# PSC3506

## SMD Power Inductors Unshielded

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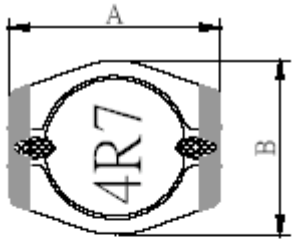
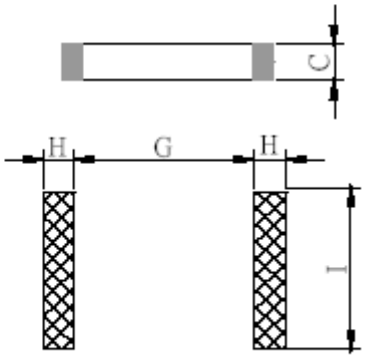
## 1. Configuration & Dimensions

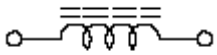



( PCB Pattern Sugestion )

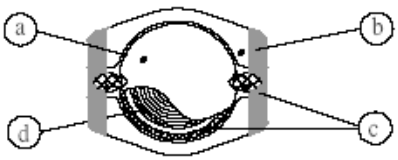
| Series | Dimensions [mm] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | A(max.) | B(max.) | C(max.) | D(typ.) | E(typ.) | F(typ.) | G(ref.) | H(ref.) | I(ref.) |
| PSC3506 | 9.20 | 7.90 | 1.65 | 6.80 | 0.90 | 5.06 | 7.20 | 1.20 | 5.80 |

## 2. Schematic Diagram



## 3. Materials

a.- Core : Ferrite DR Core
b.- Base : Ceramic Base
c.- Adhesive : Epoxy resin
d.- Wire : Enamelled copper wire (class F)
e.- Terminal : MoMn / Ni / Au
f.- Remark : Lead content 200ppm max. include ferrite




## 4. General Specification

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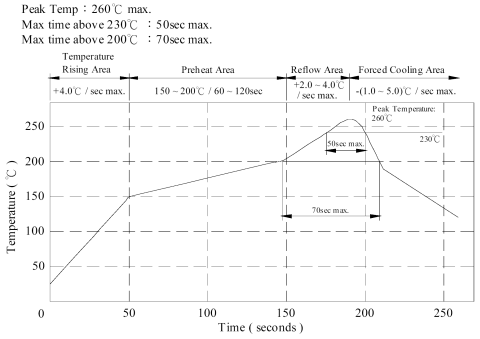
a.- Temp. rise : 40°C max.
b.- Rated current : Base on temp. rise & ΔL/L0A = 10% typ.
c.- Storage temp. : -40°C ~ +125°C
d.- Operating temp. : -40°C ~ +105°C
e.- Resistance to solder heat : 260°C. 10 secs




## 5. Electrical Characteristics

### PSC3506 (4.7µH – 220µH)

| DWG No. | Inductance (µH) | Test Freq. L (KHz) | SRF (MHz) typ. | RDC (Ω) ±20% | Irms (A) max. | Isat (A) typ. |
|---|---|---|---|---|---|---|
| PSC3506 – 4R7M | 4.7±20% | 100 | 65 | 0.125 | 1.50 | 1.40 |
| PSC3506 – 6R8M | 6.8±20% | 100 | 55 | 0.160 | 1.40 | 1.30 |
| PSC3506 – 100M | 10.0±20% | 100 | 48 | 0.200 | 1.20 | 1.10 |
| PSC3506 – 150M | 15.0±20% | 100 | 35 | 0.300 | 0.90 | 0.90 |
| PSC3506 – 220M | 22.0±20% | 100 | 30 | 0.380 | 0.76 | 0.70 |
| PSC3506 – 330M | 33.0±20% | 100 | 22 | 0.530 | 0.68 | 0.62 |
| PSC3506 – 470M | 47.0±20% | 100 | 20 | 0.770 | 0.54 | 0.42 |
| PSC3506 – 680M | 68.0±20% | 100 | 16 | 1.100 | 0.42 | 0.38 |
| PSC3506 – 101M | 100.0±20% | 100 | 13 | 1.600 | 0.36 | 0.35 |
| PSC3506 – 151M | 150.0±20% | 100 | 11 | 2.500 | 0.28 | 0.28 |
| PSC3506 – 221M | 220.0±20% | 100 | 9 | 3.900 | 0.24 | 0.24 |

[Inductance tested at 0.1V] [Irms base on temp. rise 40°C] [Isat base on ΔL/L0A = 10%]

## 6. Curve

**Inductance VS. DC Current Curve**

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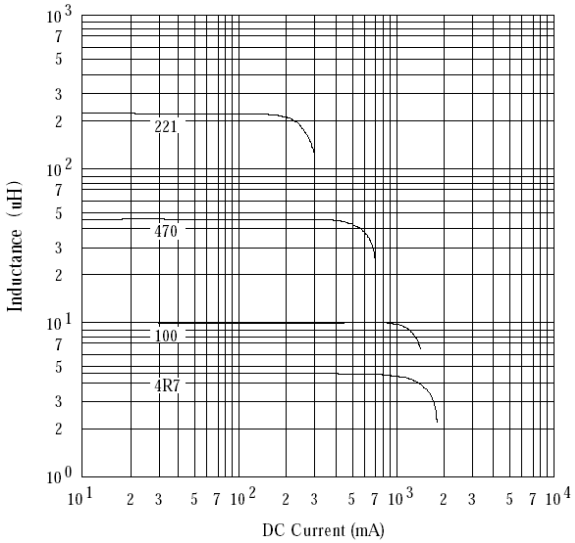
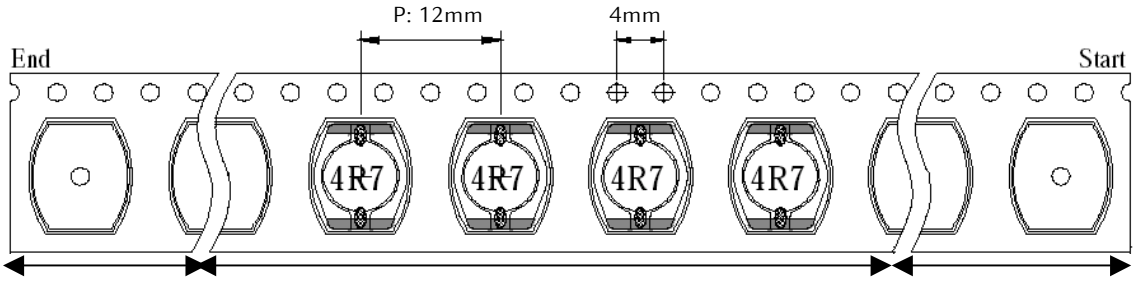
**PSC3506**




## 7. Packaging Information



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Leader
no component
200 mm min.

Components

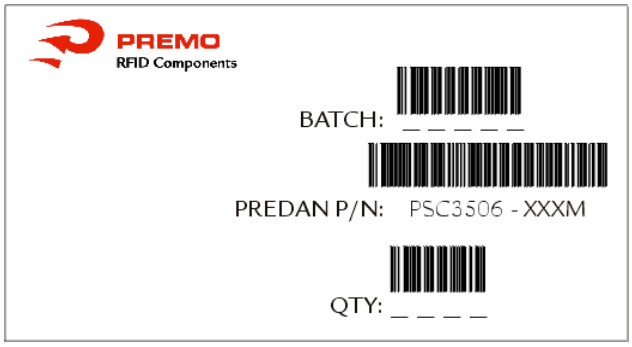
Trailer
no component
400 mm min.

**User direction of feed**

| Style | Dimensions [mm] | | | | | | |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | G | N | T |
| 07 – 16 | 178 | 21±0.8 | 13 | 16 | $18^{+0}$ | $50^{-0}$ | 20.5 |

| Series | Inner : Reel | | | Outer : Carton | | |
|---|---|---|---|---|---|---|
| | Q'TY(pcs) | G.W.(gw) | Style | Q'TY(pcs) | G.W.(Kg) | Size(cm) |
| PSC3506 | 600 | 250 | 07 – 16 | 18,000 | 8.5 | 42 x 41 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<br>Solder : Sn96.5 / Ag3 / Cu0.5 or equivalent<br>Solder temp. : 235±5°C<br>Flux : Rosin<br>Dip time : 4±1 seconds |
| | | |

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| | | |
|---|---|---|
| Thermal shock test<br>(Temp. cycle) | Inductance shall not change more than ±20% | Room temp. 15 minutes → -25±2°C 30 minutes<br>Room temp. 15 minutes → 85±2°C 30 minutes<br>Total : 50 cycles |
| Humidity<br>Resistance test | | Temperature : 40±2°C<br>Humidity : 90 ~ 95%<br>Applied current : Per specifications<br>Time : 500 hours |
| High temp.<br>Resistance test | | Temperature : 105±2°C<br>Applied current : Per specifications<br>Time : 500 hours |

## 10. Edition Control

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