

## Chip Inductors for Power Applications

Our 1212FPS, 1616FPS, 242408FPS and 242418FPS series of semi-shielded chip size power inductors are designed with a high flux density ferrite core, having a small footprint of either 3x3, 4x4 or 6x6 mm as well as a flat profile. The inductance range covers 0.47 $\mu$ H to 1000 $\mu$ H, rated current up to 6.5A. The FPS inductors are magnetically shielded by using a ferrite-epoxy resin.

With our new 242418FP wire-wound chip size power inductor series FASTRON offers an inductance range from 1.2 $\mu$ H up to 1000 $\mu$ H and a max 5A rated current. Both the inductor families (unshielded FP as well as semi-shielded FPS series) have lead free pre-tinned terminals and provide good solderability. Of course all of our FP and FPS chip size inductors are RoHS compliant.

**Applications** Major applications for our FP and FPS inductor series are power applications (e.g. AC/DC and DC/DC converters) of small size with cost efficiency as one of the critical factors. The parts are used in stationary - as well as in handheld systems and portable devices, e.g. for driving LED backlight for tablet displays.

### Technical Data

L – Value (rated inductance)	Measured with E4980AL Precision LCR meter or equivalent at frequency f <sub>L</sub> , 25°C ambient
SRF (min)	Measured with E4991B Impedance Analyzer or equivalent at 25°C ambient
DCR (max)	Measured at 25°C ambient
Rated DC Current : I <sub>rms</sub>	Max permissible DC Current that causes a 40°C typ. component temperature rise from 25°C ambient.
Saturation Current : I <sub>sat</sub>	For FPS, max permissible DC bias at 25°C ambient that causes inductance drop 30% (typ.) relating to open circuit inductance. For FP, max permissible DC bias at 25°C ambient that causes inductance drop 10% (typ.) relating to open circuit inductance.
Operating Temperature	-40°C to +125°C (including component self-heating): FPS -40°C to +150°C (including component self-heating): FP
Moisture Sensitivity Levels (MSL)	MSL Level 1, indicating unlimited floor life at $\leq 30^{\circ}\text{C}$ / 85% relative humidity
Surface Finishing	Flat top for perfect pick and place assembly
Pad Metallization	Tin as top layer
Wire Termination	Spot welding covered with tin layer
Recommended Soldering Method	<a href="#">Reflow</a>

**Ordering Code** Example: 1212FPS-1R0X-01

**1212**    **FPS**    -    **1R0**    **X**    -    **YY**    ➔    **1212FPS-1R0M-01**  
(Case Size) (Core Type) (Inductance Value) (Tolerance) (Packaging Code)

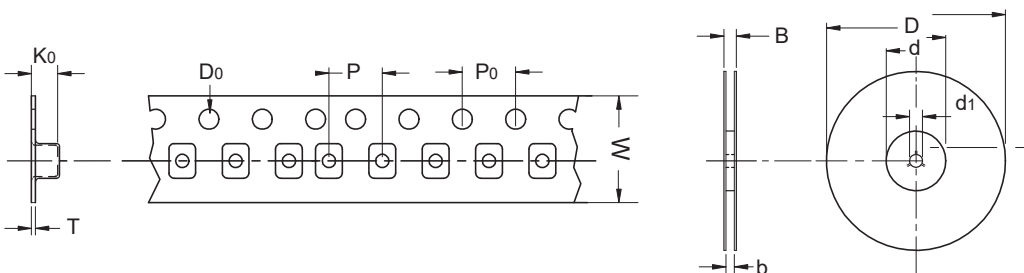
Case Sizes    - 1212, 1616, 242408, 242418

Core Type    - FPS, FP (Ferrite)

Tolerances    - M (20%), N (30%)

Packaging Code - 01 (Taped / Reel)

### Packaging Specification Schematic



Type	D	D0	d	d1	B	b	W	P	P0	K0	T
1212	180	1.55	50	13	12.5	8.4	8	4	4	1.60	0.25
1616	330	1.50	99.5	13.5	17.2	12.6	12	8	4	1.90	0.30
242408	330	1.60	100	13.5	17.6	13.0	12	8	4	2.40	0.30
242418	330	1.50	99.5	13.5	21.0	16.6	16	12	4	4.70	0.40

## 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

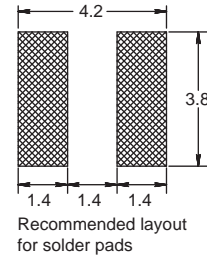
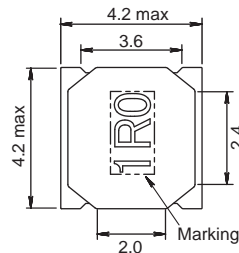
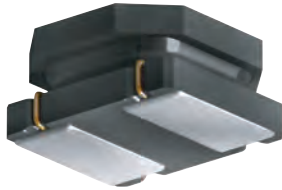


Optimized for High Voltages

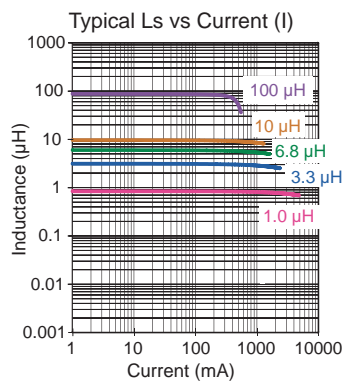
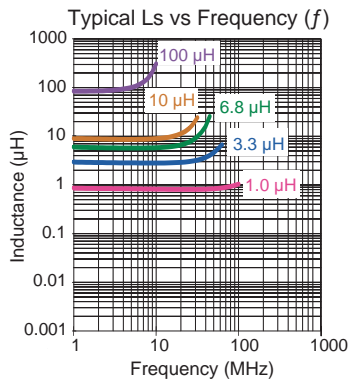
# 1616 FPS

Semi-shielded

Engineer's Kit: EK-1616FPS-X



L (μH)	H max
0.47 - 6.8	1.88
10 - 220	1.80



Part No	Inductance L (μH)	f <sub>L</sub> (kHz)	Tol ± (%)	DCR max (mΩ)	Rated DC Current Isat (A) Irms (A)
1616FPS-R47N-01	0.47	100 @ 1 V	30	41.6	3.50 4.00
1616FPS-R82N-01	0.82	100 @ 1 V	30	20.8	4.20 4.00
1616FPS-1R0N-01	1.0	100 @ 1 V	30	24.7	4.70 3.70
1616FPS-1R2N-01	1.2	100 @ 1 V	30	27.3	4.00 3.50
1616FPS-1R5N-01	1.5	100 @ 1 V	30	35.1	3.50 3.10
1616FPS-2R2M-01	2.2	100 @ 1 V	20	44.4	3.00 2.90
1616FPS-2R7M-01	2.7	100 @ 1 V	20	52.0	2.40 2.30
1616FPS-3R3M-01	3.3	100 @ 1 V	20	66.0	2.30 2.20
1616FPS-4R7M-01	4.7	100 @ 1 V	20	84.0	2.00 1.90
1616FPS-6R8M-01	6.8	100 @ 1 V	20	118	1.60 1.50
1616FPS-100M-01	10	100 @ 1 V	20	180	1.40 1.30
1616FPS-150M-01	15	100 @ 1 V	20	264	1.10 1.00
1616FPS-220M-01	22	100 @ 1 V	20	348	0.95 0.90
1616FPS-330M-01	33	100 @ 1 V	20	552	0.75 0.70
1616FPS-470M-01	47	100 @ 1 V	20	780	0.62 0.60
1616FPS-680M-01	68	100 @ 1 V	20	1128	0.50 0.50
1616FPS-101M-01	100	100 @ 1 V	20	1596	0.45 0.42
1616FPS-151M-01	150	100 @ 1 V	20	2400	0.35 0.32
1616FPS-221M-01	220	100 @ 1 V	20	3552	0.30 0.28

Core Material: Ferrite

SPQ: Taped / Reel 3000 [-01]

Revision date: 11 Mar 2022

# Mouser Electronics

Authorized Distributor

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