Data Sheet

Customer:	
Product:	**Shielded SMD Power Inductor – PS Series**
Sizes.:	**1608/3316/5022**
Issued Date:	**10-Apr-25**
Edition:	**REV.B9**

RoHS Compliant

HONG KONG HELISTO INDUSTRIAL LIMITED
香港海利斯特实业有限公司

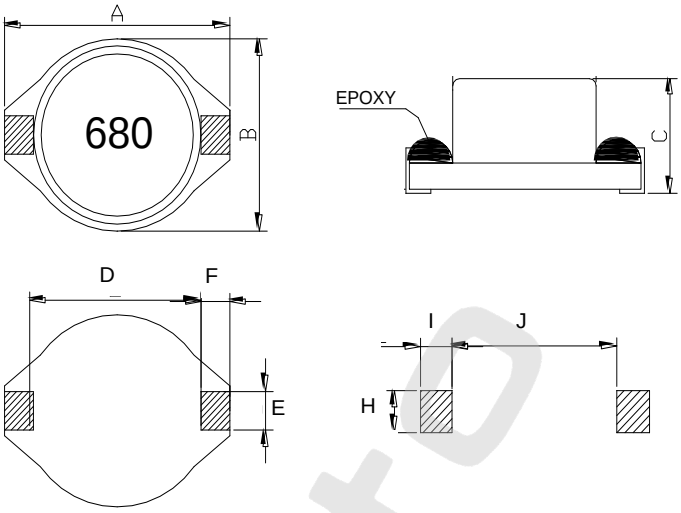
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10-Apr-25	10-Apr-25	10-Apr-25	10-Apr-25	
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Shielded SMD Power Inductor





Dimensions

Unit: mm

Type	A max.	B max.	C max.	D	E	F	H	I	J
PS1608	6.60	4.45	2.92	4.32	1.27	1.02	3.56	1.40	4.06
PS3316	12.95	9.40	5.21	7.62	2.54	2.54	2.79	2.92	7.37
PS5022	18.54	15.24	7.62	12.70	2.54	2.54	2.79	2.92	12.45

Features

- With magnetically shielded against radiation
- PS1608 can help to achieve longer battery life significantly in handheld communication devices.
- PS3316 / 5022 designed for the higher current requirements of portable computers.
- PS1608 used ceramic base with gold-plating
- PS3316 / 5022 used LCP plastic base

Inductance and rated current ranges

- PS1608 1.0～10000μH 1.4～0.02A
- PS3316 1.0～1000μH 5.6～0.32A
- PS5022 1.0～1000μH 20.0～0.80A
- Test equipment:
  L: HP4284A LCR meter
  DCR: Milli-ohm meter
- Electrical specifications at 25°C

Applications

- Portable Telephones
- Personal Computers
- Other Various Electronic Appliances
- DC/DC Converters, etc.

Characteristics

- Saturation Rated Current (I sat / IDC): The DC current when the inductance becomes 10%(1608 becomes 30%) lower than its initial value. (Ta=25℃)
- Temperature Rise Current (I rms): The actual current when temperature of coil becomes Δ 40°C. (Ta=25°C)
- Operating temperature range: -40～125°C
- Storage Temperature: 5℃～25℃; Humidity: 35%～65%
- Shelf life: 1 years Max

Product Identification

PS	1608	M	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	1608: 6.60×4.45×2.92 3316: 12.95×9.4×5.21 5022: 18.54×15.24×7.62	K: ±10% M: ±20%	T: Tape and Reel	1R0: 1.0μH 470: 47μH 101: 100μH

■Electrical Characteristics

PS1608 Type(□:Tolerance):

Part No	L (μH)	Tolerance	Test Condition		DCR (Ω) max.	SRF ref (MHz)	Q min.	IDC (A) max.	
			L	Q				I sat	I rms
PS1608□T1R0	1.0	M	100KHz, 0.1V	200KHz, 0.1V	0.040	250	30	1.40	3.00
PS1608□T1R5	1.5	M	100KHz, 0.1V	200KHz, 0.1V	0.045	125	30	0.93	2.30
PS1608□T2R2	2.2	M	100KHz, 0.1V	200KHz, 0.1V	0.050	120	40	0.92	1.80
PS1608□T3R3	3.3	M	100KHz, 0.1V	200KHz, 0.1V	0.055	120	40	0.75	1.60
PS1608□T4R7	4.7	M	100KHz, 0.1V	200KHz, 0.1V	0.060	105	40	0.58	1.40
PS1608□T6R8	6.8	M	100KHz, 0.1V	200KHz, 0.1V	0.065	50	40	0.58	1.20
PS1608□T100	10	M	100KHz, 0.1V	200KHz, 0.1V	0.075	38	40	0.37	1.00
PS1608□T150	15	M	100KHz, 0.1V	100KHz, 0.1V	0.090	33	40	0.31	0.80
PS1608□T220	22	M	100KHz, 0.1V	100KHz, 0.1V	0.11	25	40	0.30	0.70
PS1608□T330	33	M	100KHz, 0.1V	100KHz, 0.1V	0.19	20	40	0.24	0.60
PS1608□T470	47	M	100KHz, 0.1V	100KHz, 0.1V	0.23	20	40	0.24	0.50
PS1608□T680	68	M	100KHz, 0.1V	100KHz, 0.1V	0.29	15	40	0.17	0.40
PS1608□T101	100	M	100KHz, 0.1V	100KHz, 0.1V	0.48	10	40	0.13	0.30
PS1608□T151	150	M	100KHz, 0.1V	100KHz, 0.1V	0.59	9	40	0.10	0.26
PS1608□T221	220	M	100KHz, 0.1V	100KHz, 0.1V	0.90	6	40	0.10	0.22
PS1608□T331	330	M	100KHz, 0.1V	100KHz, 0.1V	1.40	5	40	0.07	0.20
PS1608□T471	470	M	100KHz, 0.1V	100KHz, 0.1V	1.80	4	40	0.06	0.19
PS1608□T681	680	M	100KHz, 0.1V	100KHz, 0.1V	2.20	3	40	0.06	0.18
PS1608□T102	1000	M	100KHz, 0.1V	100KHz, 0.1V	3.40	2	40	0.05	0.15
PS1608□T152	1500	M	100KHz, 0.1V	100KHz, 0.1V	4.20	2	50	0.04	0.12
PS1608□T222	2200	M	100KHz, 0.1V	100KHz, 0.1V	8.50	2	50	0.03	0.10
PS1608□T332	3300	M	100KHz, 0.1V	100KHz, 0.1V	11.0	1	50	0.02	0.08
PS1608□T472	4700	M	100KHz, 0.1V	100KHz, 0.1V	13.9	1	50	0.02	0.06
PS1608□T682	6800	M	100KHz, 0.1V	100KHz, 0.1V	25.0	1	50	0.02	0.04
PS1608□T103	10000	M	100KHz, 0.1V	100KHz, 0.1V	32.8	0.8	50	0.02	0.02

PS3316 Type(□:Tolerance):

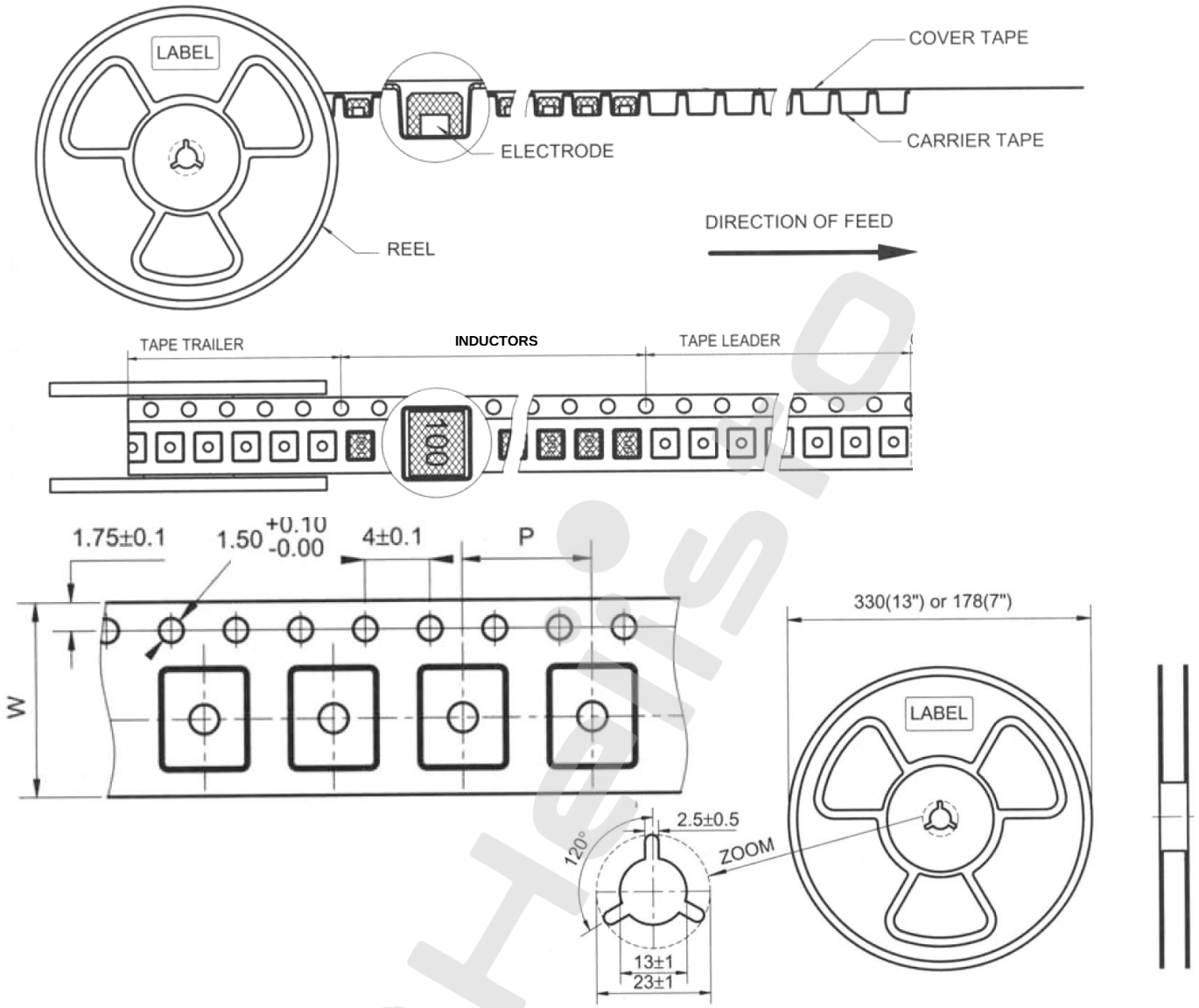
Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
PS3316□T1R0	1.0	M	100KHz, 0.1V	0.021	5.60
PS3316□T1R5	1.5	M	100KHz, 0.1V	0.022	5.20
PS3316□T2R2	2.2	M	100KHz, 0.1V	0.032	5.00
PS3316□T3R3	3.3	M	100KHz, 0.1V	0.039	3.90
PS3316□T4R7	4.7	M	100KHz, 0.1V	0.054	3.20
PS3316□T6R8	6.8	M	100KHz, 0.1V	0.075	2.80
PS3316□T100	10	M	100KHz, 0.1V	0.101	2.40
PS3316□T120	12	M	100KHz, 0.1V	0.140	2.10
PS3316□T150	15	M	100KHz, 0.1V	0.150	2.00
PS3316□T180	18	M	100KHz, 0.1V	0.200	1.70
PS3316□T220	22	M	100KHz, 0.1V	0.207	1.60
PS3316□T270	27	M	100KHz, 0.1V	0.300	1.50
PS3316□T330	33	M	100KHz, 0.1V	0.334	1.40
PS3316□T390	39	M	100KHz, 0.1V	0.460	1.10
PS3316□T470	47	M	100KHz, 0.1V	0.472	1.00
PS3316□T680	68	M	100KHz, 0.1V	0.660	0.90
PS3316□T101	100	M	100KHz, 0.1V	1.110	0.80
PS3316□T121	120	M	100KHz, 0.1V	1.300	0.62
PS3316□T151	150	M	100KHz, 0.1V	1.550	0.60
PS3316□T221	220	M, K	100KHz, 0.1V	2.000	0.50
PS3316□T271	270	M	100KHz, 0.1V	4.600	0.42
PS3316□T331	330	M	100KHz, 0.1V	5.600	0.35
PS3316□T391	390	M	100KHz, 0.1V	6.600	0.34
PS3316□T471	470	M	100KHz, 0.1V	7.600	0.33
PS3316□T681	680	M, K	100KHz, 0.1V	9.000	0.31
PS3316□T102	1000	M	100KHz, 0.1V	8.300	0.32

■Electrical Characteristics

PS5022 Type(□:Tolerance):

Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
PS5022□T1R0	1.0	M	100KHz, 0.1V	0.024	20.00
PS5022□T2R2	2.2	M	100KHz, 0.1V	0.026	11.00
PS5022□T3R3	3.3	M	100KHz, 0.1V	0.029	10.00
PS5022□T3R9	3.9	M	100KHz, 0.1V	0.030	8.50
PS5022□T4R7	4.7	M	100KHz, 0.1V	0.032	8.40
PS5022□T5R6	5.6	M	100KHz, 0.1V	0.034	8.30
PS5022□T6R8	6.8	M	100KHz, 0.1V	0.036	8.20
PS5022□T8R2	8.2	M	100KHz, 0.1V	0.038	8.10
PS5022□T100	10	M	100KHz, 0.1V	0.040	8.00
PS5022□T120	12	M	100KHz, 0.1V	0.046	7.10
PS5022□T150	15	M	100KHz, 0.1V	0.048	7.00
PS5022□T180	18	M	100KHz, 0.1V	0.056	6.10
PS5022□T220	22	M	100KHz, 0.1V	0.059	6.00
PS5022□T270	27	M	100KHz, 0.1V	0.066	5.10
PS5022□T330	33	M	100KHz, 0.1V	0.075	5.00
PS5022□T390	39	M	100KHz, 0.1V	0.092	4.10
PS5022□T470	47	M	100KHz, 0.1V	0.097	4.00
PS5022□T560	56	M	100KHz, 0.1V	0.132	3.10
PS5022□T680	68	M	100KHz, 0.1V	0.138	3.00
PS5022□T820	82	M	100KHz, 0.1V	0.202	2.50
PS5022□T101	100	M	100KHz, 0.1V	0.207	2.40
PS5022□T121	120	M	100KHz, 0.1V	0.286	2.20
PS5022□T151	150	M	100KHz, 0.1V	0.293	2.10
PS5022□T181	180	M	100KHz, 0.1V	0.420	1.91
PS5022□T221	220	M	100KHz, 0.1V	0.470	1.90
PS5022□T271	270	M	100KHz, 0.1V	0.720	1.12
PS5022□T331	330	M	100KHz, 0.1V	0.780	1.10
PS5022□T391	390	M	100KHz, 0.1V	1.020	1.10
PS5022□T471	470	M	100KHz, 0.1V	1.080	1.10
PS5022□T561	560	M	100KHz, 0.1V	1.320	0.97
PS5022□T681	680	M	100KHz, 0.1V	1.400	0.96
PS5022□T821	820	M	100KHz, 0.1V	1.960	0.81
PS5022□T102	1000	M	100KHz, 0.1V	2.010	0.80

■Tape and Reel specifications



Unit: mm

Type	Tape size		Parts Per Reel
	W	P	13"
PS1608	16	8	2000
PS3316	24	12	1000
PS5022	32	20	250

■SMT Power Inductor Environmental Specifications

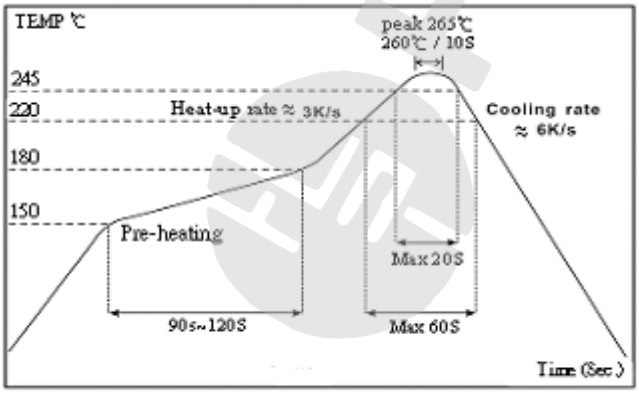
Environmental test

Test Items	Specifications	Test Conditions / Test Methods
High temperature Storage test	No case deformation or change in appearance. △L/L≦10%	Temperature 85±2℃, Time: 48±2 hours, Tested after 1hour at room temperature.
Low temperature Storage test		Temperature -25±2℃, Time: 48±2 hours, Tested after 1hour at room temperature.
Humidity test		Temperature 40±2℃, 90~95% relative humidity Time: 96±2 hours Tested after 1hour at room temperature.
Thermal shock test		First -25℃ 30minutes then 25℃ 10 minutes last 85℃ 30 minutes, as 1 cycle. Go through 5 cycles. Tested after 1 hour at room temperature.

Mechanical test

Test Items	Specifications	Test Conditions / Test Methods
Solderability test	Terminal area must have 90% minimum solder coverage.	Product with Lead-free terminal: Dip pads in flux then dip in solder pot at 245±5℃ for 3 seconds.
Resistance to Soldering Heat	No case deformation or change in appearance.	Flux should cover the whole of the sample before heating, then be preheated for about 2 minutes over temperature of 130~150℃. Immersing to 260±5℃ for 10 seconds.
Vibration test	No case deformation or change in appearance. △L/L≦10%	Apply frequency 10~55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours.
Shock resistance		Drop down with 981m/s^2(100G) shock attitude upon a rubber block method shock testing machine, for 1 time. In each of three orientations.

The condition of reflow (recommendation):



REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version B9	Apr 10,2025		-Modify Storage conditions and Shelf life.