



Wire Wound Chip Inductors

SWI1008PT Series



千如電子集團
ABC ELECTRONICS GROUP.

AOBA Technology (M) Sdn. Bhd.

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 electronic devices.

FEATURES

- Operating temperature -40 to +85°C for ferrite series.
- 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

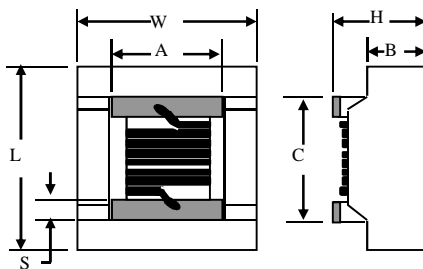
PART NUMBER

SWI 1008 P T 331 M - □□

1 2 3 4 5 6
taping

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 331 = 330uH 102 = 1000uH

5 Tolerance M = ±20%

6 Internal Code

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.

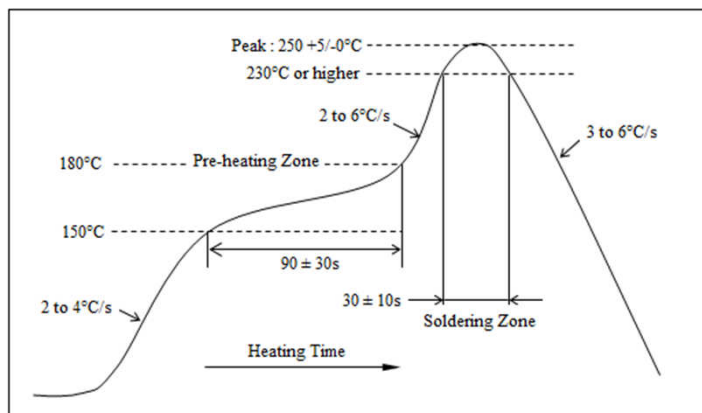
*Terminals : Consist of Ag alloy followed by Nickel, then Sn plating for easier soldering.

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 $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$

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 : $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$

Relative Humidity : 60% to 70%

Air Pressure : 86Kpa to 106Kpa

SWI1008PT Series

Part No.	Inductance ¹ (uH)	Tolerance	Q ² Min	S.R.F. ³ Min (MHz)	RDC ⁴ Max (Ω)	IDC ⁵ Max (mA)	Marking
SWI1008PT 1R0 □-□□	1.0 @ 100KHz	M	35 @ 1MHz	344	0.05	1000	-
SWI1008PT 1R5 □-□□	1.5 @ 100KHz	M	35 @ 1MHz	260	0.06	800	-
SWI1008PT 1R8 □-□□	1.8 @ 100KHz	M	35 @ 1MHz	225	0.09	680	-
SWI1008PT 2R7 □-□□	2.7 @ 100KHz	M	38 @ 1MHz	185	0.14	650	-
SWI1008PT 3R9 □-□□	3.9 @ 100KHz	M	38 @ 1MHz	175	0.26	650	-
SWI1008PT 4R7 □-□□	4.7 @ 100KHz	M	38 @ 1MHz	160	0.35	500	-
SWI1008PT 5R6 □-□□	5.6 @ 100KHz	M	38 @ 1MHz	150	0.40	450	-
SWI1008PT 6R8 □-□□	6.8 @ 100KHz	M	38 @ 1MHz	120	0.60	400	-
SWI1008PT 100 □-□□	10 @ 100KHz	M	38 @ 1MHz	100	0.95	250	-
SWI1008PT 150 □-□□	15 @ 100KHz	M	38 @ 1MHz	35	1.15	220	-
SWI1008PT 220 □-□□	22 @ 100KHz	M	40 @ 1MHz	26	1.40	180	-
SWI1008PT 330 □-□□	33 @ 100KHz	M	45 @ 1MHz	20	1.60	150	-
SWI1008PT 390 □-□□	39 @ 100KHz	M	45 @ 1MHz	14	1.85	130	-
SWI1008PT 470 □-□□	47 @ 100KHz	M	45 @ 1MHz	14	2.50	110	-
SWI1008PT 680 □-□□	68 @ 100KHz	M	45 @ 1MHz	12	3.80	100	-
SWI1008PT 820 □-□□	82 @ 100KHz	M	45 @ 1MHz	9.0	4.20	100	-
SWI1008PT 101 □-□□	100 @ 100KHz	M	45 @ 1MHz	7.0	5.80	80	-
SWI1008PT 121 □-□□	120 @ 100KHz	M	45 @ 1MHz	6.0	6.20	60	-
SWI1008PT 151 □-□□	150 @ 100KHz	M	40 @ 1MHz	5.6	7.50	50	-
SWI1008PT 221 □-□□	220 @ 100KHz	M	40 @ 1MHz	4.0	10.00	50	-
SWI1008PT 331 □-□□	330 @ 100KHz	M	40 @ 1MHz	3.8	11.50	50	-
SWI1008PT 471 □-□□	470 @ 100KHz	M	35 @ 1MHz	2.0	16.50	50	-
SWI1008PT 561 □-□□	560 @ 100KHz	M	35 @ 1MHz	2.0	18.00	30	-
SWI1008PT 681 □-□□	680 @ 100KHz	M	30 @ 1MHz	1.8	24.00	30	-
SWI1008PT 821 □-□□	820 @ 100KHz	M	30 @ 1MHz	1.5	26.00	30	-
SWI1008PT 102 □-□□	1000 @ 100KHz	M	30 @ 1MHz	1.3	30.00	30	-

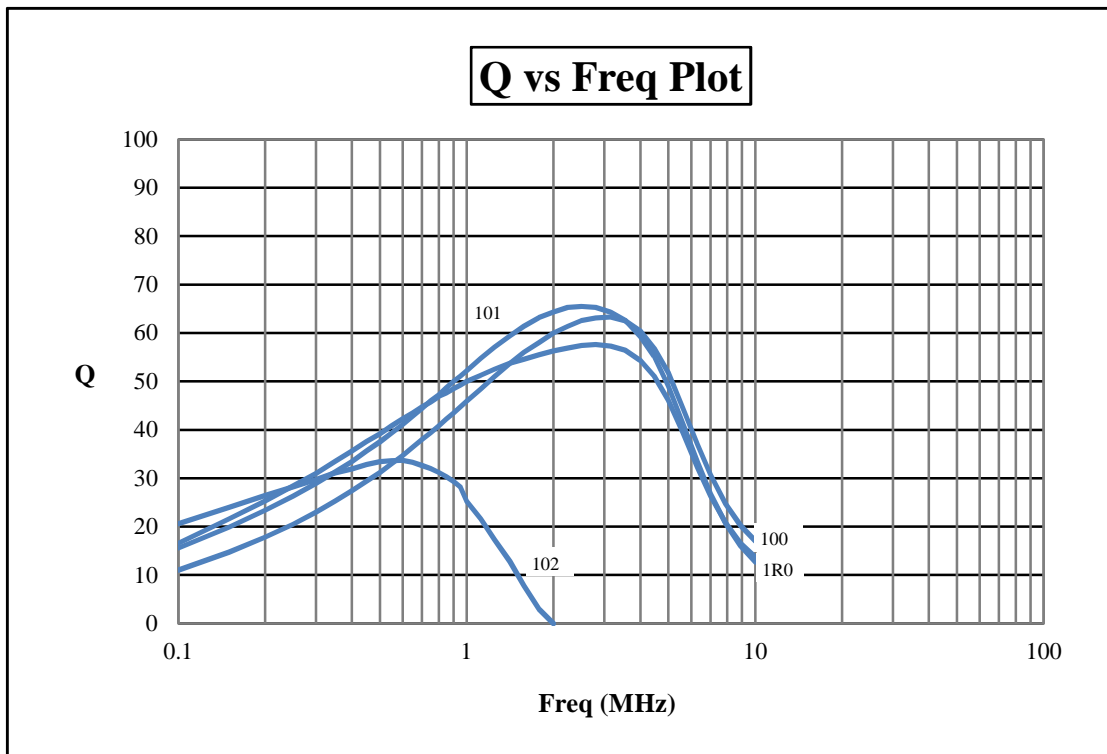
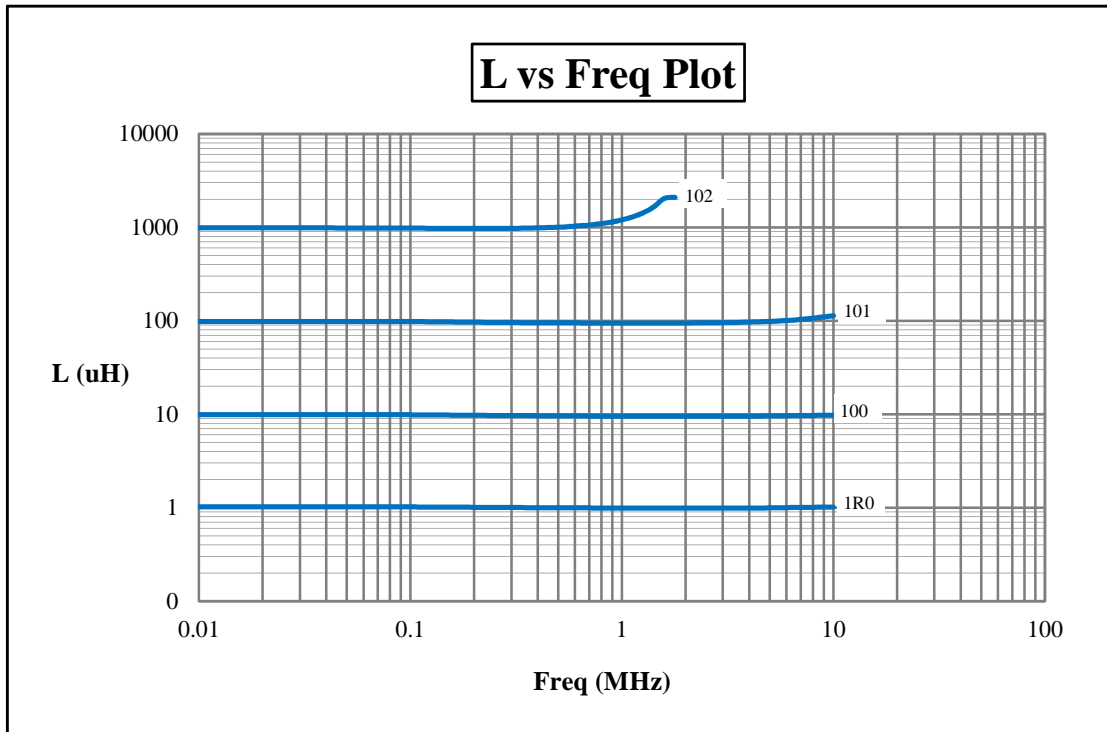
1. Inductance is measured in HP-4285A Precision LCR meter RF LCR meter with SMD-A fixture.

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 or equivalent.

4. RDC is measured in HP-4338B milliohmeter or equivalent.

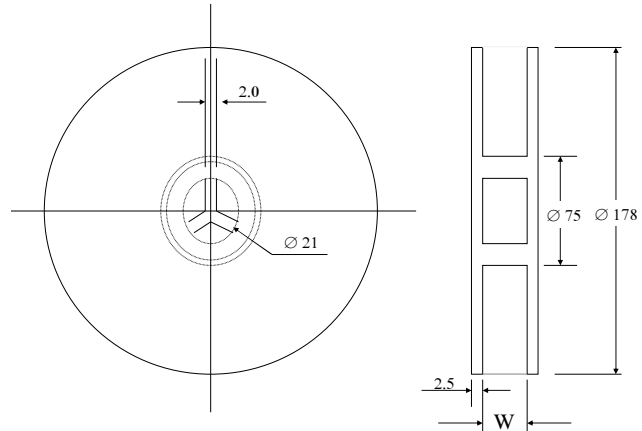
5. For 15 °C Rise.



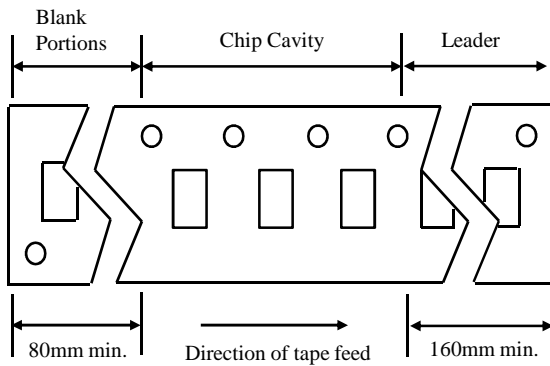
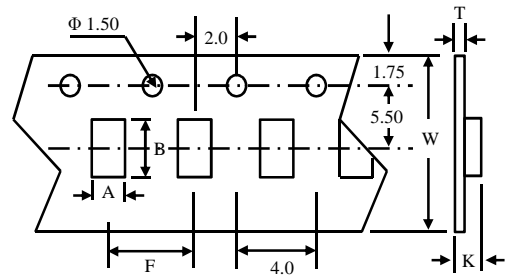
SWI1008PT Series

ITEM		CONDITION	SPECIFICATION
Electrical 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)
Mechanical 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.	The component must withstand a minimum force of 1Kg without any failure of the termination to component attachment.
	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 5 minutes transition time between temperature extremes. Test duration is 10 cycles.	Change In Q: No more than 10% Change In Appearance: Without distinct damage
Endurance Characteristics	Solderability	Dip pads in flux and dip in solder pot containing lead free solder at 240°C ± 5°C for 5 seconds.	A minimum of 80% 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°C ± 5°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 10-55Hz : 0.04G/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°C ± 2°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°C ± 2°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°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°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.	

Type	Pcs/Reel
SWI1008PT	750

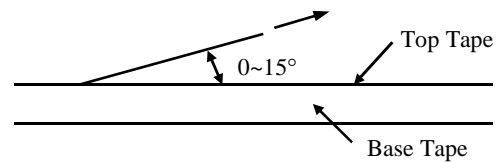


Type	Chip Cavity		Insert Pitch	Tape Thickness		
	A	B		K	T	W
SWI1008PT	3.81	3.99	8.00	2.49	0.25	12.00



Top Tape Strength

The top tape requires a peel-off force of 0.2 to 0.7N in the direction of the arrow as illustrated below.



Dimensions (unit : m/m)

Type	A	B	C
SWI1008PT	3.25	1.25	2.50

Recommended Pattern

