PREMO RFID Components

PS0804 , PS0805 , PS1003 , PS3316=PS1005 & PS5022

SMD Power Inductors Shielded

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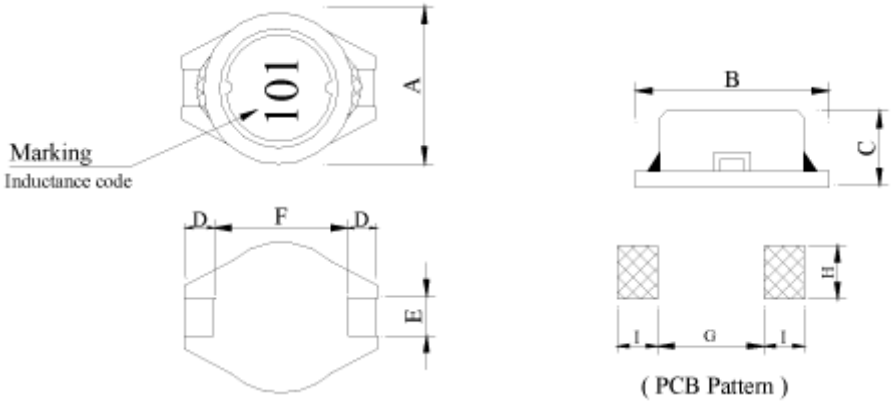
1. Configuration & Dimensions

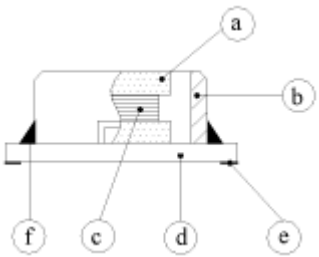


Series	Dimensions [mm]								
	A	B	C	D	E	F	G(ref.)	H(ref.)	I(ref.)
PS0804	8.0±0.3	10.5±0.3	3.7±0.3	2.1±0.2	2.0±0.2	6.0±0.3	5.7	2.2	2.4
PS0805	8.0±0.3	10.5±0.3	4.5±0.3	2.1±0.2	2.0±0.2	6.0±0.3	5.7	2.2	2.4
PS1003	10.1±0.3	12.7±0.3	2.7±0.3	2.4±0.2	2.5±0.2	7.6±0.3	7.3	2.8	3.0
PS3316	10.0±0.3	12.7±0.3	4.9±0.3	2.4±0.2	2.5±0.2	7.6±0.3	7.3	2.8	3.0
PS5022	14.0±0.5	18.2±0.2	6.8±0.3	2.5±0.2	2.6±0.2	13.0±0.3	12.7	2.9	3.2

2. Schematic Diagram

3. Materials

a.- Core : Ferrite DR core
b.- Core : Ferrite RI core
c.- Wire : Enamelled copper wire (class F)
d.- Base : LCP E4008
e.- Terminal : Cu / Ni / Sn
f.- Adhesive : Epoxy resin
g.- Remark : Lead content 200ppm max. include ferrite



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SMD Power Inductors Shielded

RoHS COMPLIANT 2002/95/EC

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4. General Specification

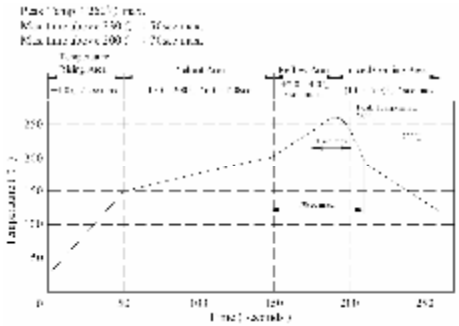
a.- Temp. rise : 40°C max.

b.- Rated current : Base on temp. rise & ΔL/L0A = 10% max.

c.- Storage temp. { -40°C ~ +125°C (PS0804...PS3316) / -45°C ~ +125°C (PS5022) }

d.- Operating temp. : -40°C ~ +105°C

e.- Resistance to solder heat : 260°C. 10 secs



5. Electrical Characteristics

PS0804 (5µH – 470µH)

DWG No.	Inductance (mH)	Q ref.	Test Freq.		SRF (MHz) nom.	RDC (W) max.	IDC (A) max.
			L (KHz)	Q (MHz)			
PS0804 – 5R0M	5.0±20%	20	1	7.96	45.0	0.080	1.70
PS0804 – 7R5M	7.5±20%	20	1	7.96	40.0	0.100	1.40
PS0804 – 100M	10.0±20%	38	1	2.52	32.0	0.120	1.20
PS0804 – 120M	12.0±20%	38	1	2.52	28.0	0.150	1.10
PS0804 – 150L	15.0±15%	38	1	2.52	25.0	0.170	1.00
PS0804 – 180L	18.0±15%	35	1	2.52	23.0	0.190	0.90
PS0804 – 220L	22.0±15%	30	1	2.52	22.0	0.250	0.80
PS0804 – 270L	27.0±15%	28	1	2.52	18.0	0.270	0.70
PS0804 – 330L	33.0±15%	26	1	2.52	17.0	0.300	0.65
PS0804 – 390L	39.0±15%	26	1	2.52	16.0	0.380	0.60
PS0804 – 470K	47.0±10%	24	1	2.52	14.0	0.460	0.55
PS0804 – 560K	56.0±10%	24	1	2.52	12.0	0.600	0.50
PS0804 – 680K	68.0±10%	22	1	2.52	11.0	0.700	0.45
PS0804 – 820K	82.0±10%	20	1	2.52	10.0	0.800	0.40
PS0804 – 101K	100.0±10%	50	1	0.796	9.0	0.950	0.37
PS0804 – 121K	120.0±10%	50	1	0.796	8.5	1.000	0.35
PS0804 – 151K	150.0±10%	53	1	0.796	7.0	1.300	0.30
PS0804 – 181K	180.0±10%	53	1	0.796	6.0	1.450	0.28
PS0804 – 221K	220.0±10%	55	1	0.796	5.5	1.900	0.24
PS0804 – 271K	270.0±10%	50	1	0.796	5.5	2.150	0.22
PS0804 – 331K	330.0±10%	60	1	0.796	5.0	2.800	0.19
PS0804 – 391K	390.0±10%	55	1	0.796	4.5	3.300	0.17
PS0804 – 471K	470.0±10%	50	1	0.796	4.0	3.600	0.16

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PS0805 (2.2µH – 1000µH)

DWG No.	Inductance (mH)	Q ref.	Test Freq.		SRF (MHz) nom.	RDC (W) max.	IDC (A) max.
			L (KHz)	Q (MHz)			
PS0805 – 2R2M	2.2±20%	18	1	7.96	75.00	0.040	2.50
PS0805 – 3R9M	3.9±20%	20	1	7.96	50.00	0.055	2.10
PS0805 – 5R6M	5.6±20%	20	1	7.96	40.00	0.065	1.95
PS0805 – 8R2M	8.2±20%	19	1	7.96	32.00	0.080	1.75
PS0805 – 100M	10.0±20%	40	1	2.52	28.00	0.100	1.50
PS0805 – 120M	12.0±20%	40	1	2.52	24.00	0.120	1.40
PS0805 – 150M	15.0±20%	40	1	2.52	22.00	0.140	1.30
PS0805 – 180L	18.0±15%	40	1	2.52	19.00	0.160	1.20
PS0805 – 220L	22.0±15%	38	1	2.52	17.00	0.180	1.00
PS0805 – 270L	27.0±15%	35	1	2.52	15.50	0.200	1.10
PS0805 – 330L	33.0±15%	40	1	2.52	13.50	0.240	0.92
PS0805 – 390L	39.0±15%	35	1	2.52	12.00	0.260	0.84
PS0805 – 470L	47.0±15%	32	1	2.52	10.50	0.280	0.75
PS0805 – 560K	56.0±10%	30	1	2.52	9.50	0.380	0.68
PS0805 – 680K	68.0±10%	28	1	2.52	9.00	0.440	0.60
PS0805 – 820K	82.0±10%	28	1	2.52	8.50	0.550	0.54
PS0805 – 101K	100.0±10%	45	1	0.796	7.50	0.600	0.50
PS0805 – 121K	120.0±10%	42	1	0.796	7.00	0.750	0.45
PS0805 – 151K	150.0±10%	39	1	0.796	6.50	0.900	0.40
PS0805 – 181K	180.0±10%	41	1	0.796	4.80	1.050	0.35
PS0805 – 221K	220.0±10%	38	1	0.796	4.50	1.180	0.30
PS0805 – 271K	270.0±10%	37	1	0.796	4.20	1.400	0.27
PS0805 – 331K	330.0±10%	36	1	0.796	3.80	1.800	0.24
PS0805 – 471K	470.0±10%	34	1	0.796	3.50	2.250	0.20
PS0805 – 561K	560.0±10%	32	1	0.796	3.00	3.000	0.18
PS0805 – 681K	680.0±10%	32	1	0.796	2.80	3.400	0.17
PS0805 – 821K	820.0±10%	35	1	0.796	2.50	4.000	0.16
PS0805 – 102K	1000.0±10%	35	1	0.252	2.20	5.000	0.15

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PS1003 (1.8µH – 470µH)

DWG No.	Inductance (mH)	Q ref.	Test Freq.		RDC (W) max.	Irms (A) ΔT=40°C max.	Isat (A) ΔL/L0A=10% max.
			L (KHz)	Q (MHz)			
PS1003 – 1R8M	1.8±20%	10	1	7.96	0.038	3.00	3.60
PS1003 – 2R2M	2.2±20%	11	1	7.96	0.045	2.76	3.40
PS1003 – 3R0M	3.0±20%	11	1	7.96	0.062	2.20	2.60
PS1003 – 3R9M	3.9±20%	10	1	7.96	0.070	2.10	2.40
PS1003 – 4R7M	4.7±20%	10	1	7.96	0.078	1.90	2.30
PS1003 – 7R5M	7.5±20%	10	1	7.96	0.100	1.44	1.70
PS1003 – 100M	10.0±20%	18	1	2.52	0.145	1.24	1.50
PS1003 – 120M	12.0±20%	20	1	2.52	0.185	1.10	1.30
PS1003 – 150M	15.0±20%	20	1	2.52	0.200	1.02	1.20
PS1003 – 180M	18.0±20%	20	1	2.52	0.270	0.90	1.10
PS1003 – 220M	22.0±20%	17	1	2.52	0.300	0.80	1.00
PS1003 – 270M	27.0±20%	17	1	2.52	0.400	0.75	0.90
PS1003 – 330M	33.0±20%	17	1	2.52	0.450	0.70	0.85
PS1003 – 390M	39.0±20%	18	1	2.52	0.560	0.65	0.80
PS1003 – 470M	47.0±20%	18	1	2.52	0.650	0.60	0.72
PS1003 – 560M	56.0±20%	15	1	2.52	0.680	0.52	0.65
PS1003 – 680M	68.0±20%	15	1	2.52	0.800	0.48	0.58
PS1003 – 820M	82.0±20%	20	1	2.52	1.200	0.42	0.52
PS1003 – 101M	100.0±20%	23	1	0.796	1.400	0.40	0.48
PS1003 – 121M	120.0±20%	22	1	0.796	1.520	0.35	0.44
PS1003 – 151M	150.0±20%	23	1	0.796	1.800	0.32	0.40
PS1003 – 181M	180.0±20%	20	1	0.796	2.200	0.28	0.35
PS1003 – 221M	220.0±20%	20	1	0.796	2.200	0.26	0.32
PS1003 – 271L	270.0±15%	26	1	0.796	3.100	0.22	0.28
PS1003 – 331L	330.0±15%	26	1	0.796	3.600	0.20	0.26
PS1003 – 391L	390.0±15%	28	1	0.796	4.600	0.18	0.22
PS1003 – 471L	470.0±15%	28	1	0.796	5.100	0.16	0.20

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PS3316=PS1005 (1µH – 3300µH)

DWG No.	Inductance (mH)	Q ref.	Test Freq.		SRF (MHz) nom.	RDC (W) max.	IDC (A) max.
			L (KHz)	Q (MHz)			
PS3316 – 1R0M	1.0±20%	25	1	7.96	120.0	0.017	4.50
PS3316 – 1R5M	1.5±20%	25	1	7.96	100.0	0.020	3.60
PS3316 – 2R2M	2.2±20%	25	1	7.96	90.0	0.027	3.10
PS3316 – 3R0M	3.0±20%	25	1	7.96	80.0	0.030	2.90
PS3316 – 4R7M	4.7±20%	25	1	7.96	50.0	0.040	2.50
PS3316 – 7R0M	7.0±20%	22	1	7.96	32.0	0.055	2.20
PS3316 – 100M	10.0±20%	48	1	2.52	30.0	0.065	2.00
PS3316 – 120M	12.0±20%	45	1	2.52	25.0	0.080	1.80
PS3316 – 150M	15.0±20%	40	1	2.52	20.0	0.085	1.70
PS3316 – 180L	18.0±15%	35	1	2.52	19.0	0.090	1.60
PS3316 – 220L	22.0±15%	42	1	2.52	18.0	0.100	1.40
PS3316 – 270L	27.0±15%	40	1	2.52	17.0	0.120	1.30
PS3316 – 330L	33.0±15%	40	1	2.52	15.0	0.160	1.20
PS3316 – 390L	39.0±15%	40	1	2.52	13.0	0.180	1.05
PS3316 – 470L	47.0±15%	35	1	2.52	12.0	0.190	1.00
PS3316 – 560L	56.0±15%	35	1	2.52	11.0	0.210	0.90
PS3316 – 680L	68.0±15%	35	1	2.52	9.0	0.340	0.82
PS3316 – 820L	82.0±15%	35	1	2.52	8.0	0.380	0.75
PS3316 – 101K	100.0±10%	35	1	0.796	7.5	0.420	0.68
PS3316 – 121K	120.0±10%	30	1	0.796	7.2	0.460	0.60
PS3316 – 151K	150.0±10%	28	1	0.796	6.2	0.520	0.55
PS3316 – 181K	180.0±10%	28	1	0.796	5.8	0.700	0.50
PS3316 – 221K	220.0±10%	30	1	0.796	5.2	0.800	0.45
PS3316 – 271K	270.0±10%	30	1	0.796	4.8	1.100	0.40
PS3316 – 331K	330.0±10%	30	1	0.796	4.5	1.200	0.35
PS3316 – 391K	390.0±10%	25	1	0.796	4.2	1.400	0.33
PS3316 – 471K	470.0±10%	40	1	0.796	3.0	1.600	0.30
PS3316 – 561K	560.0±10%	40	1	0.796	2.7	1.800	0.28
PS3316 – 681K	680.0±10%	37	1	0.796	2.6	2.300	0.26
PS3316 – 821K	820.0±10%	37	1	0.796	2.5	2.600	0.24
PS3316 – 102K	1000.0±10%	65	1	0.252	2.0	3.200	0.22
PS3316 – 122K	1200.0±10%	58	1	0.252	2.0	3.600	0.20
PS3316 – 152K	1500.0±10%	53	1	0.252	1.6	5.200	0.17
PS3316 – 182K	1800.0±10%	65	1	0.252	1.4	5.700	0.16
PS3316 – 222K	2200.0±10%	55	1	0.252	1.4	6.500	0.14
PS3316 – 272K	2700.0±10%	55	1	0.252	1.2	8.600	0.12

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PS3316 – 332K	3300.0±10%	50	1	0.252	1.2	10.000	0.10

PS5022 (10µH – 1000µH)

DWG No.	Inductance (mH)	Q ref.	Test Freq.		SRF (MHz) typ.	RDC (Ω) max.	Irms (A) ΔT=40ºC typ.	Isat (A) ΔL/L0A=10% typ.
			L (KHz)	Q (MHz)				
PS5022 – 100M	10.0±20%	56	100	2.52	19.0	0.040	4.00	8.20
PS5022 – 150M	15.0±20%	53	100	2.52	17.5	0.052	3.60	7.20
PS5022 – 220M	22.0±20%	51	100	2.52	16.0	0.070	3.00	6.20
PS5022 – 330M	33.0±20%	44	100	2.52	10.0	0.100	2.50	5.00
PS5022 – 470M	47.0±20%	40	100	2.52	8.0	0.130	2.00	4.20
PS5022 – 680M	68.0±20%	37	100	2.52	6.0	0.200	1.60	3.40
PS5022 – 101M	100.0±20%	40	100	0.796	4.6	0.320	1.30	2.60
PS5022 – 151M	150.0±20%	39	100	0.796	4.3	0.500	1.05	2.30
PS5022 – 221M	220.0±20%	29	100	0.796	3.5	0.600	1.00	1.90
PS5022 – 331M	330.0±20%	30	100	0.796	3.0	0.920	0.80	1.40
PS5022 – 471M	470.0±20%	27	100	0.796	2.4	1.150	0.64	1.30
PS5022 – 681M	680.0±20%	19	100	0.796	2.1	1.700	0.54	1.10
PS5022 – 102M	1000.0±20%	46	100	0.252	1.5	2.450	0.45	0.90

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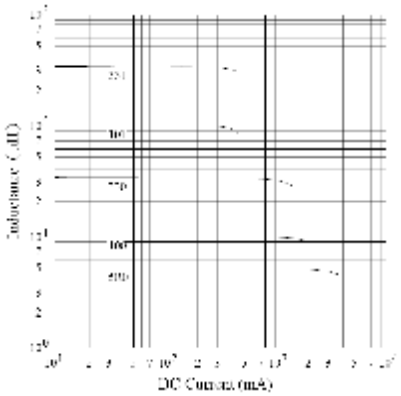
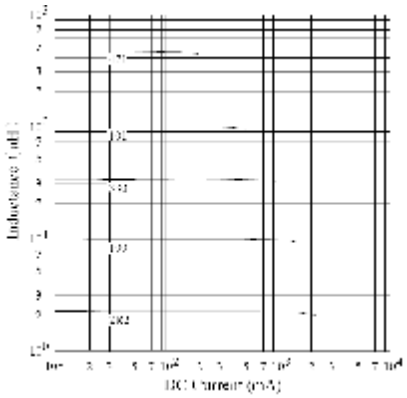
6. Curve

Inductance VS. DC Current Curve

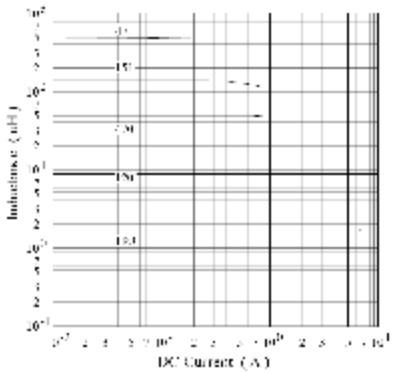
PS0804



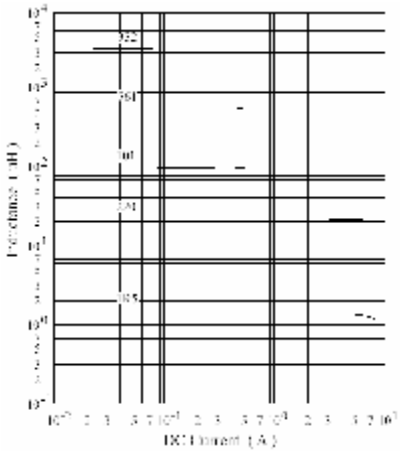
PS0805



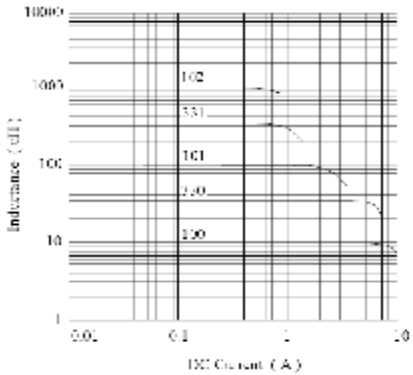
PS1003



PS3316 = PS1005



PS5022



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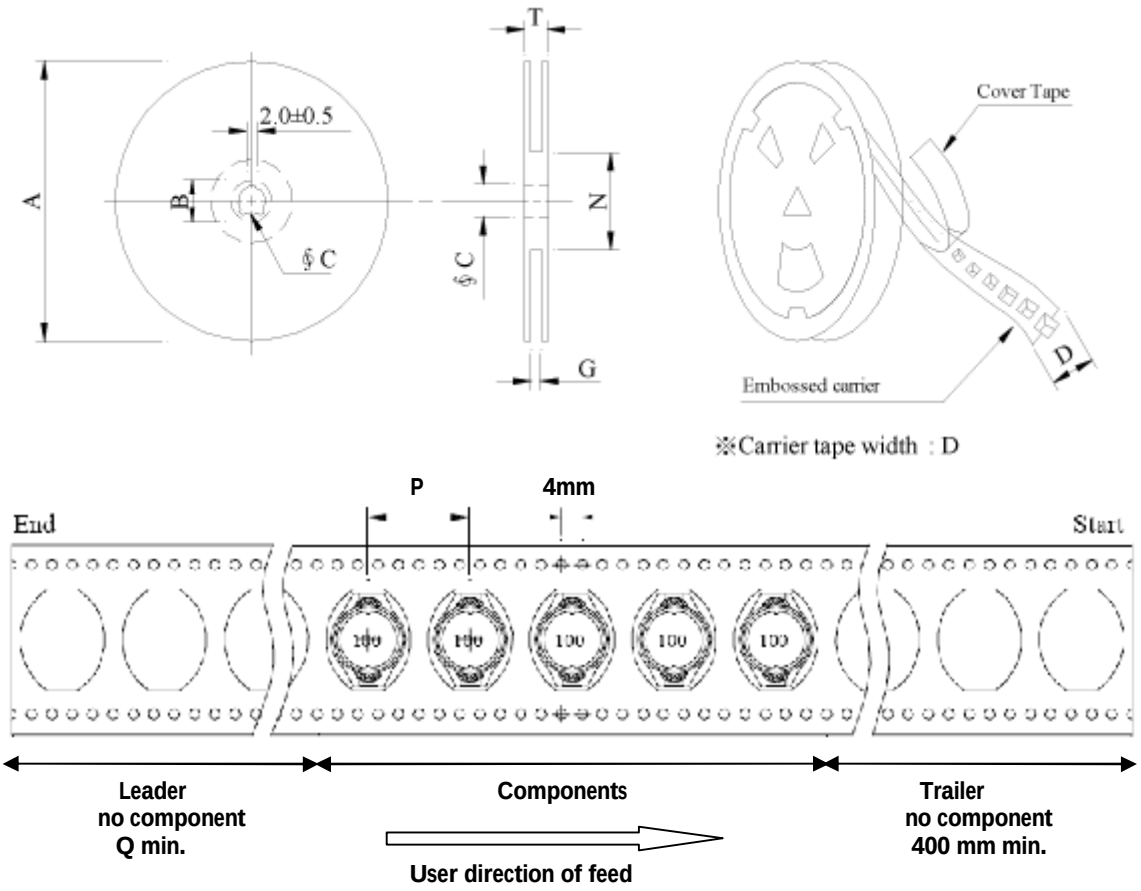
7. Packaging Information



(PS0804, PS0805 à P = 12mm) (PS1003, PS3316 à P = 16mm) (PS5022 à P = 20mm)
(PS0804, PS0805, PS1003, PS3316 à Q = 200mm) (PS5022 à Q = 160mm)

PS0804 & PS0805

Style	Dimensions [mm]						
	A	B	C	D	G	N	T
13 – 16	330	21±0.8	13	16	18^{+0}	50^{-0}	22.4

PS1003 & PS3316=PS1005

Style	Dimensions [mm]						
	A	B	C	D	G	N	T
13 – 24	330	21±0.8	13	24	26^{+0}	50^{-0}	30.4

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PS5022

Style	Dimensions [mm]						
	A	B	C	D	G	N	T
13 – 32	330	21±0.8	13±0.5	32	26^{+0}	50^{-0}	38.4

Series	Inner : Reel			Outer : Carton		
	Q'TY(pcs)	G.W.(gw)	Style	Q'TY(pcs)	G.W.(Kg)	Size(cm)
PS0804	1,000	1,100	13 – 16	6,000	7.5	40 x 40 x 24
PS0805	1,000	1,100	13 – 16	6,000	8.0	40 x 40 x 24
PS1003	1,000	1,000	13 – 24	4,000	6.2	40 x 40 x 24
PS3316	600	1,100	13 – 24	2,400	6.6	40 x 40 x 24
PS5022	250	1,250	13 – 32	1,000	6.8	40 x 40 x 24

8. Labelling

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9. Reliability Test

Test item	Specification	Test condition
Solderability	More than 90% of the terminal electrode shall be covered with fresh solder	Preheat : 150±25% for 60 seconds Solder : Sn96.5 / Ag3 / Cu0.5 or equivalent Solder temp. : 235±5°C (PS0804,PS0805,PS1003,PS3316) 260±5°C (PS5022) Flux : Rosin Dip time : 4±1 seconds
Thermal shock test (Temp. cycle)	Inductance shall not change more than ±20%	Room temp. 15 minutes → -25±2°C 30 minutes Room temp. 15 minutes → 85±2°C 30 minutes Total : 50 cycles
Humidity Resistance test		Temperature : 40±2°C Humidity : 90 ~ 95% Applied current : Per specifications Time : 500 hours
High temp. Resistance test		Temperature : 105±2°C Applied current : Per specifications Time : 500 hours

10. Edition Control

Edition	Date	Change description	Made by
1st	31/08/06	Update Specification	Pablo Pozo