

# ULTRA LOW PROFILE SHIELDED SMD CHIP POWER INDUCTOR



3.0 x 3.0 x 1.0mm

ASPI-0310FS



**RoHS**  
Compliant

## FEATURES:

- Small size and low profile: 1.0mm
- 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:

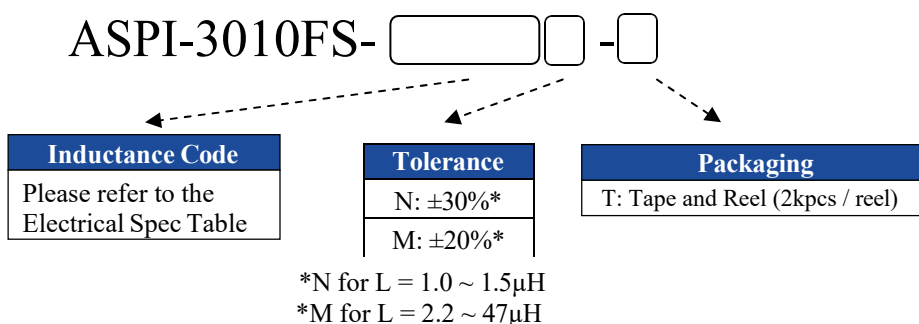
Abrakon P/N:	ASPI-0310FS Series
Operating Temperature & Humidity :	-40°C to +125°C (Including self generated heat)
Storage Temperature & Humidity:	-40°C to +125°C

Part Number	Inductance	Inductance Tolerance	DCR	DCR Tolerance	Saturation Current	Temperature Rise Current
Units	μH	%	mΩ	%	A	A
Symbol	L	M, N	DCR		Isat	Irms
ASPI-0310FS-1R0	1.0	N	50	±30%	2.30	2.30
ASPI-0310FS-1R2	1.2	N	62		1.90	2.10
ASPI-0310FS-1R5	1.5	N	70		1.65	2.00
ASPI-0310FS-2R2	2.2	M	80	±20%	1.45	1.90
ASPI-0310FS-3R3	3.3	M	130		1.05	1.80
ASPI-0310FS-4R7	4.7	M	175		0.85	1.70
ASPI-0310FS-6R8	6.8	M	260		0.70	1.30
ASPI-0310FS-100	10.0	M	350		0.60	0.90
ASPI-0310FS-150	15.0	M	510		0.50	0.80
ASPI-0310FS-220	22.0	M	780		0.40	0.70
ASPI-0310FS-330	33.0	M	1100		0.32	0.50
ASPI-0310FS-470	47.0	M	1600	0.28	0.35	

## Test Conditions

1. Inductance is measured in HP-4285A Precision LCR Meter.
2. RDC is measured in DU-5011 milli ohm meter.(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. Test Freq: 100KHz, 1Vrms

## OPTIONS AND PART IDENTIFICATION



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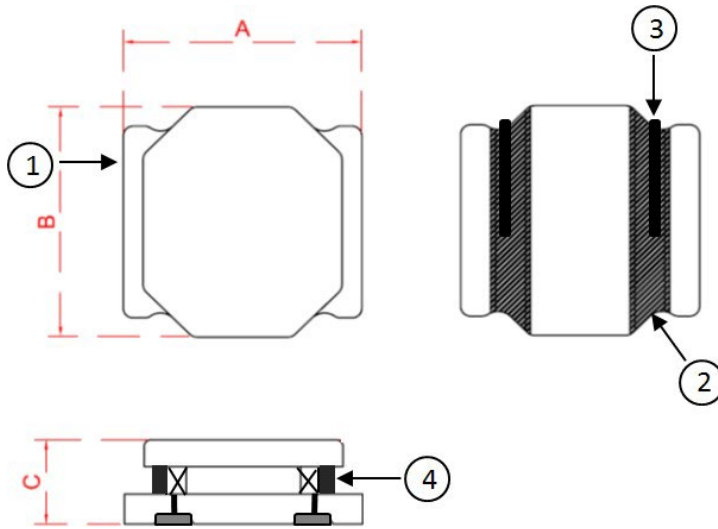
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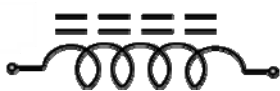
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## OUTLINE DRAWING:



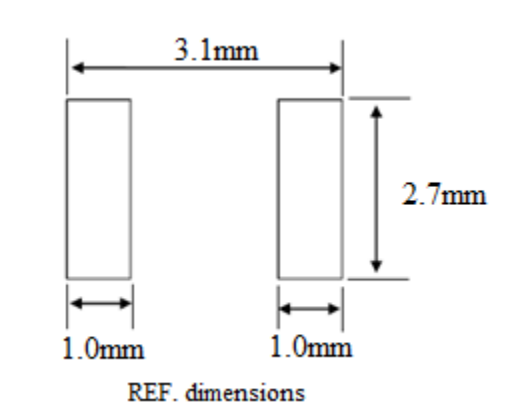
A	B	C Max.
3.0±0.1	3.0±0.1	1.0

**Circuit Schematic**



**No Polarity**

**Recommended Land Pattern**



**Dimension: mm**

## Materials

No	Part Name	Material
1	Ferrite core	Ni-Zn Ferrite
2	Terminals	Ag/Ni/Sn
3	Coil	Cu/P180 Grd 1
4	Adhesive	Silicon Base Resin
	Magnetic Powder	Ni-Zn Ferrite

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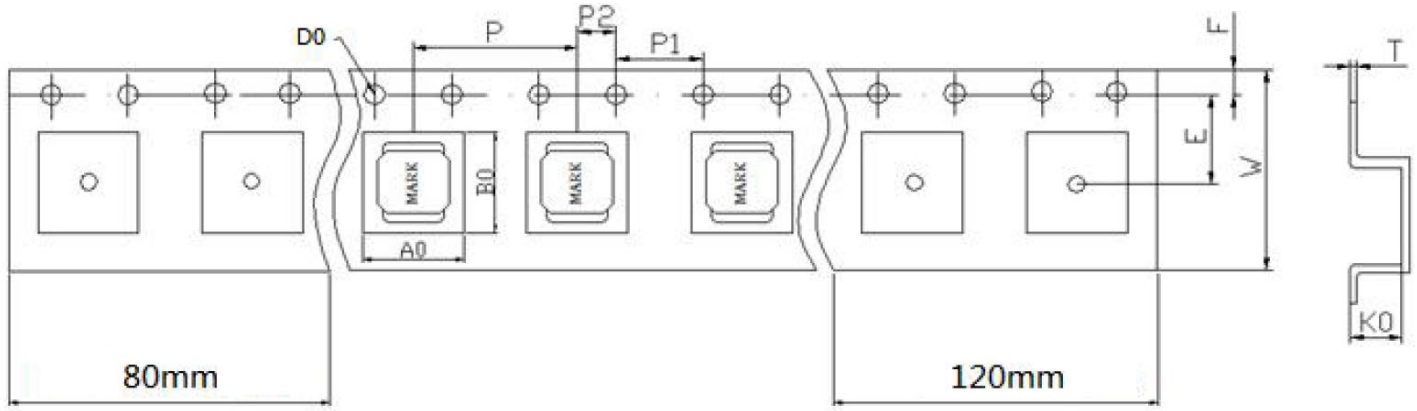
ASPI-0310FS



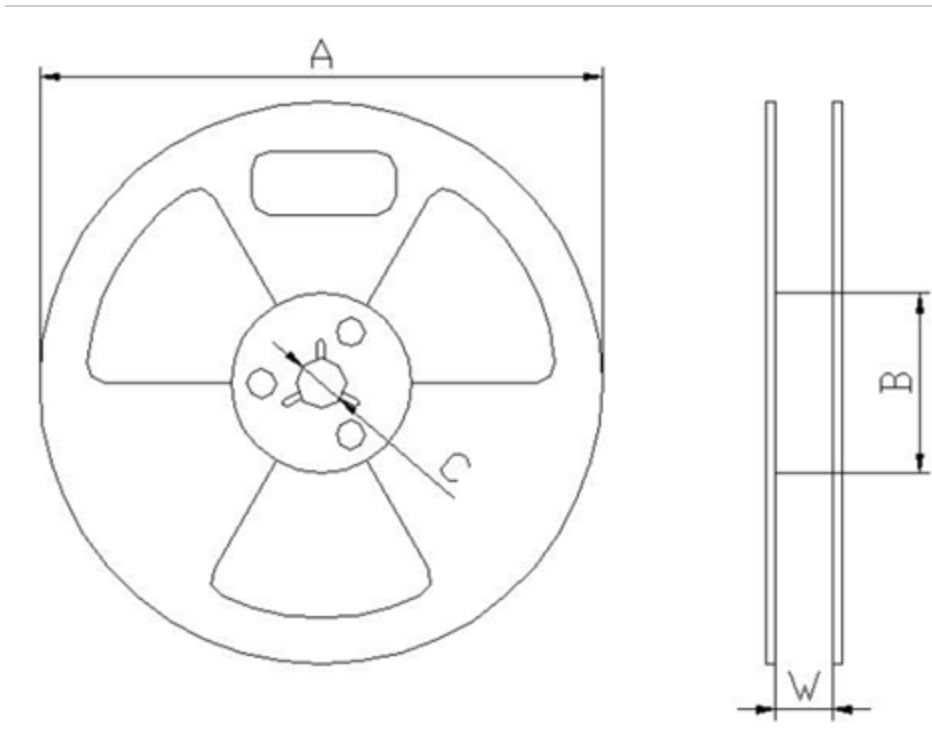
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## TAPE & REEL:

T: 2,000pcs / reel



Item	W	A0	B0	K0	P	E	F	D0	P0	P2	T
Dim.	8.00±0.3	3.2±0.1	3.2±0.1	1.32±0.1	4.0±0.1	3.5±0.1	1.75±0.1	1.50±0.1	4.00±0.1	2.00±0.1	0.30±0.05



A	180 ±0.5
B	100 ±0.5
C	13.5 ±0.5
W	8.5 ±0.5

Dimension: mm

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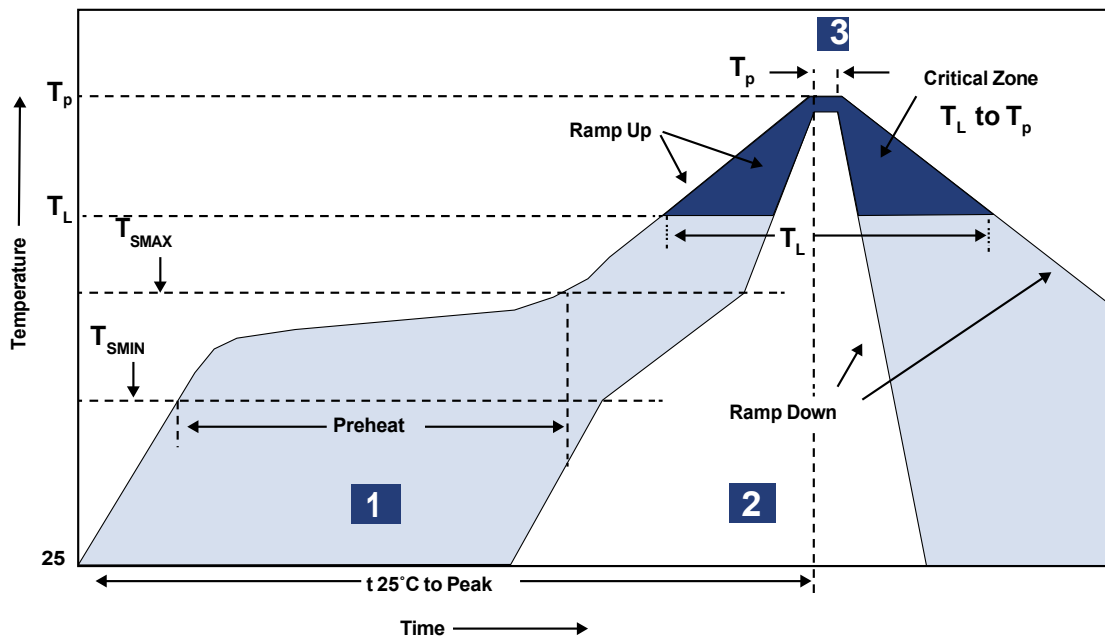
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## REFLOW PROFILE:



Zone	Description	Temperature	Time
1	Preheat / Soak	$T_{SMAX}$ 150°C	60 ~ 100 sec.
2	Reflow	$T_L$ 200°C	20 sec. MAX
3	Peak heat	$T_p$ 260°C	10 sec. MAX

Dimension: mm

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