

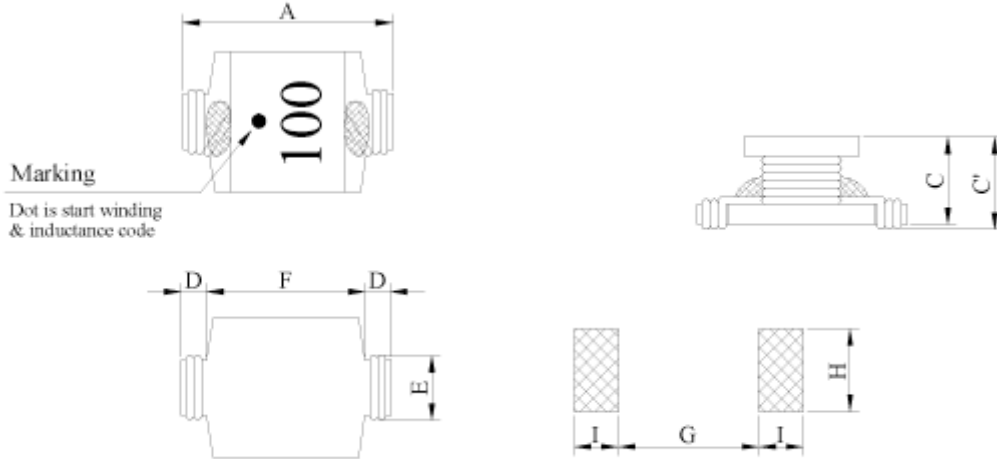
PSQ0703 & PSQ0805

SMD Power Inductors Unshielded



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1. Configuration & Dimensions



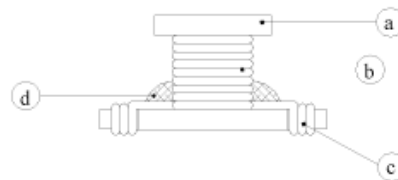
Series	Dimensions [mm]									
	A	B	C	C'	D(ref.)	E(ref.)	F(ref.)	G(ref.)	H(ref.)	I(ref.)
PSQ0703	6.50±0.3	4.50±0.2	2.50±0.2	2.70±0.3	0.80	2.40	4.90	4.00	3.20	1.50
PSQ0805	8.80±0.3	6.00±0.3	4.50±0.3	5.00±0.7	1.40	3.40	6.00	5.00	4.00	2.00

2. Schematic Diagram



3. Materials

- a.- Core : Ferrite DQ core
- b.- Wire : Enamelled copper wire (class F)
- c.- Terminal : Cu / Sn
- d.- Adhesive : Epoxy resin
- e.- Remark : Lead content 200ppm max. include ferrite



4. General Specification

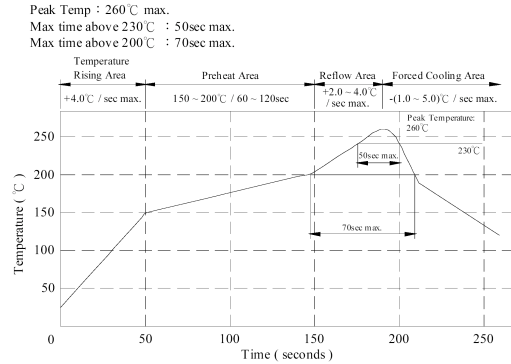
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- a.- Temp. rise { 20°C max. (PSQ0703)
40°C max. (PSQ0805)
- b.- Rated current { Current cause inductance drop within 10%
Base on temp. rise & $\Delta L/L0A = 30\%$ typ.
- c.- Storage temp. : -40°C ~ +125°C
- d.- Operating temp. : -40°C ~ +105°C
- e.- Resistance to solder heat : 260°C. 10 secs



5. Electrical Characteristics

PSQ0703 (1μH – 1000μH)

DWG No.	Inductance (μH)	Q ref.	Test Freq.		SRF (MHz) nom.	RDC (Ω) max.	Irms1 (mA) ΔT=20°C max.	Irms2 (mA) ΔT=40°C max.
			L (KHz)	Q (MHz)				
PSQ0703 – 1R0M	1.0±20%	25	100	7.96	160.0	0.042	2200	3200
PSQ0703 – 1R2M	1.2±20%	25	100	7.96	145.0	0.047	2000	3000
PSQ0703 – 1R8M	1.8±20%	25	100	7.96	105.0	0.052	1900	2700
PSQ0703 – 2R2M	2.2±20%	24	100	7.96	95.0	0.060	1800	2600
PSQ0703 – 2R7M	2.7±20%	23	100	7.96	80.0	0.065	1700	2500
PSQ0703 – 3R3M	3.3±20%	23	100	7.96	65.0	0.075	1650	2350
PSQ0703 – 3R9M	3.9±20%	22	100	7.96	70.0	0.080	1580	2250
PSQ0703 – 4R7M	4.7±20%	20	100	7.96	60.0	0.100	1500	2100
PSQ0703 – 5R6M	5.6±20%	20	100	7.96	56.0	0.105	1400	2000
PSQ0703 – 6R8M	6.8±20%	20	100	7.96	45.0	0.115	1300	1900
PSQ0703 – 8R2M	8.2±20%	20	100	7.96	40.0	0.150	1100	1500
PSQ0703 – 100K	10.0±10%	23	100	2.52	36.0	0.170	1000	1400
PSQ0703 – 120K	12.0±10%	20	100	2.52	36.0	0.180	900	1300
PSQ0703 – 150K	15.0±10%	23	100	2.52	30.0	0.240	750	1120
PSQ0703 – 180K	18.0±10%	20	100	2.52	30.0	0.280	700	1050
PSQ0703 – 220K	22.0±10%	20	100	2.52	26.0	0.300	650	950
PSQ0703 – 270K	27.0±10%	20	100	2.52	20.0	0.400	600	880
PSQ0703 – 330K	33.0±10%	17	100	2.52	20.0	0.450	560	820
PSQ0703 – 390K	39.0±10%	18	100	2.52	18.0	0.550	500	730
PSQ0703 – 470K	47.0±10%	20	100	2.52	15.0	0.720	400	640
PSQ0703 – 560K	56.0±10%	20	100	2.52	13.0	0.800	390	600
PSQ0703 – 680K	68.0±10%	18	100	2.52	13.0	0.900	380	560
PSQ0703 – 820K	82.0±10%	18	100	2.52	12.0	1.180	330	470
PSQ0703 – 101K	100.0±10%	33	100	0.796	11.0	1.560	270	400
PSQ0703 – 121K	120.0±10%	32	100	0.796	10.0	1.750	260	365

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PSQ0703 - 151K	150.0±10%	30	100	0.796	9.0	2.000	250	340
PSQ0703 - 181K	180.0±10%	33	100	0.796	7.0	2.700	190	300
PSQ0703 - 221K	220.0±10%	31	100	0.796	7.0	3.000	180	280
PSQ0703 - 271K	270.0±10%	30	100	0.796	7.0	3.600	170	250
PSQ0703 - 331K	330.0±10%	33	100	0.796	6.0	4.800	160	220
PSQ0703 - 391K	390.0±10%	36	100	0.796	5.5	6.200	140	190
PSQ0703 - 471K	470.0±10%	33	100	0.796	5.0	7.000	130	180
PSQ0703 - 561K	560.0±10%	36	100	0.252	4.2	9.200	110	155
PSQ0703 - 681K	680.0±10%	32	100	0.796	4.0	10.500	100	145
PSQ0703 - 821K	820.0±10%	32	100	0.796	3.6	12.000	90	135
PSQ0703 - 102K	1000±10%	30	100	0.252	3.2	14.200	80	125

PSQ0805 (0.56µH - 47µH)

DWG No.	Inductance (µH)	SRF (MHz) nom.	RDC (mΩ) max.	I _{rms} (A) ΔT=40°C max.	I _{sat} (A) typ.
PSQ0805 - R56M	0.56±20%	200.0	4.50	9.00	12.0
PSQ0805 - 1R2M	1.20±20%	100.0	8.20	6.00	8.80
PSQ0805 - 2R2M	2.20±20%	75.0	16.00	4.50	6.50
PSQ0805 - 4R7M	4.70±20%	35.0	35.00	3.00	4.20
PSQ0805 - 100M	10.00±20%	26.0	60.00	2.40	3.00
PSQ0805 - 150M	15.00±20%	19.0	90.00	2.00	2.40
PSQ0805 - 220M	22.00±20%	15.0	160.00	1.60	2.00
PSQ0805 - 330M	33.00±20%	10.0	185.00	1.20	1.60
PSQ0805 - 470M	47.00±20%	8.0	260.00	1.00	1.30

[Inductance tested at: 0.1V (PSQ0703), 0.25V (PSQ0805)] [I_{sat} base on ΔL/L0A = 30% (PSQ0805)]

6. Curve

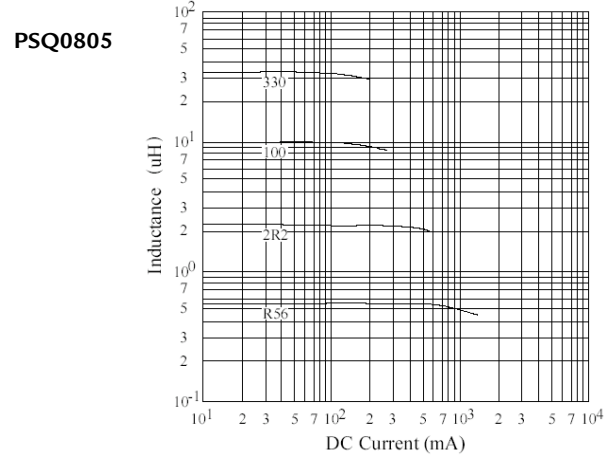
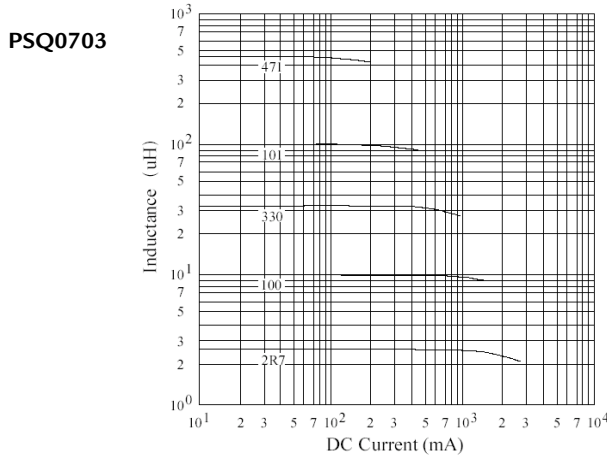
Inductance VS. DC Current Curve

PSQ0703 & PSQ0805

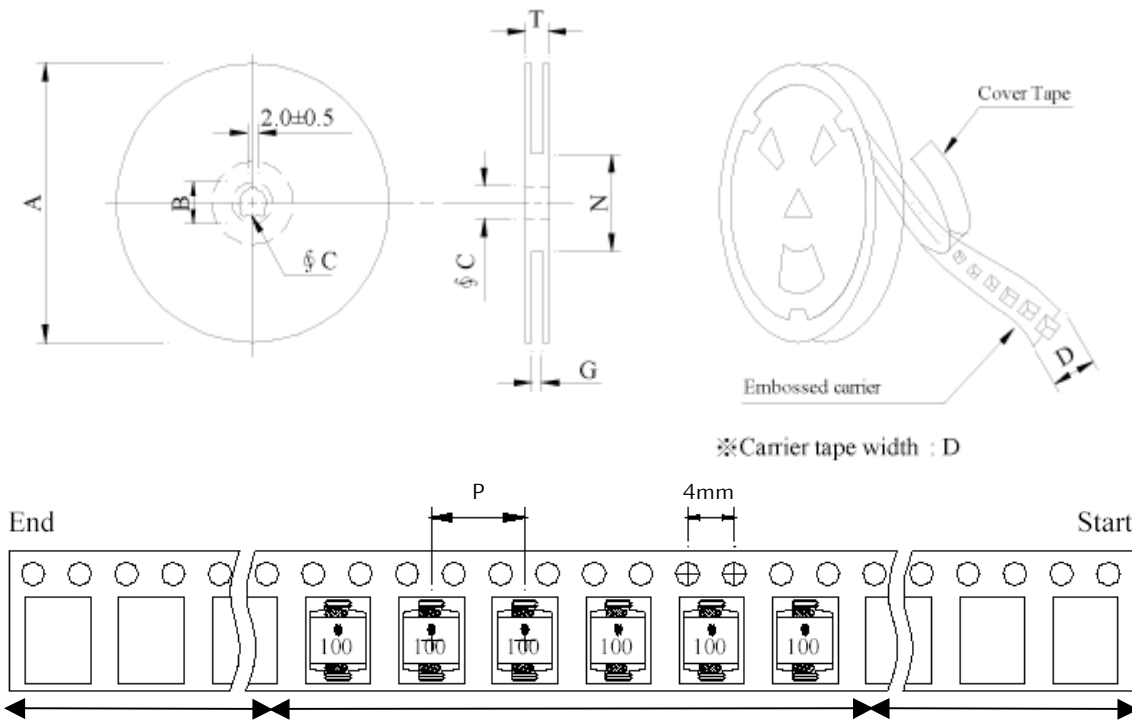
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7. Packaging Information



PSQ0703 & PSQ0805

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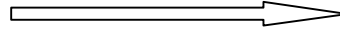


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Leader
no component
160 mm min.

Components

Trailer
no component
400 mm min.



User direction of feed

(PSQ0703 → P = 8mm) (PSQ0805 → P = 12mm)

PSQ0703

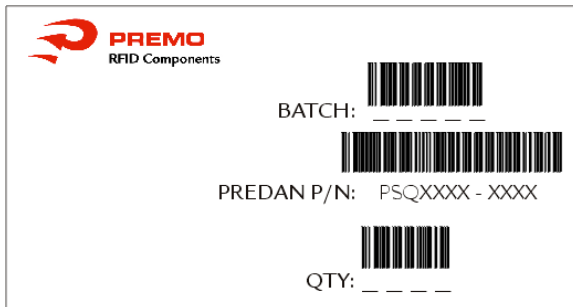
Style	Dimensions [mm]						
	A	B	C	D	G	N	T
07 - 12	178	21±0.8	13±0.5	12	14 ⁺⁰	50 ⁻⁰	18.4
13 - 12	330	21±0.8	13±0.5	12	14 ⁺⁰	50 ⁻⁰	18.4

PSQ0805

Style	Dimensions [mm]						
	A	B	C	D	G	N	T
13 - 16	330	21±0.8	13±0.5	16	18 ⁺⁰	50 ⁻⁰	22.4

Series	Inner : Reel			Outer : Carton		
	Q'TY(pcs)	G.W.(gw)	Style	Q'TY(pcs)	G.W.(Kg)	Size(cm)
PSQ0703	500	350	07 - 12	20,000	10.5	42 x 41 x 24
PSQ0703	2,000	1,300	13 - 12	16,000	13.0	40 x 40 x 24
PSQ0805	1,000	1,000	13 - 16	6,000	7.5	40 x 40 x 24

8. Labelling



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 Flux : Rosin Dip time : 4±1 seconds

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Thermal shock test (Temp. cycle)	Inductance shall not change more than $\pm 10\%$	$\frac{\text{Room temp.}}{15 \text{ minutes}} \longrightarrow \frac{-25 \pm 2^{\circ}\text{C}}{30 \text{ minutes}}$ $\frac{\text{Room temp.}}{15 \text{ minutes}} \longrightarrow \frac{85 \pm 2^{\circ}\text{C}}{30 \text{ minutes}}$ Total : 50 cycles
Humidity Resistance test		Temperature : $40 \pm 2^{\circ}\text{C}$ Humidity : 90 ~ 95% Applied current : Per specifications Time : 500 hours
High temp. Resistance test		Temperature : $105 \pm 2^{\circ}\text{C}$ Applied current : Per specifications Time : 500 hours

10. Edition Control

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