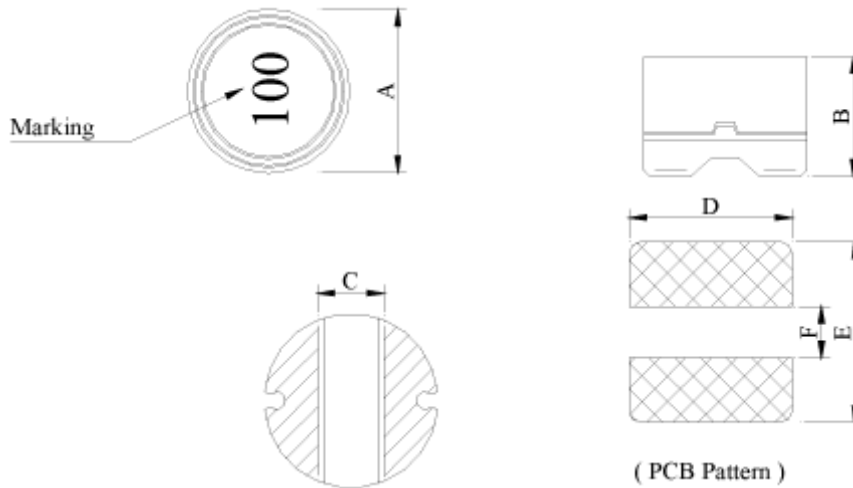


C/Severo Ochoa 33 - Parque Tecnológico de Andalucía. 29590 Campanillas .Málaga (Spain) Phone +34 951 231 320 Fax +34 951 231 321
E-mail: mar.villarrubia@grupopremo.com Web <http://www.grupopremo.com>

1. Configuration & Dimensions

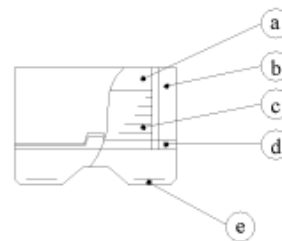


2. Schematic Diagram



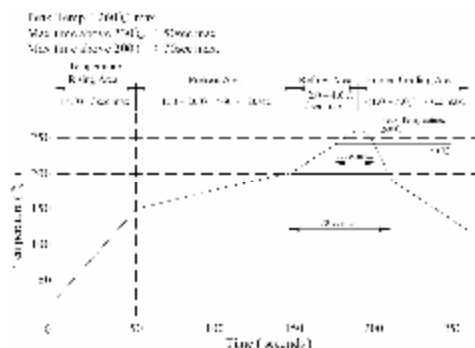
3. Materials

- a.- Core : Ferrite DR Core
- b.- Core : Ferrite RI Core
- c.- Wire : Enamelled copper wire (class F)
- d.- Plastic : GAP Spacer
- e.- Terminal : Ag / Ni / Sn
- f.- Remark : Lead content 200ppm max. include ferrite



4. General Specification

- a.- Temp. rise : 40°C typ.
- b.- Rated current : Base on temp. rise
& $\Delta L/LOA = \begin{cases} 25\% \text{ typ. (PS1004)} \\ 10\% \text{ typ. (PS1307)} \end{cases}$
- c.- Storage temp. : -40°C ~ +125°C
- d.- Operating temp. : -40°C ~ +105°C
- e.- Resistance to solder heat : 260°C. 10 secs



PS1004 & PS1307 SMD Power Inductors Shielded



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5. Electrical Characteristics

PS1004 (10µH - 1500µH)

| DWG No. | Inductance (mH) | Q ref. | Test Freq. | | SRF (MHz) typ. | RDC (W) max. | I _{rms} (A) typ. | I _{sat} (A) typ. |
|---------------|-----------------|--------|------------|---------|----------------|--------------|---------------------------|---------------------------|
| | | | L (KHz) | Q (MHz) | | | | |
| PS1004 - 100M | 10±20% | 26 | 100 | 2.52 | 30.0 | 0.035 | 3.50 | 3.00 |
| PS1004 - 150M | 15±20% | 35 | 100 | 2.52 | 26.0 | 0.058 | 2.70 | 2.40 |
| PS1004 - 220M | 22±20% | 30 | 100 | 2.52 | 20.0 | 0.065 | 2.50 | 2.10 |
| PS1004 - 330M | 33±20% | 30 | 100 | 2.52 | 15.0 | 0.095 | 2.00 | 1.60 |
| PS1004 - 470L | 47±15% | 28 | 100 | 2.52 | 12.0 | 0.132 | 1.80 | 1.40 |
| PS1004 - 680L | 68±15% | 26 | 100 | 2.52 | 10.9 | 0.180 | 1.50 | 1.20 |
| PS1004 - 101L | 100±15% | 28 | 100 | 0.796 | 9.0 | 0.270 | 1.10 | 1.00 |
| PS1004 - 151L | 150±15% | 32 | 100 | 0.796 | 6.5 | 0.420 | 0.90 | 0.78 |
| PS1004 - 221L | 220±15% | 33 | 100 | 0.796 | 5.5 | 0.590 | 0.72 | 0.65 |
| PS1004 - 331L | 330±15% | 25 | 100 | 0.796 | 4.8 | 0.800 | 0.60 | 0.54 |
| PS1004 - 471K | 470±10% | 24 | 100 | 0.796 | 3.6 | 1.200 | 0.50 | 0.47 |
| PS1004 - 681K | 680±10% | 30 | 100 | 0.796 | 2.7 | 1.680 | 0.42 | 0.38 |
| PS1004 - 102K | 1000±10% | 65 | 100 | 0.252 | 2.1 | 2.650 | 0.35 | 0.32 |
| PS1004 - 152K | 1500±10% | 75 | 100 | 0.252 | 1.8 | 4.000 | 0.26 | 0.22 |

PS1307 (10µH - 1000µH)

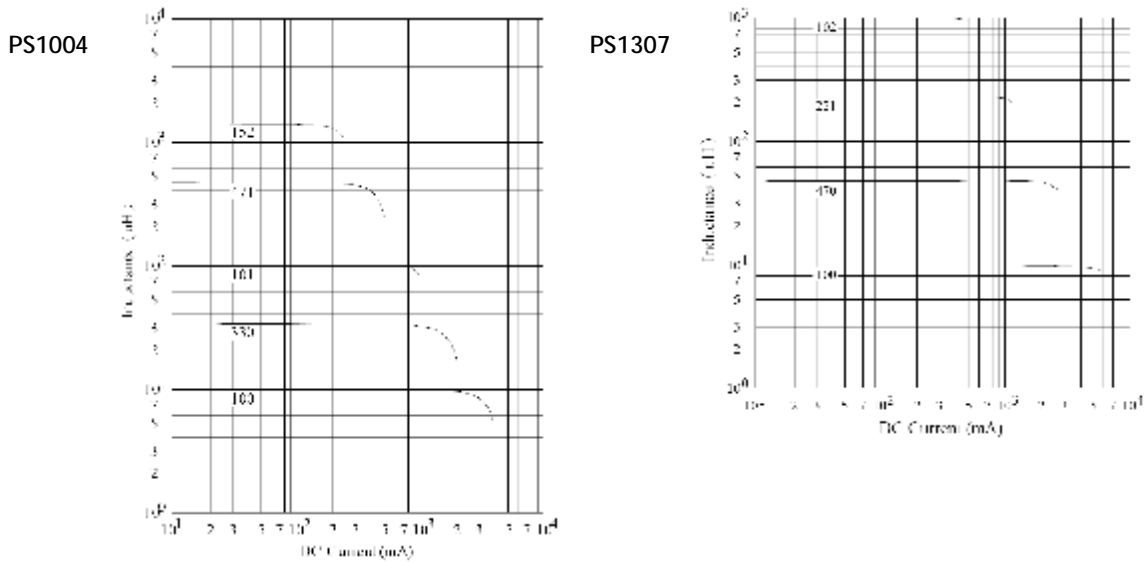
| DWG No. | Inductance (mH) | Q ref. | Test Freq. | | SRF (MHz) nom. | RDC (W) max. | I _{rms} (A) typ. | I _{sat} (A) typ. |
|---------------|-----------------|--------|------------|---------|----------------|--------------|---------------------------|---------------------------|
| | | | L (KHz) | Q (MHz) | | | | |
| PS1307 - 100M | 10±20% | 46 | 100 | 2.52 | 15.0 | 0.04 | 4.60 | 6.50 |
| PS1307 - 150M | 15±20% | 45 | 100 | 2.52 | 14.0 | 0.05 | 4.00 | 5.60 |
| PS1307 - 220M | 22±20% | 42 | 100 | 2.52 | 13.0 | 0.06 | 3.50 | 4.50 |
| PS1307 - 330M | 33±20% | 50 | 100 | 2.52 | 12.0 | 0.08 | 2.80 | 3.70 |
| PS1307 - 470M | 47±20% | 50 | 100 | 2.52 | 10.0 | 0.12 | 2.40 | 3.20 |
| PS1307 - 680M | 68±20% | 48 | 100 | 2.52 | 8.0 | 0.16 | 2.00 | 2.70 |
| PS1307 - 101M | 100±20% | 48 | 100 | 0.796 | 6.0 | 0.21 | 1.60 | 2.00 |
| PS1307 - 151M | 150±20% | 42 | 100 | 0.796 | 5.0 | 0.30 | 1.30 | 1.70 |
| PS1307 - 221M | 220±20% | 38 | 100 | 0.796 | 4.0 | 0.50 | 1.10 | 1.50 |
| PS1307 - 331M | 330±20% | 38 | 100 | 0.796 | 3.0 | 0.75 | 0.80 | 1.20 |
| PS1307 - 471M | 470±20% | 36 | 100 | 0.796 | 2.5 | 1.10 | 0.72 | 0.95 |
| PS1307 - 681M | 680±20% | 36 | 100 | 0.796 | 2.0 | 1.45 | 0.60 | 0.85 |
| PS1307 - 102M | 1000±20% | 32 | 100 | 0.252 | 1.5 | 2.10 | 0.50 | 0.70 |

[Inductance tested at 0.1V] [I_{rms} base on temp. rise 40°C] [I_{sat} base on ΔL/L0A = 25%(PS1004), 10%(PS1307)]

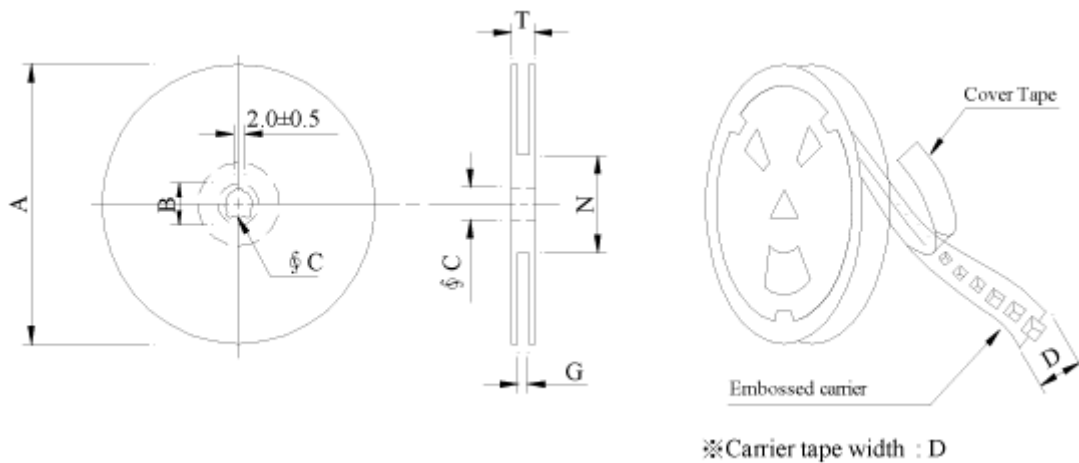
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6. Curve

Inductance VS. DC Current Curve



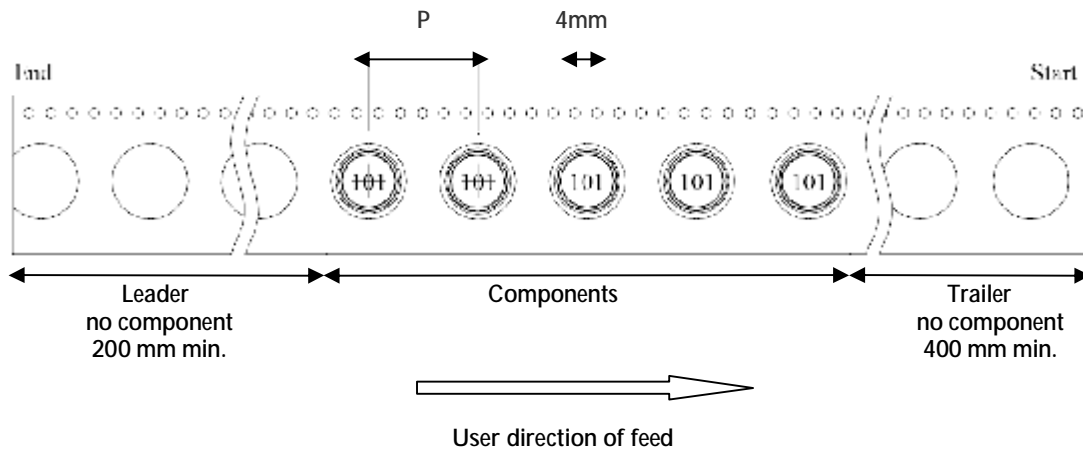
7. Packaging Information



PS1004 & PS1307 SMD Power Inductors Shielded



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(PS1004 à P = 16mm) (PS1307 à P = 20mm)

| Style | Dimensions [mm] | | | | | | |
|---------|-----------------|--------|--------|----|------------------|-----------------|------|
| | A | B | C | D | G | N | T |
| 13 - 24 | 330 | 21±0.8 | 13±0.5 | 24 | 26 ⁺⁰ | 50 ⁰ | 30.4 |

| Series | Inner : Reel | | | Outer : Carton | | |
|--------|--------------|----------|---------|----------------|----------|--------------|
| | Q'TY(pcs) | G.W.(gw) | Style | Q'TY(pcs) | G.W.(Kg) | Size(cm) |
| PS1004 | 800 | 1,050 | 13 - 24 | 3,200 | 4.2 | 40 x 40 x 24 |
| PS1307 | 400 | 1,800 | 13 - 24 | 1,600 | 9.5 | 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 Flux : Rosin Dip time : 4±1 seconds | | | | | | |
| Thermal shock test (Temp. cycle) | Inductance shall not change more than ±20% | <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; border: none;">Room temp. 15 minutes</td> <td style="text-align: center; border: none;">→</td> <td style="text-align: center; border: none;">-25±2°C 30 minutes</td> </tr> <tr> <td style="text-align: center; border: none;">Room temp. 15 minutes</td> <td style="text-align: center; border: none;">→</td> <td style="text-align: center; border: none;">85±2°C 30 minutes</td> </tr> </table> <p>Total : 50 cycles</p> | Room temp. 15 minutes | → | -25±2°C 30 minutes | Room temp. 15 minutes | → | 85±2°C 30 minutes |
| Room temp. 15 minutes | | → | -25±2°C 30 minutes | | | | | |
| Room temp. 15 minutes | | → | 85±2°C 30 minutes | | | | | |
| 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 |
|-----------------|----------|----------------------|------------|
| 1 st | 31/08/06 | Update Specification | Pablo Pozo |