

Low Profile Shielded SMD Chip Power Inductor



ASPI-0315FS Series

Request Samples



Check Inventory



3.0 x 3.0 x 1.5mm
RoHS/RoHS II Compliant
MSL Level = 1

Features

- Small size and low profile: 1.5mm
- Small DCR and high rated current
- High reliability to mechanical stress
- Magnetically shielded by magnetic powder molding
- Suitable for RoHS reflow profile

Applications

- Mobile phones
- MP3 & 4 and other portable communication equipment
- Digital cameras

Electrical Specifications

Part Number ASPI-0315FS- Inductance Code	Inductance	Inductance Tolerance	DC Resistance		Saturation Current	Temperature Rise Current	Self- Resonant Frequency
			Max	Typ			
Units	μH	%	mΩ	mΩ	A	A	MHz
Symbol	L	M, N	DCR		Isat	Irms	SRF
ASPI-0315FS-R50	0.5	N	39	30	3.90	2.60	162
ASPI-0315FS-1R0	1.0	N	39	30	2.32	2.35	150
ASPI-0315FS-1R2	1.2	N	52	40	2.21	1.95	110
ASPI-0315FS-1R5	1.5	N	65	50	2.3	1.70	100
ASPI-0315FS-1R8	1.8	N	65	50	1.75	1.70	92
ASPI-0315FS-2R2	2.2	N	78	60	1.60	1.60	86
ASPI-0315FS-2R7	2.7	N	98	75	1.52	1.43	64
ASPI-0315FS-3R3	3.3	M	104	80	1.32	1.36	68
ASPI-0315FS-3R6	3.6	M	137	105	1.28	1.20	59
ASPI-0315FS-3R9	3.9	M	137	105	1.20	1.20	47
ASPI-0315FS-4R3	4.3	M	150	115	1.20	1.14	53
ASPI-0315FS-4R7	4.7	M	163	125	1.10	1.09	46
ASPI-0315FS-5R1	5.1	M	173	133	1.00	1.05	49
ASPI-0315FS-6R2	6.2	M	254	195	1.00	0.86	46
ASPI-0315FS-6R8	6.8	M	260	200	0.85	0.85	39
ASPI-0315FS-100	10	M	325	250	0.72	0.77	41
ASPI-0315FS-120	12	M	416	320	0.70	0.68	32
ASPI-0315FS-150	15	M	455	350	0.66	0.65	30
ASPI-0315FS-180	18	M	559	430	0.56	0.59	23
ASPI-0315FS-220	22	M	598	460	0.52	0.57	23
ASPI-0315FS-270	27	M	949	730	0.48	0.45	22
ASPI-0315FS-330	33	M	1066	820	0.44	0.43	20
ASPI-0315FS-390	39	M	1294	995	0.41	0.39	14
ASPI-0315FS-430	43	M	1378	1060	0.37	0.37	16
ASPI-0315FS-470	47	M	1625	1250	0.35	0.35	14
ASPI-0315FS-560	56	M	1664	1280	0.33	0.34	13
ASPI-0315FS-620	62	M	2093	1610	0.30	0.30	13
ASPI-0315FS-680	68	M	3510	2700	0.28	0.23	11
ASPI-0315FS-101	100	M	4043	3110	0.23	0.21	7.2
ASPI-0315FS-151	150	M	4940	3800	0.18	0.19	4.5

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Test Conditions

1. Inductance is measured using a WK3260B LCR meter or equivalent.
2. DCR is measured using HIOKI 3540 or equivalent.
3. Isat: Based on inductance change ($\Delta L/L_0: \leq -30\%$)
4. Irms: Based on temperature rise ($\Delta T: 40^\circ\text{C TYP.}$)
5. SRF: Agilent E4991A+16197 or equivalent.
6. Test Freq: 100KHz, 1Vrms

Operating Temperature

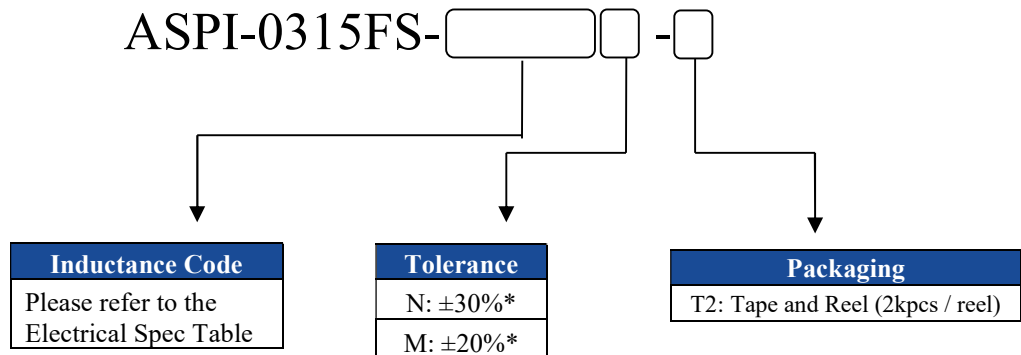
-40°C to +125°C (Including self-generated heat)

Storage Temperature of Component Removed from Packaging

-10°C to +40°C, RH 70% Max

ASPI-0315FS is **RoHS/RoHS II Compliant and Pb free**

Part Identification



*N for L = 0.5 ~ 2.7 μH

*M for L = 3.3 ~ 150 μH

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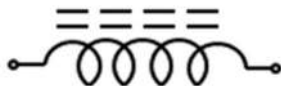
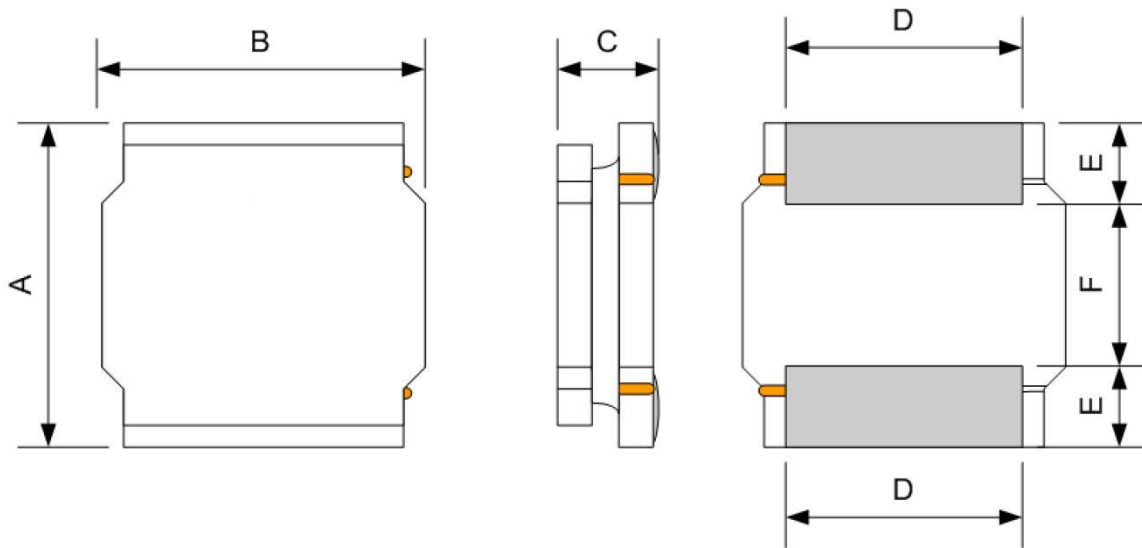


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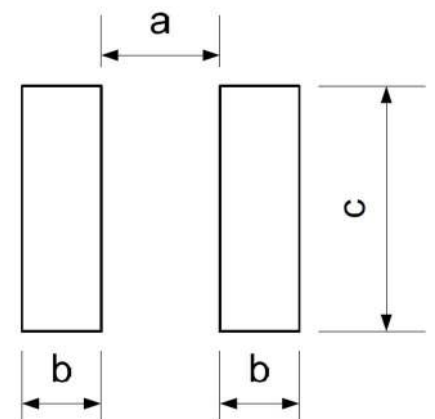
3.0 x 3.0 x 1.5mm
RoHS/RoHS II Compliant
MSL Level = 1

Mechanical Specifications



No Polarity

Recommended Land Pattern



A	B	C	D	E	F	a Typ.	b Typ.	c Typ.
3.0 ±0.2	3.0 ±0.2	1.5 Max	2.50 ±0.2	0.75 ±0.2	1.5 ±0.2	1.5	0.8	2.7

Dimension: mm

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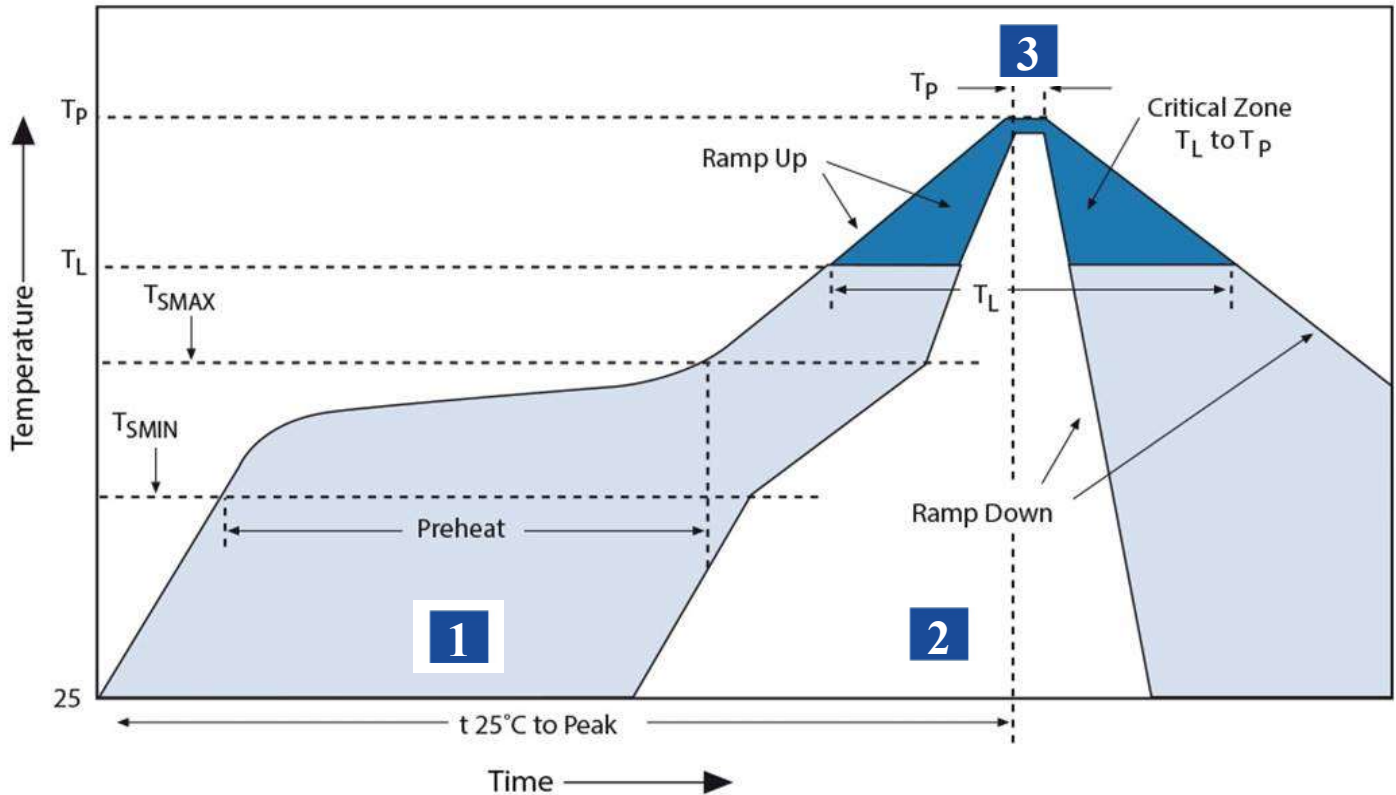


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Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C	60 ~ 120 sec.
2	Reflow	T_L 217°C	60 ~ 90 sec.
3	Peak heat	T_P 260°C	10 sec. MAX

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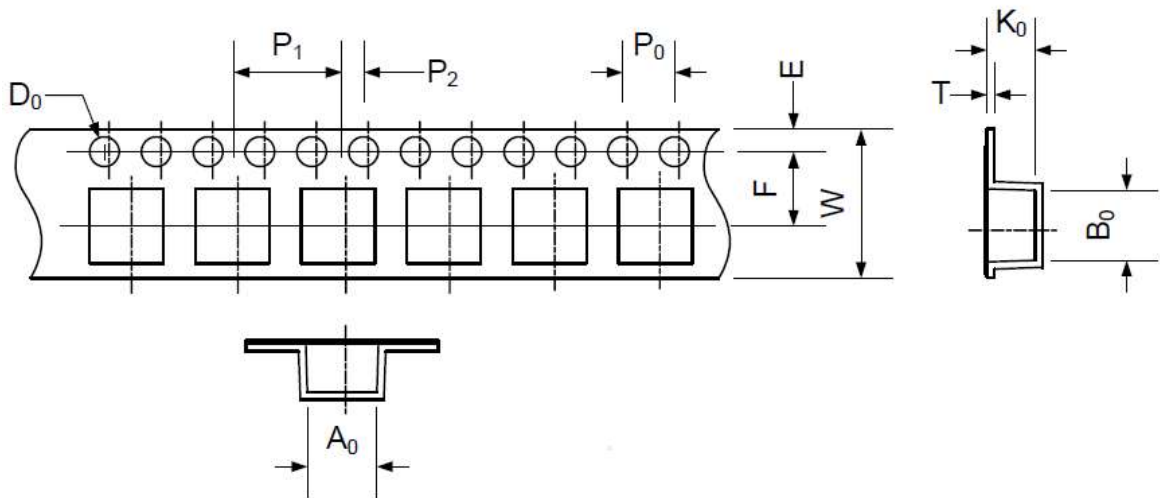
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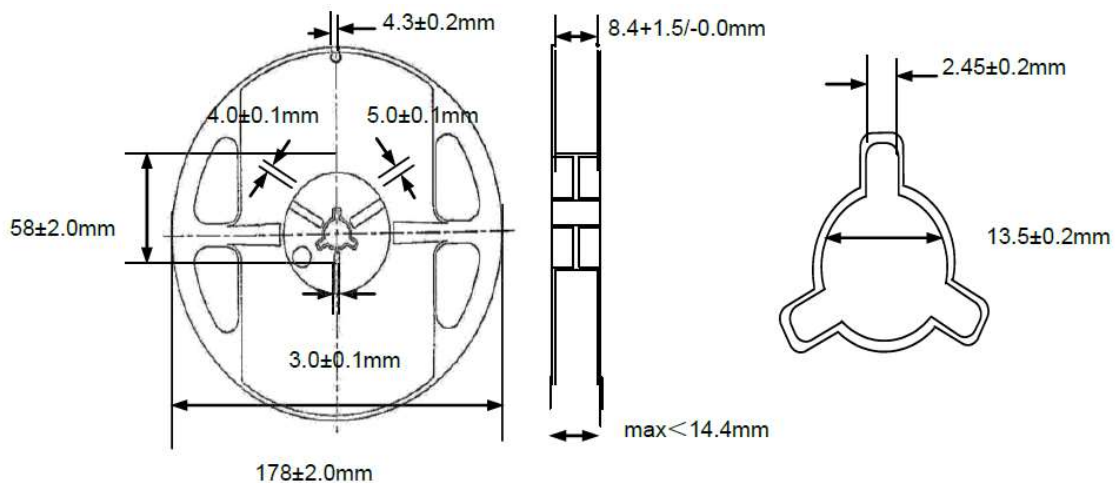
Packaging

T2: 2,000pcs / reel



A ₀	B ₀	W	E	F	P ₀	P ₁	P ₂	D ₀	T	K ₀
3.3	3.3	8.0	1.75	3.5	4.0	4.0	2.0	1.5	0.25	1.6
±0.1	±0.1	±0.3	±0.1	±0.05	±0.1	±0.1	±0.1	+0.1/-0.0	±0.03	±0.1

Dimension: mm



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1.0 Note

- i) The parts are manufactured in accordance with this specification. If other conditions and specifications which are required for this specification, please contact ABRACON for more information.
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are ready for shipment. Any unpaid due amounts will be subject to interest at one decimal five percent (1.5%) per month, or, if less, the maximum rate allowed by law.

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10. **Acceptance:** Unless Buyer notifies AB in writing within ten (10) days from the date of receipt of Products that the Products fail to conform to the Specifications, the Products will be deemed accepted by Buyer. No such claim of non-conformity shall be valid if (i) the Products have been altered, modified or damaged by Buyer, (ii) the rejection notice fails to explain the non-conformance in reasonable detail and is not accompanied by a test report evidencing the non-conformity, or (iii) rejected Products are not returned to AB within thirty (30) days of rejection; provided, that no Product returns may be made without a return material authorization issued by AB.
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