

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 0.47μH to 1000μH, 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 1.2μH up to 1000μH 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 _L , 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 _{rms}	Max permissible DC Current that causes a 40°C typ. component temperature rise from 25°C ambient.
Saturation Current : I _{sat}	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 ≤ 30°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	Reflow

Ordering Code Example: 1212FPS-1R0X-01

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

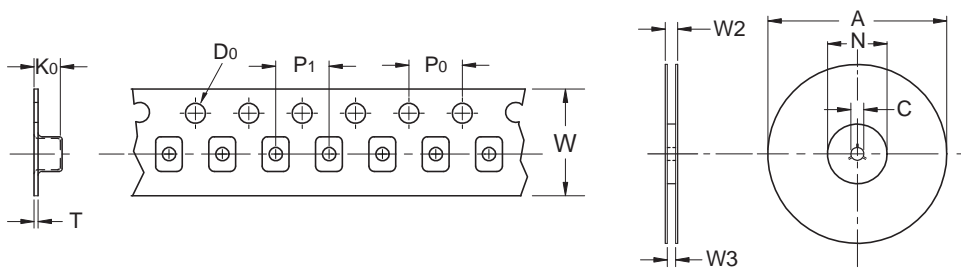
Case Sizes - 1212, 1616, 242408, 242418

Core Type - FPS, FP (Ferrite)

Tolerances - M (±20%), N (±30%)

Packaging Code - 01 (Taped / Reel)

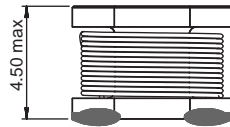
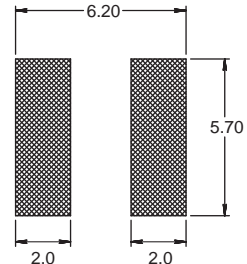
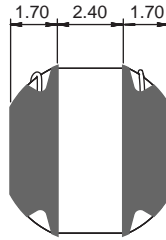
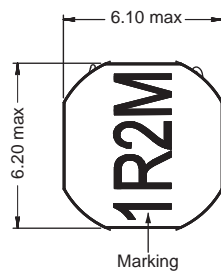
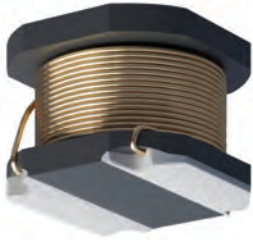
Packaging Specification Schematic



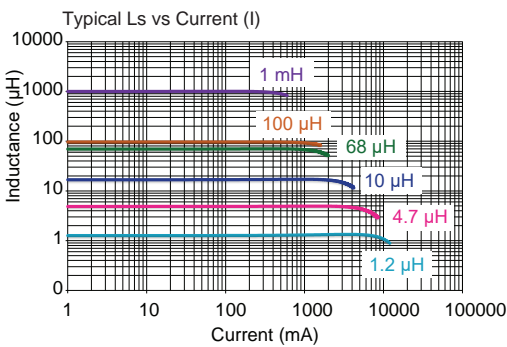
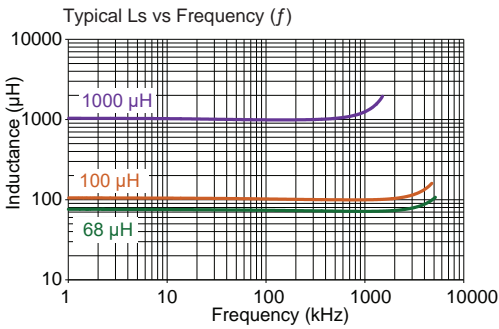
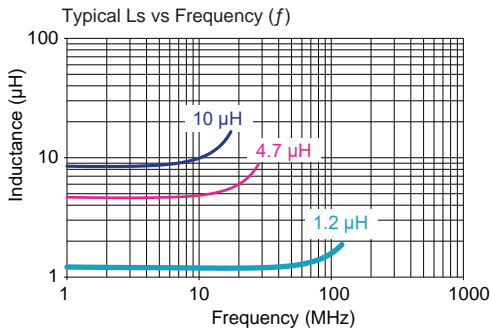
Type	A	Do	N	C	W2	W3	W	P1	Po	Ko	T
1212	180	1.55	50	13	12.5	8.4	8	4	4	1.60	0.25
1616	330	1.50	99.5	13.5	17.2	12.6	12	8	4	1.90	0.30
242408	330	1.60	100	13.5	17.6	13.0	12	8	4	2.40	0.30
242418	330	1.50	99.5	13.5	21.0	16.6	16	12	4	4.70	0.40

242418 FP

Non-shielded



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Part No	Inductance	f _L	Tol	SRF typ (MHz)	DCR max (mΩ)	Rated DC Current	
	L (μH)					± (%)	I _{sat} (A)
242418FP-R82M-01	0.82	1 MHz @ 1 V	20	145	16	8.00	5.00
242418FP-1R2M-01	1.2	1 MHz @ 1 V	20	145	18	8.00	5.00
242418FP-1R5M-01	1.5	1 MHz @ 1 V	20	92	25	6.50	4.50
242418FP-2R2M-01	2.2	1 MHz @ 1 V	20	65	25	6.00	4.00
242418FP-2R7M-01	2.7	1 MHz @ 1 V	20	50	35	5.25	4.00
242418FP-3R3M-01	3.3	1 MHz @ 1 V	20	45	45	4.50	4.00
242418FP-3R9M-01	3.9	1 MHz @ 1 V	20	40	45	4.00	4.00
242418FP-4R7M-01	4.7	1 MHz @ 1 V	20	39	55	3.90	3.40
242418FP-5R6M-01	5.6	1 MHz @ 1 V	20	30	55	3.50	3.30
242418FP-6R8M-01	6.8	1 MHz @ 1 V	20	30	75	3.20	3.00
242418FP-8R2M-01	8.2	1 MHz @ 1 V	20	25	80	3.00	2.80
242418FP-100M-01	10	1 MHz @ 1 V	20	20	90	2.80	2.20
242418FP-120M-01	12	1 MHz @ 1 V	20	20	110	2.45	2.00
242418FP-150M-01	15	1 MHz @ 1 V	20	15	125	2.16	2.00
242418FP-180M-01	18	1 MHz @ 1 V	20	12	135	2.10	1.90
242418FP-220M-01	22	1 MHz @ 1 V	20	12	170	1.75	1.60
242418FP-270M-01	27	1 MHz @ 1 V	20	10	195	1.65	1.60
242418FP-330M-01	33	1 MHz @ 1 V	20	10	235	1.56	1.45
242418FP-390M-01	39	1 MHz @ 1 V	20	10	320	1.40	1.30
242418FP-470M-01	47	1 MHz @ 1 V	20	9.0	355	1.40	1.20
242418FP-560M-01	56	1 MHz @ 1 V	20	7.8	420	1.20	1.10
242418FP-680M-01	68	1 MHz @ 1 V	20	7.0	460	1.10	0.95
242418FP-820M-01	82	1 MHz @ 1 V	20	6.5	520	1.00	0.90
242418FP-101X-01	100	1 MHz @ 1 V	10,20	5.0	620	0.90	0.80
242418FP-121X-01	120	1 MHz @ 1 V	10,20	5.0	750	0.85	0.75
242418FP-151X-01	150	1 MHz @ 1 V	10,20	5.0	940	0.72	0.66
242418FP-181X-01	180	1 MHz @ 1 V	10,20	4.0	1200	0.70	0.58
242418FP-221X-01	220	1 MHz @ 1 V	10,20	3.9	1260	0.64	0.56
242418FP-102X-01	1000	1 kHz @ 1 V	10,20	1.7	5200	0.25	0.25

Core Material: Ferrite

Revision date: 08 Jun 2023

SPQ: Taped / Reel 1000 [-01]

Remarks: Unlisted inductance values available upon request.