 7. Recommended Soldering Conditions (Please use this product by reflow soldering)

### 7-1 Recommended Footprint



### 7-2 Recommended Reflow Pattern

Reflow : until two times



### 7-2 Iron Soldering

Use a solder iron of less than 30W when soldering, do not allow the soldering iron tip directly touch the Ceramic body outside of terminal electrode.

3 seconds max. at 260°C.

## 8. Attention in Case of Using

In case of using product, please avoid following matters:

- Splashing water or salt water
- Dew condenses
- Toxic gas (Hydrogen sulfide, Sulfurous acid, Chlorine, Ammonia)
- Vibrations or shocks which exceed the specified condition

Please be careful for the stress to this product by board flexure or something after the mounting.

## 9. Others

- 9-2 Storage temperature range : -40~+125°C
- 9-3 Temperature rise : Below 15°C
- 9-4 Humidity range : 0~90%R.H.