

## 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 ammpack.

**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: Pluggable, 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: Pluggable, 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 (Ua1)
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

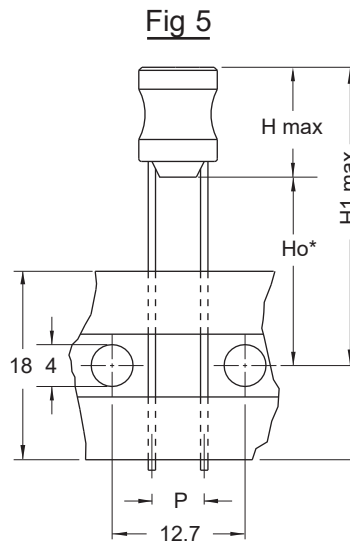
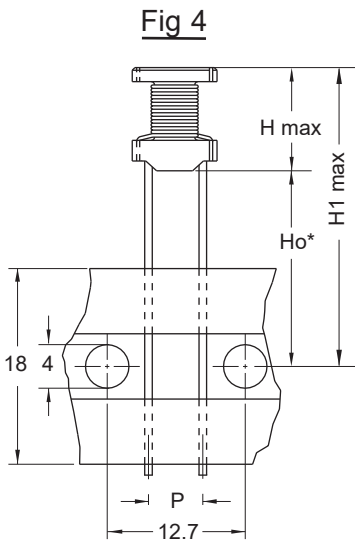
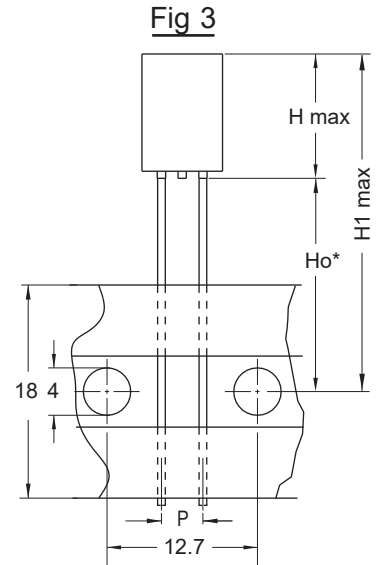
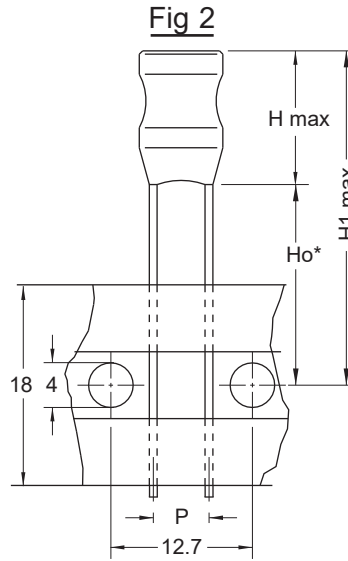
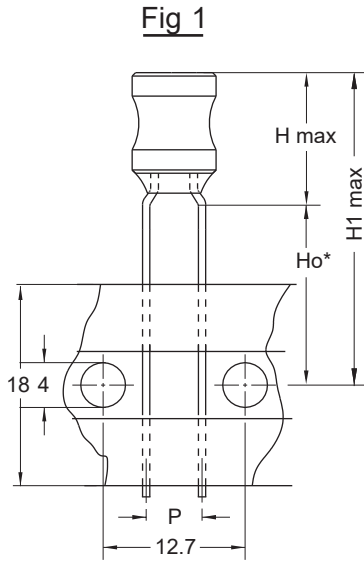
Tolerances - J (5%), K (10%), M (20%)

Packaging Code - 50 (Loose in Box) / (Tray / Box), 51 (Taped / Reel)

## Pluggable Inductors (Pin Type Coils)

Packaging  
Specification

Reel Taping  
Packaging code: 51



\*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



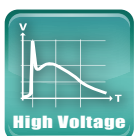
Designed for High Q-values



Exceptionally High Q-values



Optimized for High Currents



Optimized for High Voltages

# 14 HVP, 14 HVP/T

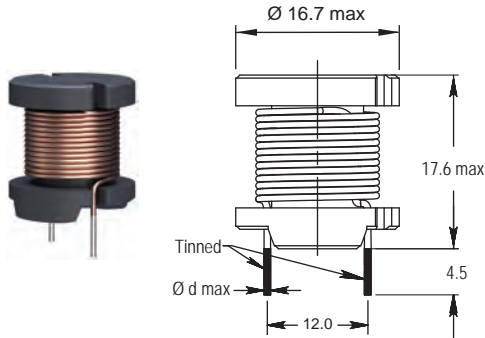
For High Voltages up to 600V DC



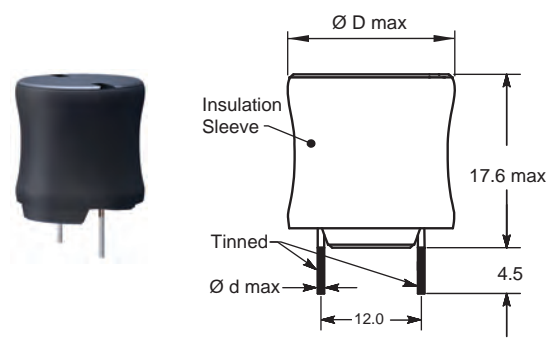
**PRELIMINARY**



(Pin Type Coils)

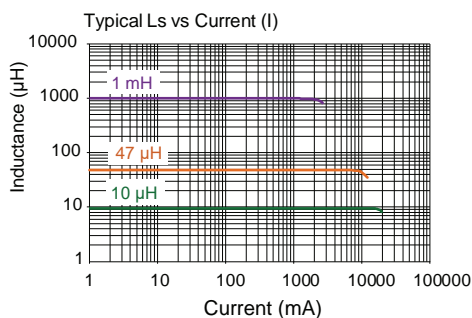
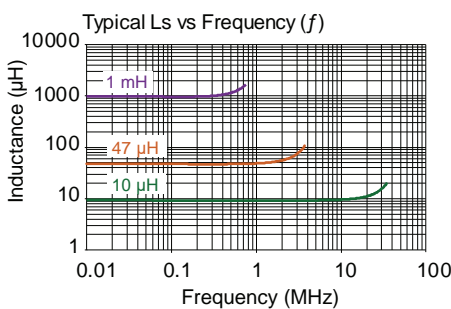
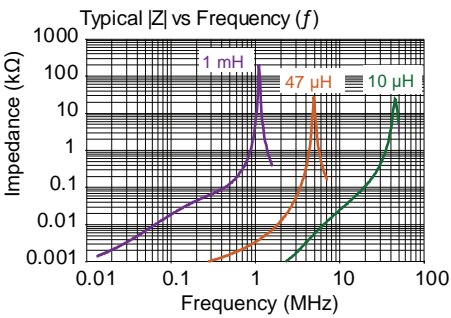


14 HVP



14 HVP/T  
(With Tube)

Pluggable Inductors



Part No	Inductance	f <sub>L</sub>	Tol	SRF <sub>typ</sub>	DCR <sub>max</sub>	Rated DC Current (A)		Dimensions	
	L (μH)					(kHz)	± (%)	(MHz)	(Ω)
14HVP-100M-50	10	10 @ 50 mV	20	35	0.050	14.00	8.40	0.68	17.3
14HVP-120M-50	12	10 @ 50 mV	20	25	0.055	14.00	7.60	0.68	17.3
14HVP-150M-50	15	10 @ 50 mV	20	25	0.060	14.00	6.80	0.68	17.3
14HVP-180M-50	18	10 @ 50 mV	20	15	0.070	12.00	5.60	0.68	17.3
14HVP-220M-50	22	10 @ 50 mV	20	15	0.075	11.20	5.60	0.68	17.3
14HVP-270M-50	27	10 @ 50 mV	20	10	0.085	9.60	5.20	0.68	17.3
14HVP-330M-50	33	10 @ 50 mV	20	8.0	0.095	8.80	5.20	0.68	17.3
14HVP-390M-50	39	10 @ 50 mV	20	5.0	0.100	7.75	5.00	0.68	17.3
14HVP-470M-50	47	10 @ 50 mV	20	4.0	0.120	7.25	5.00	0.63	17.3
14HVP-560M-50	56	10 @ 50 mV	20	4.0	0.125	6.80	5.00	0.63	17.3
14HVP-680M-50	68	10 @ 50 mV	20	3.5	0.130	6.20	4.80	0.63	17.3
14HVP-820M-50	82	10 @ 50 mV	20	3.0	0.165	6.05	4.50	0.63	17.3
14HVP-101M-50	100	10 @ 50 mV	20	2.55	0.165	5.60	4.50	0.63	17.3
14HVP-121M-50	120	10 @ 50 mV	20	2.20	0.185	4.90	4.30	0.63	17.3
14HVP-151M-50	150	10 @ 50 mV	20	2.20	0.200	4.85	3.80	0.63	17.3
14HVP-181M-50	180	10 @ 50 mV	20	2.00	0.200	4.30	3.25	0.63	17.3
14HVP-221M-50	220	10 @ 50 mV	20	2.00	0.200	4.20	3.00	0.63	17.3
14HVP-271M-50	270	10 @ 50 mV	20	1.55	0.260	3.60	3.00	0.58	17.3
14HVP-331M-50	330	10 @ 50 mV	20	1.40	0.300	3.30	2.90	0.58	17.3
14HVP-391M-50	390	10 @ 50 mV	20	1.30	0.330	3.10	2.60	0.58	17.3
14HVP-471M-50	470	10 @ 50 mV	20	1.20	0.360	2.60	2.50	0.52	17.3
14HVP-561M-50	560	10 @ 50 mV	20	1.00	0.445	2.40	2.30	0.48	17.3
14HVP-681M-50	680	10 @ 50 mV	20	0.95	0.505	2.25	2.00	0.48	17.3
14HVP-821M-50	820	10 @ 50 mV	20	0.85	0.555	2.00	1.75	0.48	17.6
14HVP-102M-50	1000	10 @ 50 mV	20	0.85	0.640	1.80	1.60	0.48	17.6

Core Material: Ferrite

Revision date: 16 Aug 2022

SPQ:	Packaging Form	10 Trays / Box
	Radial	200 [-50]