

WIRE WOUND CHIP INDUCTORS SWI1008PT SERIES

INTRODUCTION

The SWI1008PT series are wire wound chip inductors with magnetic shield, which is suitable for high current application such as notebook, PC, flash memory programmers, converters, and other electronics devices.

FEATURES

- * Operating temperature -40 to +85 °C.
- * Excellent solderability and resistance to soldering heat .
- * Suitable for reflow soldering.
- * High reliability and easy surface mount assembly.
- * Wide range of inductance values are available for flexible needs.
- * Custom version is available.

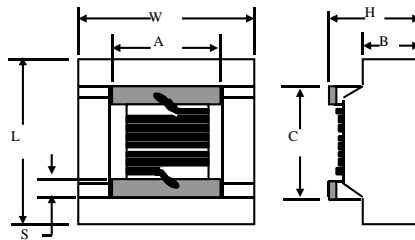
PART NUMBER

SWI 1008 P T 331 M - □□

1 2 3 TAPING 4 5 Internal Code

1 Product Type

2 Chip Dimension



Size (inch) mm	Length (L) (inch) mm	Width (W) (inch) mm	Thickness (H) (inch) mm	Terminal (S) (inch) mm	A (inch) mm	B (inch) mm	C (inch) mm
SWI 1008 363625	(0.142 ± 0.008) 3.60 ± 0.20	(0.142 ± 0.008) 3.60 ± 0.20	(0.098 ± 0.008) 2.50 ± 0.20	(0.020 ± 0.004) 0.50 ± 0.10	(0.080 ± 0.004) 2.00 ± 0.10	(0.063 ± 0.008) 1.60 ± 0.20	(0.098 ± 0.004) 2.50 ± 0.10

3 Material Type

P : Ferrite Material with Magnetic Shield

4 Inductance Value

3R3 = 3.3uH 330 = 33uH
102 = 1000uH 331 = 330uH

5 Tolerance

M = ± 20 %

CHIP INDUCTOR SPECIFICATIONS

1 Scope

This specification applies to P series inductors of the following types used in electronic equipment :

*For high current application.

2 Construction

*Configuration

& Dimension : Please refer to the attached figures and tables.

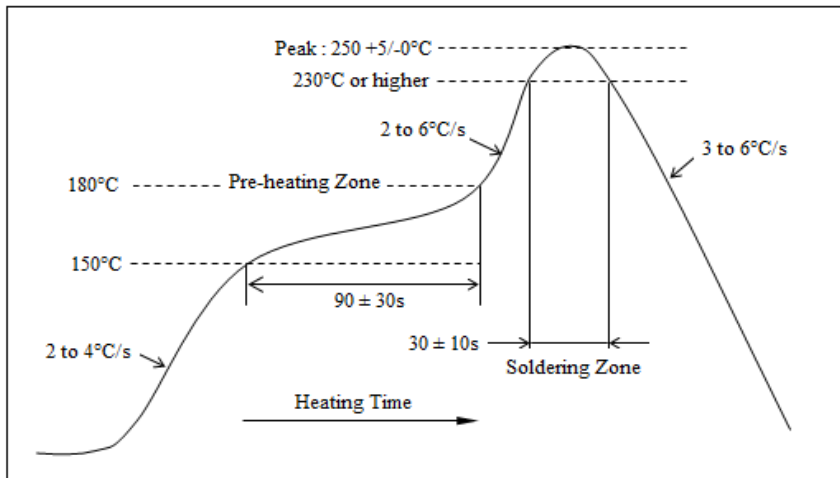
*Terminals : SWI series terminals shall consist of Ag alloy followed by Nickel, then solder plating for easier soldering.

3 Operating Temperature Range

Operating Temperature Range is the scope of ambient temperature at which the inductor can be operated continuously at rated current.

*Temp. Range : Ferrite Material : - 40°C to + 85°C

4 Recommended Soldering Conditions



5 Characteristics

Standard Atmospheric Conditions

Unless otherwise specified, the standard range of atmospheric conditions for making measurements and tests are as follows :

*Ambient Temperature : 25 °C ± 2 °C

*Relative Humidity : 60% to 70%

*Air Pressure : 86 Kpa to 106 Kpa

WIRE WOUND CHIP INDUCTOR

SWI 1008 PT (2520) POWER SERIES

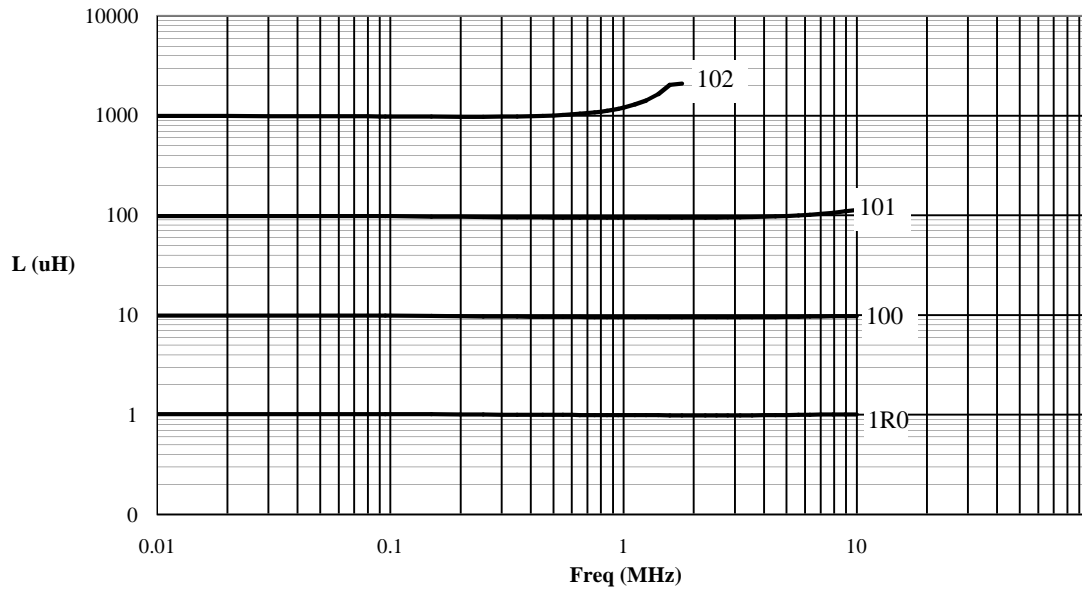
Part No.	Inductance ¹ (uH)	Percent Tolerance	Q ² Min	S.R.F. ³ Min (MHz)	RDC ⁴ Max (Ω)	IDC ⁵ Max (mA)
SWI 1008 PT 1R0 □-□□	1 @ 100 KHz	M	35 @ 1 MHZ	344	0.05	1000
SWI 1008 PT 1R5 □-□□	1.5 @ 100 KHz	M	35 @ 1 MHZ	260	0.06	800
SWI 1008 PT 1R8 □-□□	1.8 @ 100 KHz	M	35 @ 1 MHZ	225	0.09	680
SWI 1008 PT 2R7 □-□□	2.7 @ 100 KHz	M	38 @ 1 MHZ	185	0.14	650
SWI 1008 PT 3R9 □-□□	3.9 @ 100 KHz	M	38 @ 1 MHZ	175	0.26	650
SWI 1008 PT 4R7 □-□□	4.7 @ 100 KHz	M	38 @ 1 MHZ	160	0.35	500
SWI 1008 PT 5R6 □-□□	5.6 @ 100 KHz	M	38 @ 1 MHZ	150	0.40	450
SWI 1008 PT 6R8 □-□□	6.8 @ 100 KHz	M	38 @ 1 MHZ	120	0.60	400
SWI 1008 PT 100 □-□□	10 @ 100 KHz	M	38 @ 1 MHZ	100	0.95	250
SWI 1008 PT 150 □-□□	15 @ 100 KHz	M	38 @ 1 MHZ	35	1.15	220
SWI 1008 PT 220 □-□□	22 @ 100 KHz	M	40 @ 1 MHZ	26	1.40	180
SWI 1008 PT 330 □-□□	33 @ 100 KHz	M	45 @ 1 MHZ	20	1.60	150
SWI 1008 PT 390 □-□□	39 @ 100 KHz	M	45 @ 1 MHZ	14	1.85	130
SWI 1008 PT 470 □-□□	47 @ 100 KHz	M	45 @ 1 MHZ	14	2.50	110
SWI 1008 PT 680 □-□□	68 @ 100 KHz	M	45 @ 1 MHZ	12	3.80	100
SWI 1008 PT 820 □-□□	82 @ 100 KHz	M	45 @ 1 MHZ	9.0	4.20	100
SWI 1008 PT 101 □-□□	100 @ 100 KHz	M	45 @ 1 MHZ	7.0	5.80	80
SWI 1008 PT 121 □-□□	120 @ 100 KHz	M	45 @ 1 MHZ	6.0	6.20	60
SWI 1008 PT 151 □-□□	150 @ 100 KHz	M	40 @ 1 MHZ	5.6	7.50	50
SWI 1008 PT 221 □-□□	220 @ 100 KHz	M	40 @ 1 MHZ	4.0	10.00	50
SWI 1008 PT 331 □-□□	330 @ 100 KHz	M	40 @ 1 MHZ	3.8	11.50	50
SWI 1008 PT 471 □-□□	470 @ 100 KHz	M	35 @ 1 MHZ	2.0	16.50	50
SWI 1008 PT 561 □-□□	560 @ 100 KHz	M	35 @ 1 MHZ	2.0	18.00	30
SWI 1008 PT 681 □-□□	680 @ 100 KHz	M	30 @ 1 MHZ	1.8	24.00	30
SWI 1008 PT 821 □-□□	820 @ 100 KHz	M	30 @ 1 MHZ	1.5	26.00	30
SWI 1008 PT 102 □-□□	1000 @ 100 KHz	M	30 @ 1 MHZ	1.3	30.00	30

1. Inductance is measured in HP-4285A Precision LCR meter RF LCR meter with SMD-A fixture.
2. Q is measured in HP-4285A Precision LCR meter, HP-4285A RF LCR meter with SMD-A fixture. With 0.1Vrms

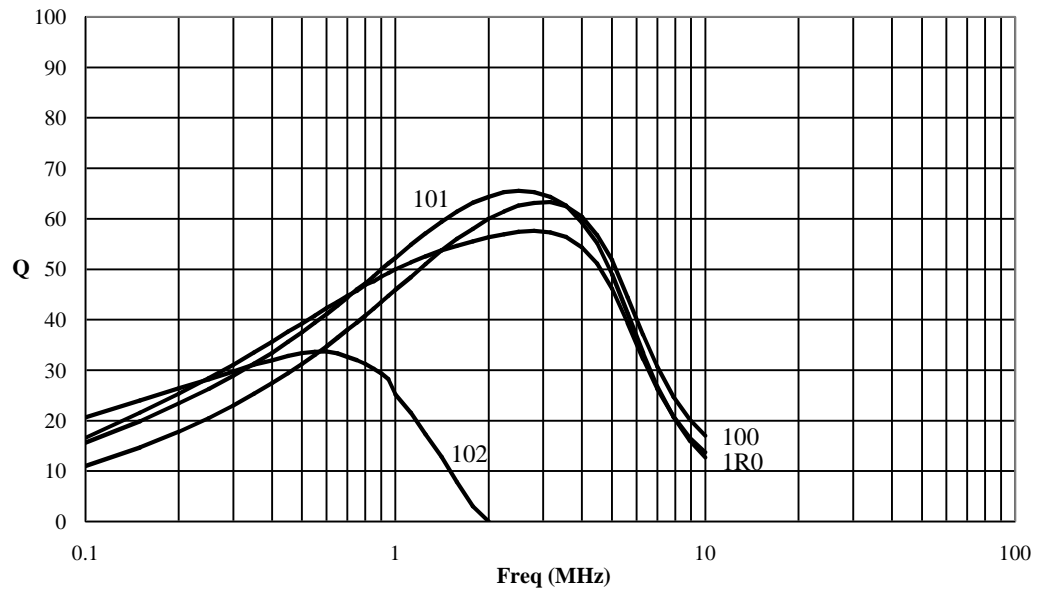
3. SRF is measured in HP-8753E RF network analyzer with HP-16193 fixture.
4. RDC is measured in HP-4338B milliohmeter.
5. For 15 °C Rise.

SWI1008PT SERIES

L vs Freq Plot



Q vs Freq Plot



SPECIFICATION

	ITEM	CONDITION	SPECIFICATION
Mechanical Characteristics	Inductance and Tolerance	Measuring Frequency : As shown in Product Table	Within Specified Tolerance
	Quality Factor	Measuring Temperature : + 25 °C	
	Insulation Resistance	Measured at 100V DC between inductor terminals and center of case.	1000 mega ohms minimum
	Dielectric Withstanding Voltage	Measured at 500V AC between inductor terminals and center of case for a maximum of 1 minute.	No damage occurs when the test voltage is applied.
	Temperature Coefficient of Inductance (TCL)	Over - 40 °C to + 85°C at frequency specified in Product Table.	+ 25 to 500 ppm / °C $TCL = \frac{L1 - L2}{L1(T1-T2)} \times 10^6$ (ppm / °C)
	Electrical Characteristics	Component Adhesion (Push Test)	The component shall be reflow soldered onto a P. C. Board (240 °C ± 5°C for 20 seconds). Then a dynamometer force gauge shall be applied to any side of the component.
Drop Test		The inductor shall be dropped two times on the concrete floor or the vinyl tile from 1M naturally.	Change In Inductance: No more than 5%
Thermal Shock Test		Each cycle shall consist of 30 minutes at -40 °C followed by 30 minutes at +85 °C with a 20-second maximum transition time between temperature extremes. Test duration is 10 cycles.	Change In Q: No more than 10% Change In Appearance: Without distinct damage

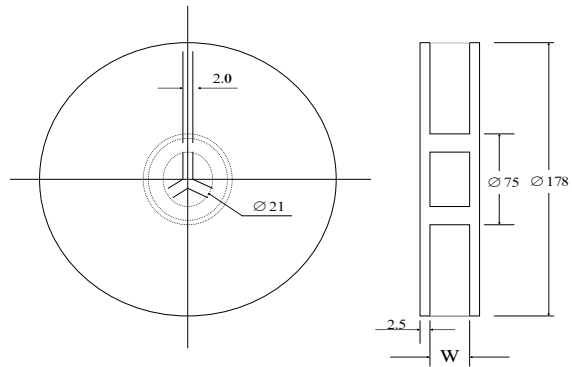
SPECIFICATION

	ITEM	CONDITION	SPECIFICATION
Endurance Characteristics	Solderability	Dip pads in flux and dip in solder pot containing lead free solder at $240\text{ }^{\circ}\text{C} \pm 5^{\circ}\text{C}$ for 5 seconds.	A minimum of 85% of the metalized area must be covered with solder.
	Resistance to Soldering Heat	Dip the components into flux and dip into solder pot containing lead free solder at $260\text{ }^{\circ}\text{C} \pm 5\text{ }^{\circ}\text{C}$ for 5 ± 2 seconds.	Change In Inductance: No more than 10%
	Vibration (Random)	Inductors shall be randomly vibrated at amplitude of 1.5mm and frequency of 10 - 55 Hz: 0.04 G / Hz for a minimum of 15 minutes per axis for each of the three axes.	Change In Q: No more than 10%
	Cold Temperature Storage	Inductors shall be stored at temperature of $-40\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ for 48 ± 2 hours. Then inductors shall be subjected to standard atmospheric conditions for 1 hour. After that, measurement shall be made.	Change In Appearance : Without distinct damage
	High Temperature Storage	Inductors shall be stored at temperature of $85\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$ for 48 ± 2 hours. Then inductors shall be subjected to standard atmospheric conditions for 1 hour. After that, measurement shall be made.	
	Moisture Resistance	Inductors shall be stored in the chamber at $45\text{ }^{\circ}\text{C}$ at 90 - 95 R. H. for 240 hours. Then inductors are to be tested after 2 hours at room temperature.	Inductors shall not have a shorted or open winding.
	High Temperature with Loaded	Inductors shall be stored in the chamber at $+85\text{ }^{\circ}\text{C}$ for 1000 hours with rated current applied. Inductors shall be tested at the beginning of test at 500 hours and 1000 hours. Then inductors are to be tested after 1 hour at room temperature.	

PACKAGING INFORMATION

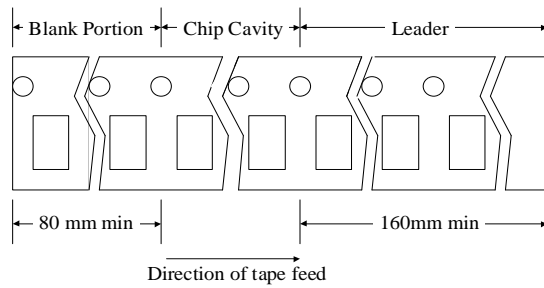
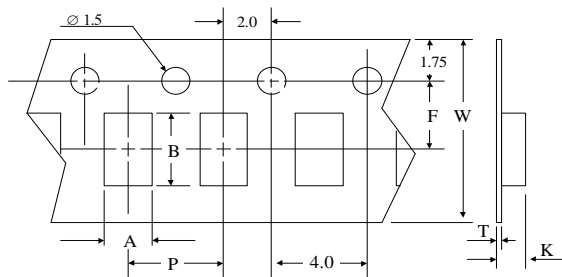
Packing Quantity

Type	Pcs / Reel
SWI1008PT	750



Dimensions (unit: m/m)

Type	Chip Cavity		Insert Pitch		Tape Thickness		Tape Width
	A	B	P	F	K	T	W
SWI1008PT	3.80	4.00	8.00	5.5	2.50	0.30	12.00



Dimensions (unit : m/m)

TYPE	A	B	C
SWI1008PT	3.25	1.25	2.50

Recommended Pattern

