

SMD Power Inductors (with tube / also shielded)

FASTRON power inductors can withstand a wide temperature range. The inductance values range from 1.0 μH to 10000 μH and they are suitable for high rated currents. They have a high reliability and can be assembled by surface mount technology. Their low DC resistance keeps power losses to a minimum. They are also suitable for Filtering of supply voltages, Coupling, Decoupling, Automotive electronics and Network switching systems.

Applications These components are widely used in power supplies for VTR, LCD TV, notebooks, PC and DC/DC converters.

Technical Data

| | |
|--|---|
| L – Value (rated inductance) | Measured with Bode 100 Vector Network Analyzer or equivalent at frequency f_L |
| SRF (min) – (unshielded only) | Measured with HP 8753ES Network Analyzer or equivalent |
| DCR (max) | Measured at 25°C |
| Rated DC Current | Isat max. current based on inductivity drop of 10% (PISG, PISL, PISM, PISMHV, PISP, PISPHV, PISN, PISNHV, PISR, PIST, PISTHV, PISA4119 & PIHV4119) related to the unloaded inductivity. I ΔT max. and IR current based on temperature rise: determined at the point where the temperature rise does not exceed 30°C (PISG) respectively 40°C (PISL, PISM, PISMHV, PISP, PISPHV, PISN, PISNHV, PISR, PIST, PISTHV, PISA4119, PIHV4119 & SPISM) above the ambient temperature of 25°C. I rated current indicates the current when inductivity drop of 25% max related to the unloaded inductivity or when temperature raise $\Delta T=40^\circ\text{C}$ ($T_a=20^\circ\text{C}$) whichever is lower (PISA2408, PISA2416, PISA2812, PISA2816, PISA4716, PISA4720 & PISA4728) |
| Operating Temperature | Non shielded: -40°C to +150°C (including component self-heating) Shielded and tube: -40°C to +125°C (including component self-heating) |
| Recommended soldering method | Reflow |
| Moisture Sensitivity Levels (MSL) (Non-shielded) | MSL Level 1, indicating unlimited floor life at $\leq 30^\circ\text{C}$ / 85% relative humidity |
| Solderability | Using lead free solder (Sn 99.9) at $260^\circ\text{C} \pm 5^\circ\text{C}$ for 5 ± 0.5 seconds, min 90% solder coverage of metallization Standard: IEC 68-2-20 (Ta) |
| Resistance to Soldering Heat | Resistant to $260^\circ\text{C} \pm 5^\circ\text{C}$ for 10 ± 1 seconds Standard: IEC 68-2-20 (Tb) |
| Resistance to Solvent | Resistant to Isopropyl alcohol for 5 ± 0.5 minutes at $23^\circ\text{C} \pm 5^\circ\text{C}$ Standard: IEC 68-2-45 |
| Climatic Test | Defined by the following standards IEC 68-2-1 for Cold test: -55°C for 96 hours IEC 68-2-2 for Dry heat test: +125°C for 96 hours IEC 60068-2-78 for Humidity test: 40°C at RH 95% for 4 days |
| Thermal Shock Test (Non-shielded) | Temperature cycle : -40°C to +125°C to -40°C Max/Min temperature duration: 15 minutes Temperature transition duration: 5 minutes Cycles: 25 Standard: MIL-STD-202G |
| Adhesion of Soldered Component (Shear Test) | Components withstand a pushing force of 20N for 10 ± 1 seconds Standard: IEC 60068-2-21, method Ue ₃ |
| Mechanical Shock | Mil-Std 202 Method 213 Condition C 3 axis, 6 times, total 18 shocks 100 G, 6 ms, half-sine |
| Vibration | Mil-Std 202 Method 204 20 mins at 5G 10 Hz to 2000 Hz 12 cycles each of 3 orientations |

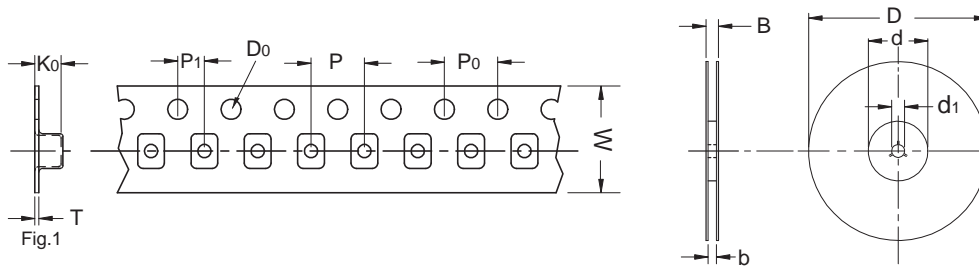
Ordering Code Example: PISA2408-2R9X-YY

PISA 2408 - 2R9 X - YY
(Model)(Case Size) (Inductance Value)(Tolerance) (Packing Code) → **PISA2408-2R9N-04**

Case Sizes - 2408, 2416, 2812, 2816, 4119, 4716, 4720, 4728, G, L, M, P, N, R, T
Core Type - Ferrite
Tolerances - K (10%), M (20%), N (30%)
Packing Code - 01, 04 (Taped / Reel)

SMD Power Inductors (also shielded)

Packing Specification



drawing only schematic, see table

| Type | D | D ₀ | d | d ₁ | B | b | W | P | P ₀ | P ₁ | K ₀ | T |
|-----------------------|-----|----------------|-----|----------------|------|------|----|----|----------------|----------------|----------------|------|
| PISG | 180 | 1.55 | 60 | 13 | 18.4 | 12.4 | 12 | 8 | 4 | 2 | 2.9 | 0.25 |
| PISL | 330 | 1.50 | 100 | 13 | 30.4 | 24.4 | 24 | 12 | 4 | 2 | 3.6 | 0.30 |
| PISM / SPISM / PISMHV | 330 | 1.50 | 100 | 13 | 30.4 | 24.4 | 24 | 12 | 4 | 2 | 5.4 | 0.40 |
| PISP / PISPHV | 330 | 1.50 | 100 | 13 | 30.4 | 24.4 | 24 | 16 | 4 | 2 | 8.5 | 0.50 |
| PISN / PISNHV | 330 | 1.50 | 100 | 13 | 30.4 | 24.4 | 24 | 16 | 4 | 2 | 11.6 | 0.50 |
| PISR | 330 | 1.50 | 100 | 13 | 38.4 | 32.4 | 32 | 24 | 4 | 2 | 7.6 | 0.40 |
| PIST / PISTHV | 330 | 1.50 | 100 | 13 | 38.4 | 32.4 | 32 | 24 | 4 | 2 | 12.5 | 0.50 |
| PISA2408 / PISA2416 | 330 | 1.55 | 100 | 13 | 22.4 | 16.4 | 16 | 12 | 4 | 2 | 5.1 | 0.35 |
| PISA2812 | 330 | 1.55 | 100 | 13 | 22.4 | 16.4 | 16 | 12 | 4 | 2 | 3.6 | 0.35 |
| PISA2816 | 330 | 1.55 | 100 | 13 | 22.4 | 16.4 | 16 | 12 | 4 | 2 | 4.6 | 0.40 |
| PISA4119 / PIHV4119 | 330 | 1.50 | 100 | 13 | 30.4 | 24.4 | 24 | 16 | 4 | 2 | 5.7 | 0.50 |
| PISA4716 | 330 | 1.55 | 100 | 13 | 30.4 | 24.4 | 24 | 16 | 4 | 2 | 6.1 | 0.50 |
| PISA4728 / PISA4720 | 330 | 1.55 | 100 | 13 | 30.4 | 24.4 | 24 | 16 | 4 | 2 | 8.1 | 0.40 |

Packing Specification