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, and 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 and PIHV4119) 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 ΔT=40°C (Ta=20°C) whichever is lower
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 ≤ 30°C / 85% relative humidity
Solderability	Using lead-free solder (Sn 99.9) at 260°C ± 5°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°C ± 5°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°C ± 5°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

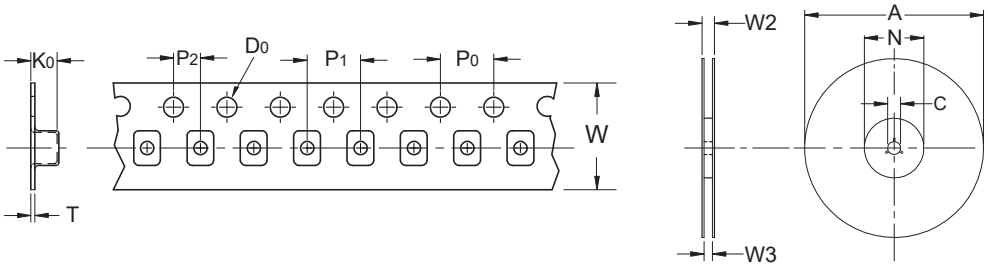
Example: PIST-100X-YY

PIS (Model) **T** (Case Size) **-** **100** (Inductance Value) **X** (Tolerance) **-** **YY** (Packing Code) → **PIST-100M-04**

Case Sizes - 4119, 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



Type	A	D0	N	C	W2	W3	W	P1	P0	P2	K0	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 / 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
PISA4119 / PIHV4119	330	1.50	100	13	30.4	24.4	24	16	4	2	5.7	0.50