Pluggable Inductors (Pin Type Coils)

FASTRON's pluggable inductors offer a wide range of inductance values from 1µH to 150 000µH, a high Q and also suitable for high currents and high voltages. They come in shielded, tube and cap versions able to protect the winding. They are available in reel packaging and ammopack.

Applications

Applied in DC-DC converters and all types of electronic instruments, such as digital amplifier LPF and signal filtering applications.

Technical Data

L – Value (rated inductance)	Measured with Bode 100 Vector Network Analyzer or equivalent at frequency f_L, 25°C ambient
Q – Factor (min)	Measured with Bode 100 Vector Network Analyzer or equivalent at frequency f_Q, 25°C ambient
SRF (min)	≥ 40 MHz measured with HP8753ES Network Analyzer or equivalent at 25°C ambient < 40 MHz measured with Bode 100 Vector Network Analyzer or equivalent at 25°C ambient
DCR (max)	Measured at 25°C ambient
Rated DC Current: Irms	Max permissible DC Current (I) that causes a 40°C component temperature rise from 25°C ambient
Saturation Current: Isat	Isat, max permissible DC bias at 25°C ambient that causes inductivity drop 10% (typ.) related to the unloaded inductivity
Operating Temperature	-55°C to +125°C (including component self-heating) : 05HCP, 05HCP/T, 07P, 07P/F, 09P, 09P/P, 11P, 11PHC, 07M, 07MFG, 07HCP/T, 07HCPLP/T, 07HVP/T, 09HCP/T, 09HVP/T & 14HVP/T
	-55°C to +150°C (including component self-heating): 07HCP, 07HCPLP, 07HVP, 09HCP, 09HVP & 14HVP
Recommended Soldering Method	Wave
Moisture Sensitivity Levels (MSL)	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: +85°C for 96 hours: Plugable, 05HCP, 05HCP/T, 07HCP/T, 07HVP/T, 07HCPLP, 09HCP/T, 09HVP/T & 14HVP/T +150°C for 96 hours: 07HCP, 07HVP, 07HCPLP, 09HCP, 09HVP & 14HVP IEC 60068-2-78 for humidity test: 40°C at RH 95% for 4 days
Thermal Shock Test	Temperature cycle: -55°C to +85°C to -55°C: Plugable, 05HCP, 05HCP/T, 07HCP/T, 07HVP/T, 07HCPLP, 09HCP/T, 9HVP/T & 14HVP/T -55°C to +150°C to -55°C: 07HCP, 07HVP, 07HCPLP, 09HCP, 09HVP & 14HVP Max/Min temperature duration: 15 minutes Temperature transition duration: 5 minutes Cycles: 25 Standard: MIL-STD-202G
Tensile Strength of Leads (Pull Test)	Components withstand a pulling force of 10N for 10 ± 1 second For 05HCP, 05HCP/T: Components withstand a pulling force of 5N for 10 ± 1 second IEC 60068-2-21 (Ua_1)
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

Remarks : Above technical data is for non-shielded type only.

Ordering Code

Example: 09P-101X-YY

09P - **101** **X** - **YY** ➔ **09P-101K-51**

(Model) (Inductance Value) (Tolerance) (Packaging Code)

Core Type - Ferrite
Tolerances - J (5%), K (10%), M (20%)
Packaging Code - 50 (Loose in Box) / (Tray / Box), 51 (Taped / Reel)

Pluggable Inductors (Pin Type Coils)

Packaging Specification

Reel Taping
Packaging code: 51

Fig 1

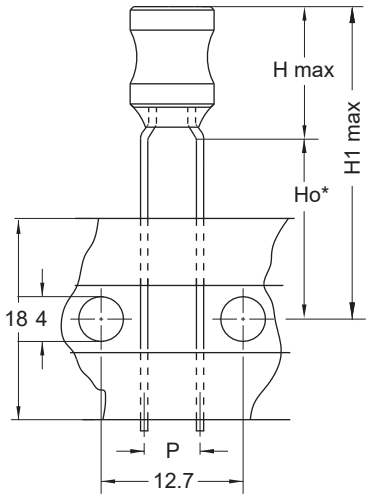


Fig 2

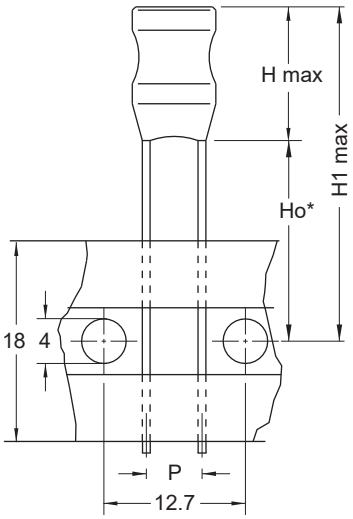


Fig 3

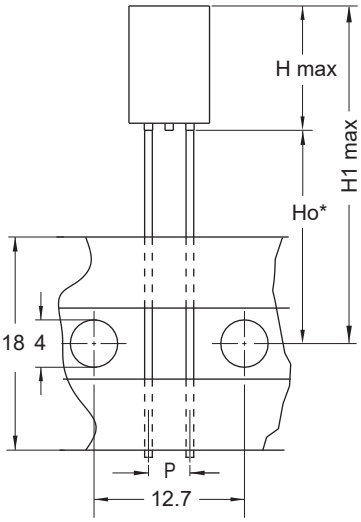


Fig 4

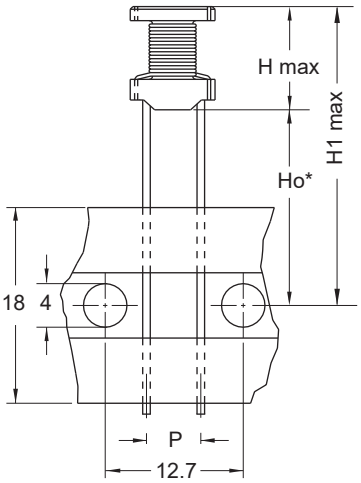
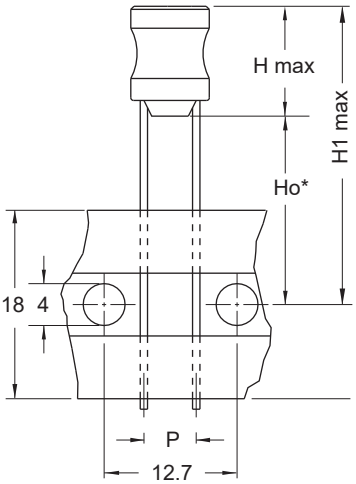


Fig 5



*according to IEC 286

Series	H max	Ho	H1 max	P	Fig
07P	12.5	16	28	5	1
07P/F	10.5	18	32.2	3.5	3
09P	12.5	18	32.2	5	2
09P/F	13.4	18	32.2	5	3
07HCP & 07HVP	10	18	32.2	5	4
07HCP/T & 07HVP/T	10.5	18	32.2	5	5
11P / 11PHC	15	18	34	5	2
05HCP	7.5	18	28.5	2.5	4
05HCP/T	7.5	18	28.5	2.5	5
07HCPLP	8.0	18	29.0	5	4
07HCPLP/T	8.0	18	29.0	5	5

FASTRON's Component Key Characteristics

Approved according to AEC-Q200

Approved according to AEC-Q200 with High Temperature

Suitable for High Temperature

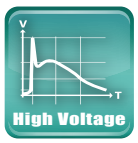
Part is RoHS conform and Halogen free

Mechanical Shock and Vibration Proof

Designed for High Q-values

Exceptionally High Q-values

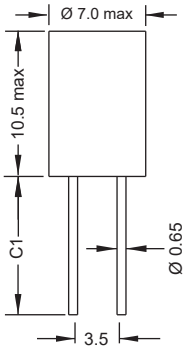
Optimized for High Currents



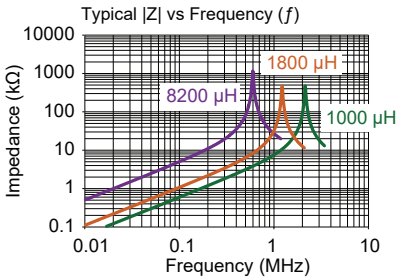
Optimized for High Voltages

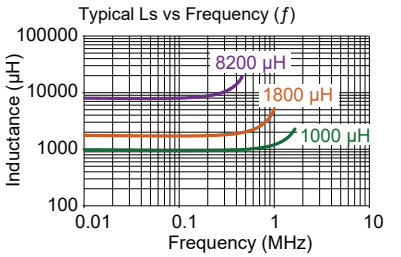
07 P/F

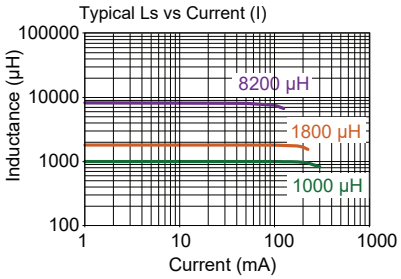
With Cap



Packaging	C1
Loose / Box	10.5
Taped / Reel	26.0







Part No	Inductance L (µH)	f_L (MHz)	Tol ± (%)	Q min	f_Q (MHz)	SRF min (MHz)	DCR max (Ω)	Rated DC Current (mA)
07P/F-681K-YY	680	0.02	**10**	80	0.796	2.00	3.10	250
07P/F-102X-YY	1000	0.02	**5**,10	115	0.796	1.80	3.55	220
07P/F-152X-YY	1500	0.02	**5**,10	115	0.252	1.05	5.20	155
07P/F-182X-YY	1800	0.02	**5**,10	115	0.252	1.05	5.70	150
07P/F-222X-YY	2200	0.02	**5**,10	115	0.252	1.00	6.50	150
07P/F-392X-YY	3900	0.02	**5**,10	100	0.252	0.70	12.00	100
07P/F-472X-YY	4700	0.02	**5**,10	100	0.252	0.65	13.50	100
07P/F-562X-YY	5600	0.02	**5**,10	100	0.252	0.60	15.00	80
07P/F-822X-YY	8200	0.02	**5**,10	100	0.252	0.45	27.35	80

Core Material: Ferrite

Revision date: 29 Jul 2022

SPQ:

Packaging Form	Loose / Box	Taped / Reel
Radial	500 [-50]	700 [-51]

Remarks: Also available with shorter leads.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Fastron:

07P/F-681K-51 07P/F-472J-51 07P/F-122K-51 07P/F-682J-51 07P/F-272J-51 07P/F-821K-51 07P/F-392K-51 07P/F-822K-51 07P/F-222J-51 07P/F-682K-51 07P/F-182J-51 07P/F-222K-51 07P/F-822J-51 07P/F-182K-51 07P/F-332K-51 07P/F-562J-51 07P/F-562K-51 07P/F-102J-51 07P/F-122J-51 07P/F-152J-51 07P/F-472K-51 07P/F-332J-51 07P/F-102K-51 07P/F-152K-51 07P/F-272K-51 07P/F-392J-51