Data Sheet

Customer:	
Product:	**SMD Power Inductor – PD Series**
Sizes.:	**1608/3308/3316/3340/5022**
Issued Date:	**19-Mar-25**
Edition:	**REV.C1**

Pb RoHS Compliant

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

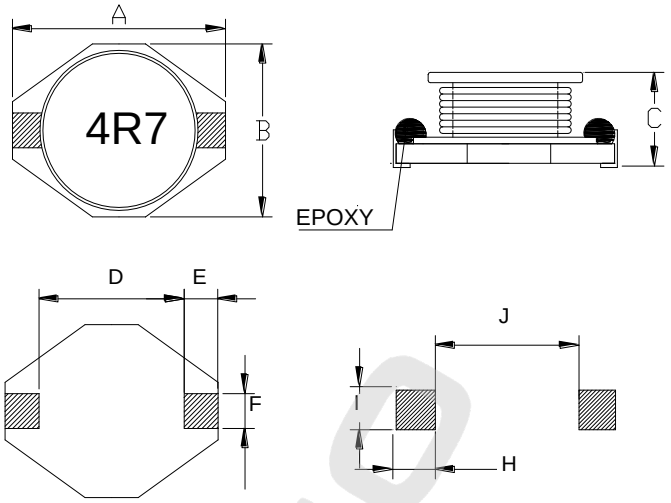
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SMD Power Inductor





Features

- High power, High saturation inductors
- Ideal inductors for DC-DC converters in notebook computer, PDAs, Step-up or step-down converters, flash memory programmers, etc.
- PD1608 used ceramic base with gold-plating
- The others used LCP plastic base

Dimensions

Unit: mm

Type	A max.	B max.	C max.	D typ.	E typ.	F typ.	H	I	J
PD1608	6.60	4.45	2.92	4.32	1.27	1.02	1.40	3.56	4.06
PD3308	12.95	9.40	3.00	7.62	2.54	2.54	2.79	2.92	7.37
PD3316	12.95	9.40	5.21	7.62	2.54	2.54	2.79	2.92	7.37
PD3340	12.95	9.40	11.43	7.62	2.54	2.54	2.79	2.92	7.37
PD5022	18.54	15.24	7.11	12.7	2.54	2.54	2.79	2.92	12.45

Applications

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

Inductance and rated current ranges

- PD1608 1.0μH～1000μH 2.9～0.10A
- PD3308 1.0μH～1000μH 5.15～0.10A
- PD3316 0.68μH～1000μH 11～0.35A
- PD3340 0.47μH～1000μH 20～0.8A
- PD5022 1.0μH～1000μH 20～1.0A
- Test equipment:

  L: HP4284A LCR meter

  DCR: Milli-ohm meter
- Electrical specifications at 25°C

Characteristics

- Saturation Rated Current: The current when the inductance becomes 10% lower than its initial value. (Ta=25°C)
- Operating temperature range: -40~125°C
- Storage temperature range: -40~ 85℃

Product Identification

PD	1608	M	T	101
Product Type	Dimensions (AxBxC)	Inductor Tolerance	Packaging Style	Inductance
	1608: 6.60×4.45×2.92 3308: 12.95×9.40×3.00 3316: 12.95×9.40×5.21 3340: 12.95×9.40×11.43 5022: 18.54×15.24×7.11	K: ±10% M: ±20% N: ±30%	T: Tape and Reel	1R0: 1.0μH 470: 47μH 101: 100μH

■Electrical Characteristics

PD1608 Type(□:Tolerance):

Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
PD1608□T1R0	1.0	M,N	100KHz, 0.1V	0.05	2.90
PD1608□T1R5	1.5	M,N	100KHz, 0.1V	0.06	2.60
PD1608□T2R2	2.2	M,N	100KHz, 0.1V	0.07	2.30
PD1608□T3R3	3.3	M,N	100KHz, 0.1V	0.08	2.00
PD1608□T4R7	4.7	M,N	100KHz, 0.1V	0.09	1.50
PD1608□T6R8	6.8	M,N	100KHz, 0.1V	0.13	1.20
PD1608□T8R2	8.2	M,N	100KHz, 0.1V	0.16	1.15
PD1608□T100	10	M,N	100KHz, 0.1V	0.16	1.10
PD1608□T150	15	M,N	100KHz, 0.1V	0.23	0.90
PD1608□T220	22	M,N	100KHz, 0.1V	0.37	0.70
PD1608□T330	33	M,N	100KHz, 0.1V	0.51	0.58
PD1608□T470	47	M,N	100KHz, 0.1V	0.64	0.50
PD1608□T680	68	M,N	100KHz, 0.1V	0.86	0.40
PD1608□T101	100	M,N	100KHz, 0.1V	1.27	0.31
PD1608□T151	150	M,N	100KHz, 0.1V	2.00	0.27
PD1608□T221	220	M,N	100KHz, 0.1V	3.11	0.22
PD1608□T331	330	M,N	100KHz, 0.1V	3.80	0.18
PD1608□T471	470	M,N	100KHz, 0.1V	5.06	0.16
PD1608□T681	680	M,N	100KHz, 0.1V	9.20	0.14
PD1608□T102	1000	M,N	100KHz, 0.1V	13.8	0.10

PD3308 Type(□:Tolerance)

Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
PD3308□T1R0	1.0	M,N	100KHz, 0.1V	0.024	5.15
PD3308□T4R7	4.7	M,N	100KHz, 0.1V	0.036	4.20
PD3308□T6R8	6.8	M,N	100KHz, 0.1V	0.060	3.90
PD3308□T8R2	8.2	M,N	100KHz, 0.1V	0.080	2.42
PD3308□T100	10	M,N	100KHz, 0.1V	0.110	2.40
PD3308□T150	15	M,N	100KHz, 0.1V	0.120	2.30
PD3308□T220	22	M,N	100KHz, 0.1V	0.180	1.80
PD3308□T330	33	M,N	100KHz, 0.1V	0.250	1.60
PD3308□T470	47	M,N	100KHz, 0.1V	0.320	1.30
PD3308□T680	68	M,N	100KHz, 0.1V	0.540	1.10
PD3308□T101	100	K,M	100KHz, 0.1V	0.690	0.87
PD3308□T151	150	K,M	100KHz, 0.1V	0.940	0.74
PD3308□T221	220	K,M	100KHz, 0.1V	1.600	0.56
PD3308□T331	330	K,M	100KHz, 0.1V	2.150	0.50
PD3308□T471	470	K,M	100KHz, 0.1V	3.300	0.40
PD3308□T681	680	K,M	100KHz, 0.1V	4.400	0.33
PD3308□T821	820	K,M	100KHz, 0.1V	5.800	0.15
PD3308□T102	1000	K,M	100KHz, 0.1V	8.400	0.10

■Electrical Characteristics

PD3316 Type(□:Tolerance)

Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
PD3316□TR68	0.68	M	100KHz, 0.1V	0.008	11.0
PD3316□T1R0	1.0	M	100KHz, 0.1V	0.009	9.00
PD3316□T1R2	1.2	M	100KHz, 0.1V	0.010	8.50
PD3316□T1R5	1.5	M	100KHz, 0.1V	0.010	8.00
PD3316□T1R8	1.8	M	100KHz, 0.1V	0.011	7.50
PD3316□T2R2	2.2	M,N	100KHz, 0.1V	0.012	7.10
PD3316□T2R7	2.7	M,N	100KHz, 0.1V	0.014	6.60
PD3316□T3R3	3.3	M,N	100KHz, 0.1V	0.015	6.50
PD3316□T4R7	4.7	M,N	100KHz, 0.1V	0.018	5.50
PD3316□T5R6	5.6	M,N	100KHz, 0.1V	0.025	4.80
PD3316□T6R8	6.8	M,N	100KHz, 0.1V	0.027	4.70
PD3316□T8R2	8.2	M,N	100KHz, 0.1V	0.036	4.10
PD3316□T100	10	M,N	100KHz, 0.1V	0.038	3.90
PD3316□T120	12	M,N	100KHz, 0.1V	0.044	3.30
PD3316□T150	15	M,N	100KHz, 0.1V	0.046	3.10
PD3316□T180	18	M,N	100KHz, 0.1V	0.066	2.80
PD3316□T220	22	M,N	100KHz, 0.1V	0.085	2.60
PD3316□T270	27	M,N	100KHz, 0.1V	0.095	2.10
PD3316□T330	33	M,N	100KHz, 0.1V	0.100	2.00
PD3316□T390	39	M,N	100KHz, 0.1V	0.130	1.80
PD3316□T470	47	M,N	100KHz, 0.1V	0.140	1.70
PD3316□T560	56	M,N	100KHz, 0.1V	0.190	1.60
PD3316□T680	68	M,N	100KHz, 0.1V	0.200	1.50
PD3316□T820	82	M,N	100KHz, 0.1V	0.260	1.30
PD3316□T101	100	K,M	100KHz, 0.1V	0.280	1.25
PD3316□T101-1	100	K	100KHz, 0.1V	0.280	1.50
PD3316□T121	120	K,M	100KHz, 0.1V	0.360	1.05
PD3316□T151	150	K,M	100KHz, 0.1V	0.400	1.05
PD3316□T181	180	K,M	100KHz, 0.1V	0.540	0.85
PD3316□T221	220	K,M	100KHz, 0.1V	0.610	0.82
PD3316□T271	270	K,M	100KHz, 0.1V	0.840	0.65
PD3316□T331	330	K,M	100KHz, 0.1V	1.020	0.62
PD3316□T391	390	K,M	100KHz, 0.1V	1.250	0.55
PD3316□T471	470	K,M	100KHz, 0.1V	1.270	0.52
PD3316□T561	560	K,M	100KHz, 0.1V	1.850	0.45
PD3316□T681	680	K,M	100KHz, 0.1V	2.020	0.42
PD3316□T821	820	K,M	100KHz, 0.1V	2.530	0.38
PD3316□T102	1000	K,M	100KHz, 0.1V	3.000	0.35
PD3316□T102-2	1000	K	1KHz, 0.25V	3.900	0.35
PD3316□T152-1	1500	K	1KHz, 0.25V	6.300	0.30
PD3316□T222-1	2200	K	1KHz, 0.25V	8.200	0.24
PD3316□T103-1	10000	M	1KHz, 0.25V	39.00	0.10

■Electrical Characteristics

PD3340 Type(□:Tolerance)

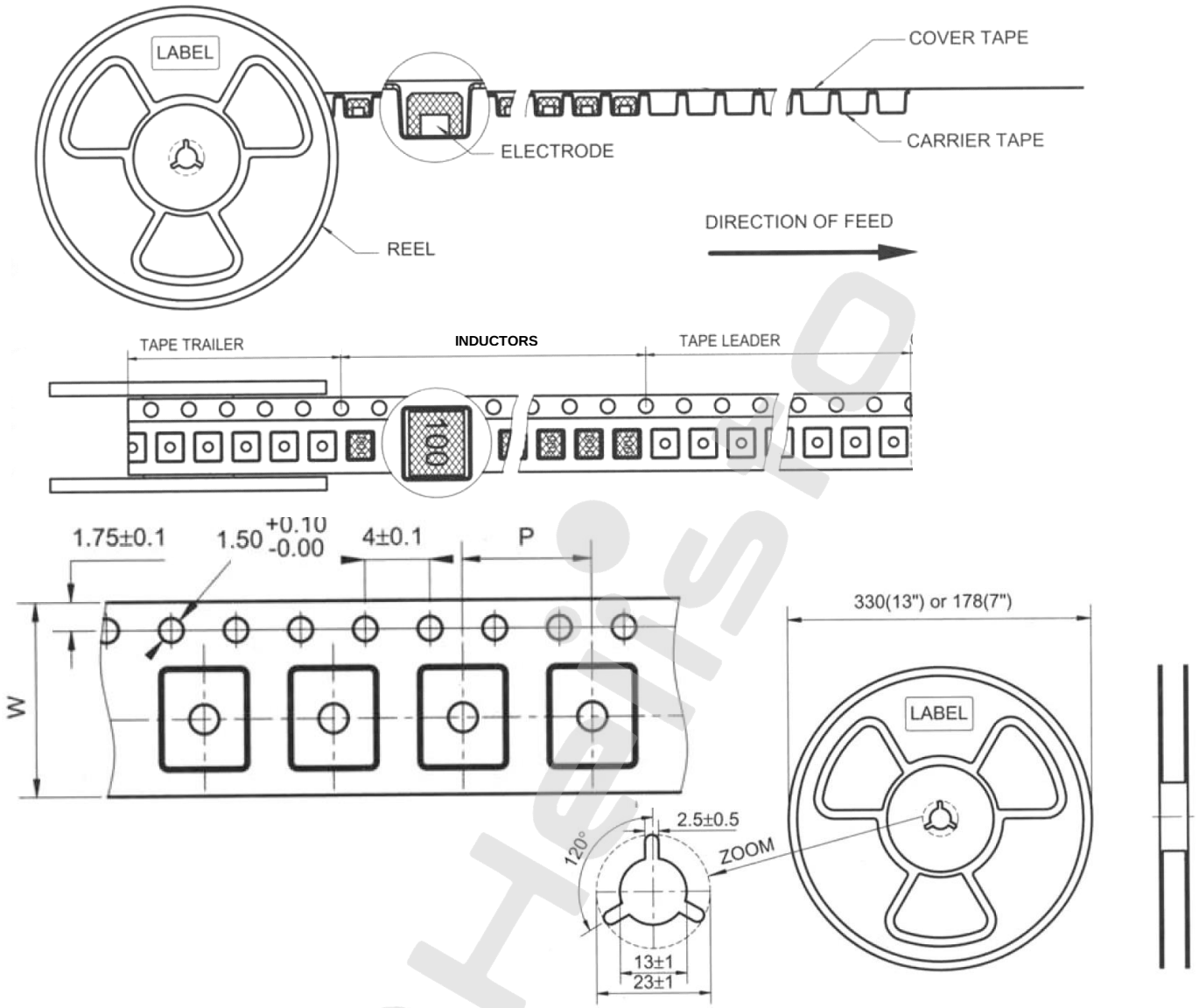
Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
PD3340□TR47	0.47	M	100KHz, 0.1V	0.008	20.0
PD3340□TR82	0.82	M	100KHz, 0.1V	0.009	20.0
PD3340□T1R2	1.2	M	100KHz, 0.1V	0.010	20.0
PD3340□T1R5	1.5	M	100KHz, 0.1V	0.010	20.0
PD3340□T2R2	2.2	M,N	100KHz, 0.1V	0.012	23.0
PD3340□T3R5	3.5	M,N	100KHz, 0.1V	0.015	21.0
PD3340□T4R7	4.7	M,N	100KHz, 0.1V	0.020	18.0
PD3340□T5R6	5.6	M,N	100KHz, 0.1V	0.022	16.0
PD3340□T6R8	6.8	M,N	100KHz, 0.1V	0.030	15.0
PD3340□T8R2	8.2	M,N	100KHz, 0.1V	0.033	10.0
PD3340□T100	10	M,N	100KHz, 0.1V	0.040	8.00
PD3340□T120	12	M,N	100KHz, 0.1V	0.042	7.20
PD3340□T150	15	M,N	100KHz, 0.1V	0.050	7.00
PD3340□T180	18	M,N	100KHz, 0.1V	0.052	5.70
PD3340□T220	22	M,N	100KHz, 0.1V	0.066	5.50
PD3340□T270	27	M,N	100KHz, 0.1V	0.072	4.20
PD3340□T330	33	M,N	100KHz, 0.1V	0.080	4.00
PD3340□T390	39	M,N	100KHz, 0.1V	0.092	3.90
PD3340□T470	47	M,N	100KHz, 0.1V	0.110	3.80
PD3340□T560	56	M,N	100KHz, 0.1V	0.150	3.20
PD3340□T680	68	M,N	100KHz, 0.1V	0.170	3.00
PD3340□T820	82	M,N	100KHz, 0.1V	0.200	2.60
PD3340□T101	100	K,M	100KHz, 0.1V	0.220	2.50
PD3340□T121	120	K,M	100KHz, 0.1V	0.320	2.20
PD3340□T151	150	K,M	100KHz, 0.1V	0.340	2.00
PD3340□T181	180	K,M	100KHz, 0.1V	0.420	1.80
PD3340□T221	220	K,M	100KHz, 0.1V	0.440	1.60
PD3340□T271	270	K,M	100KHz, 0.1V	0.600	1.30
PD3340□T331	330	K,M	100KHz, 0.1V	0.700	1.20
PD3340□T391	390	K,M	100KHz, 0.1V	0.850	1.10
PD3340□T471	470	K,M	100KHz, 0.1V	0.950	1.00
PD3340□T561	560	K,M	100KHz, 0.1V	1.100	1.00
PD3340□T681	680	K,M	100KHz, 0.1V	1.200	1.00
PD3340□T821	820	K,M	100KHz, 0.1V	1.500	0.82
PD3340□T102	1000	K,M	100KHz, 0.1V	2.000	0.80

■Electrical Characteristics

PD5022 Type(□:Tolerance)

Part No	L (μH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
PD5022□T1R0	1.0	M,N	100KHz, 0.1V	0.009	20.00
PD5022□T2R2	2.2	M,N	100KHz, 0.1V	0.014	16.00
PD5022□T3R3	3.3	M,N	100KHz, 0.1V	0.018	14.00
PD5022□T4R7	4.7	M,N	100KHz, 0.1V	0.019	13.00
PD5022□T5R6	5.6	M,N	100KHz, 0.1V	0.020	12.00
PD5022□T6R8	6.8	M,N	100KHz, 0.1V	0.022	10.60
PD5022□T8R2	8.2	M,N	100KHz, 0.1V	0.024	10.30
PD5022□T100	10	M,N	100KHz, 0.1V	0.031	10.00
PD5022□T120	12	M,N	100KHz, 0.1V	0.034	8.20
PD5022□T150	15	M,N	100KHz, 0.1V	0.036	8.00
PD5022□T180	18	M,N	100KHz, 0.1V	0.045	7.20
PD5022□T220	22	M,N	100KHz, 0.1V	0.047	7.00
PD5022□T270	27	M,N	100KHz, 0.1V	0.056	5.80
PD5022□T330	33	M,N	100KHz, 0.1V	0.066	5.50
PD5022□T390	39	M,N	100KHz, 0.1V	0.080	4.60
PD5022□T470	47	M,N	100KHz, 0.1V	0.095	4.50
PD5022□T560	56	M,N	100KHz, 0.1V	0.128	3.70
PD5022□T680	68	M,N	100KHz, 0.1V	0.130	3.50
PD5022□T820	82	M,N	100KHz, 0.1V	0.180	3.10
PD5022□T101	100	K,M	100KHz, 0.1V	0.190	3.00
PD5022□T121	120	K,M	100KHz, 0.1V	0.240	2.80
PD5022□T151	150	K,M	100KHz, 0.1V	0.250	2.60
PD5022□T181	180	K,M	100KHz, 0.1V	0.360	2.50
PD5022□T221	220	K,M	100KHz, 0.1V	0.380	2.40
PD5022□T271	270	K,M	100KHz, 0.1V	0.520	2.00
PD5022□T331	330	K,M	100KHz, 0.1V	0.560	1.90
PD5022□T391	390	K,M	100KHz, 0.1V	0.720	1.50
PD5022□T471	470	K,M	100KHz, 0.1V	0.850	1.40
PD5022□T561	560	K,M	100KHz, 0.1V	1.080	1.30
PD5022□T681	680	K,M	100KHz, 0.1V	1.100	1.20
PD5022□T821	820	K,M	100KHz, 0.1V	1.600	1.03
PD5022□T102	1000	K,M	100KHz, 0.1V	1.800	1.00

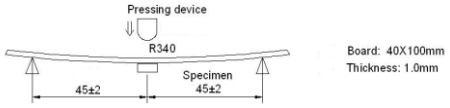
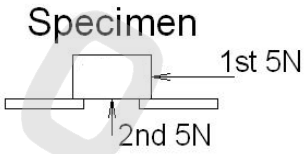
■Tape and Reel specifications



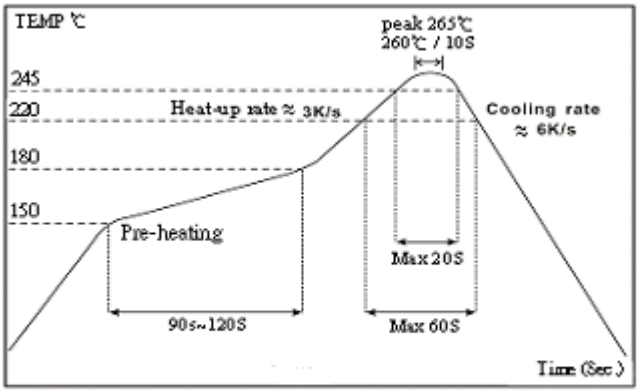
Unit: mm

Type	Tape size		Parts Per Reel
	W	P	13"
PD1608	16	8	2000
PD3308	24	12	1000
PD3316	24	12	1000
PD3340	24	16	225
PD5022	32	20	250

■SMT Power Inductor Environmental Specifications

Test Items	Specifications	Test Conditions
Bending Test	Change from an initial value L : within±10%	Apply pressure gradually in the direction of the arrow at a rate of about 0.5mm/s until bent depth reaches 3mm and hold for 30±5s. 
Adhesion strength		A static load using a R0.5 pressing tool shall be applied the arrow and to the body of the specimen in the direction of the arrow and shall be hold for 60±5s.Measure after removing Pressure 
Vibration		The specimen shall be subjected to a vibration of 1.5mm amplitude, sweep frequency 10~55Hz (10Hz to 55Hz to 10Hz in a period of one minute) for 2 h in each of 3(X,Y,Z) axes.
Mechanical shock		Peak acceleration: 981 m/S^2 Duration of pulse: 6ms 3 times in each of 3(X,Y,Z)axes. The specimen must be fixed on test board. Three successive shock shall be applied in the perpendicular direction of each surface of the specimen.
Free fall test		The specimen must be fixed on test board. It must be equipped with instruments of which weight is 500g. Then it shall be fallen freely from 1m height to rigid wood 3 times in each of three axes.
Solder ability	New solder shall cover 90% minimum of the surface immersed.	Terminals shall be immersed for 5 to 10 seconds in flux at room temperature. Dip sample into solder bath containing molten solder at 245±5℃ for 3±0.5 seconds.
Resistance to soldering heat	Change from an initial value L : within±10%	Test method Reflow soldering method Preheat 150~180℃ 90±30s Peak temp 260℃ (230℃min , 30±10s) The specimen shall be subjected to the reflow process under the above condition 2 times. Test board shall be 0.8mm thick. Base material shall be glass epoxy resin. Measurement The specimen shall be stored at standard atmospheric conditions for 1 h in prior to the measurement.
Dielectric strength	Without damage	100V DC shall be applied for 60s between the terminal and the core.
Insulation resistance	100MΩ or more.	100V DC shall be applied between the terminal and the core
Low temperature	Change from an initial value L : within±10%	After stored at a temperature of -40 ± 3℃ for 500 ±12h. The specimen should be measured, then it should be measured under normal temperature and humidity in 1h~ 2h hours.
Dry heat		The specimen shall be stored at a temperature of 85 ±2℃ for 500± 12h. Then it shall be stabilized under standard atmospheric conditions for 1 h before measurement. Measurement shall be made within 1h~ 2h.
Dump heat		The specimen shall be stored at a temperature of 60±2℃with relative humidity of 90 ~ 95% for 500 ± 12h. Then it shall be stabilized under standard atmospheric conditions for 1 h before measurement. Measurement shall be made within 1h~ 2h.
Temperature cycle		The specimen shall be measured after to 500 continuous cycles of temperature change of -40℃ for 30 min and 85℃ for 30 min with the transit period of 2min or less. Then it shall be stabilized under standard atmospheric conditions for 1 h before measurement. Measurement shall be made within 1h~ 2h.
Temperature drift	Inductance temperature coefficient 2000 ppm/℃ or less	To be measured in the range of -25℃ to 85℃.

The condition of reflow (recommendation):



REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version C1	Mar 19 ,2025		-Modify the PD1608 Dimensions -Modify the DCR and IDC specifications of PD1680. -Modify the IDC specifications of PD3340. -Add Tolerance specifications for all sizes -Modify the reliability testing content