

Metal Alloy SMD Power Inductor



ASPI-M3015 Series

Request Samples



Check Inventory



3.0 x 3.0 x 1.5/1.6 mm
RoHS/RoHS II Compliant
MSL Level = 1

Features

- Space saving small footprint 3.0x3.0mm (9mm²)
- Low profile design
- High RMS current carrying up to 5A
- High saturation current—up to 9A
- Low DCR minimizes heat dissipation—as low as 25mΩ
- Wide inductance range—0.47 to 10μH
- Wide -40°C to 125°C operating temperature range

Applications

- IoT/Industrial IoT
- Drones and robotics
- Audio and video
- Switch mode power supplies (SMPS)
- Medical and medical monitoring
- Class D amplifiers
- DC/DC converter
- LED drivers and lighting
- POL Converters

Electrical Specifications

Part Number	Inductance	Tolerance	DC Resistance		Saturation Current		Temperature Rise Current	
	0.1MHz/1.0V		Max	Typ.	Max	Typ.	Max	Typ
Units	μH	%	mΩ		A		A	
Symbol	L	M	DCR		Isat		Irms	
ASPI-M3015-R47	0.47	20%	30	25	7.50	9.00	4.60	5.00
ASPI-M3015-R68	0.68	20%	54	45	5.30	6.30	3.60	3.90
ASPI-M3015-1R0	1.00	20%	48	40	5.30	6.30	3.60	3.95
ASPI-M3015-1R5	1.50	20%	54	45	3.60	4.30	3.40	3.70
ASPI-M3015-2R2	2.20	20%	78	65	3.10	4.00	2.80	3.10
ASPI-M3015-3R3	3.30	20%	102	85	2.50	3.20	2.45	2.65
ASPI-M3015-4R7	4.70	20%	152	126	2.20	2.60	2.00	2.20
ASPI-M3015-6R8	6.80	20%	220	183	1.80	2.00	1.65	1.80
ASPI-M3015-100	10.0	20%	320	270	1.50	1.80	1.35	1.50

Test Conditions

Isat: DC current at which the inductance drops 30% from its value without current.

Irms: DC current that causes the temperature rise (ΔT , approximate 40 °C) from 25°C ambient

Operating Temperature: -40°C ~ +125°C (including self-temperature rise)

Storage Condition: -40°C ~ +125°C (on board), -10°C ~ +40°C (with packaging) and R.H. 60 max

Operating Voltage: 20V (across inductor)

ASPI-M3015 Series is RoHS Compliant and Pb free



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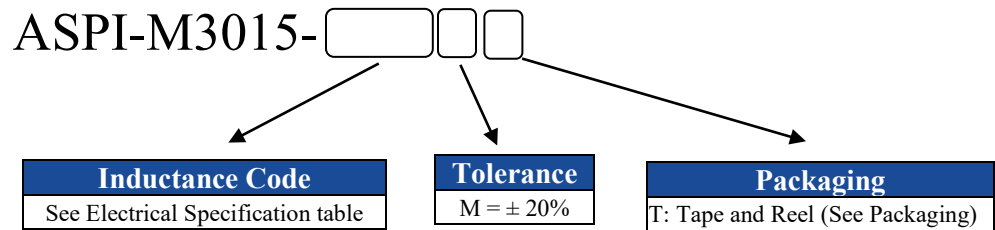


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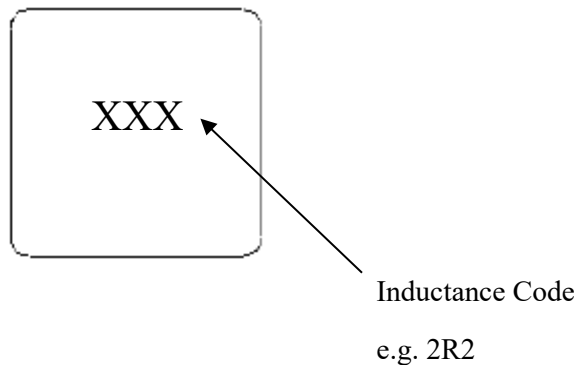


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Part Identification



Marking



Marking Method = Ink Marking

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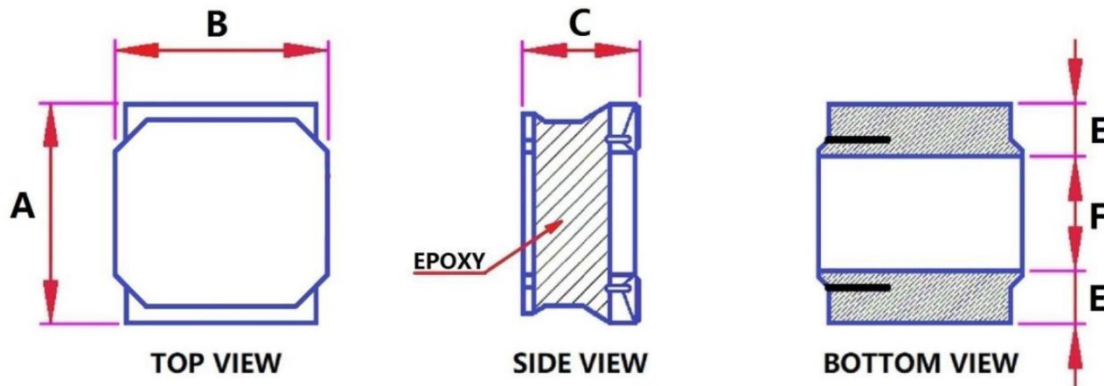


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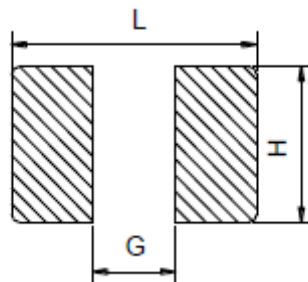


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Mechanical Specifications



Parts	A	B	C	E (ref)	F (ref)
ASPI-M3015-R68	3.0±0.2	3.0±0.2	1.60 MAX	0.80	1.3
All others	3.0±0.2	3.0±0.2	1.50 MAX	0.95	1.20



Parts	L (ref)	G (ref)	H (ref)
ASPI-M3015-R68	3.4	0.8	2.7
All others	3.1	1.2	2.7

Dimensions: mm

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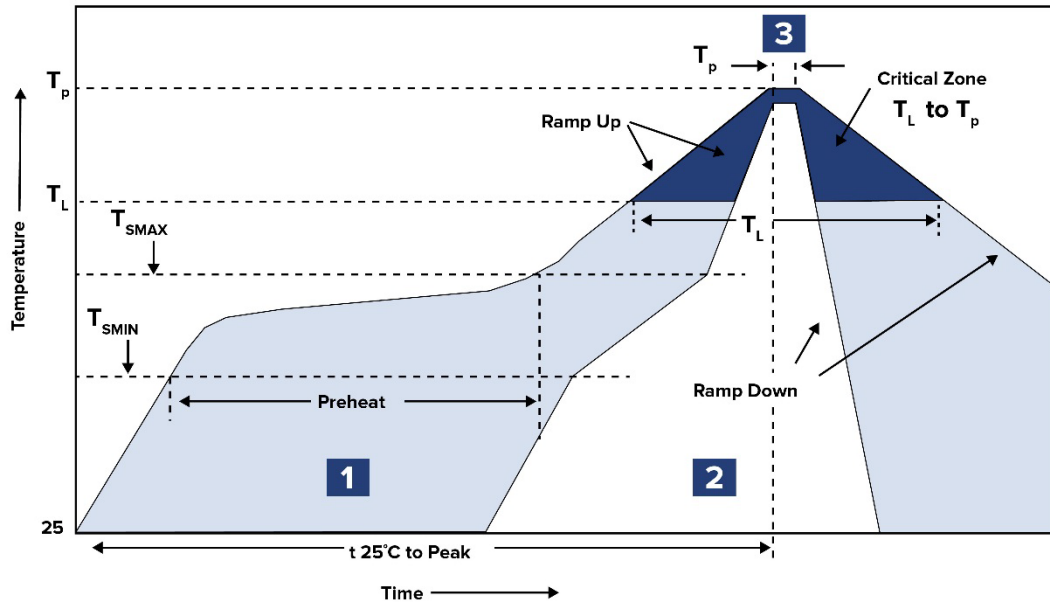


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Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 170°C	60 ~ 120 sec.
2	Reflow	T_L 230°C	30 ~ 40 sec.
3	Peak heat	T_p 250°C±5°C	10 sec. MAX

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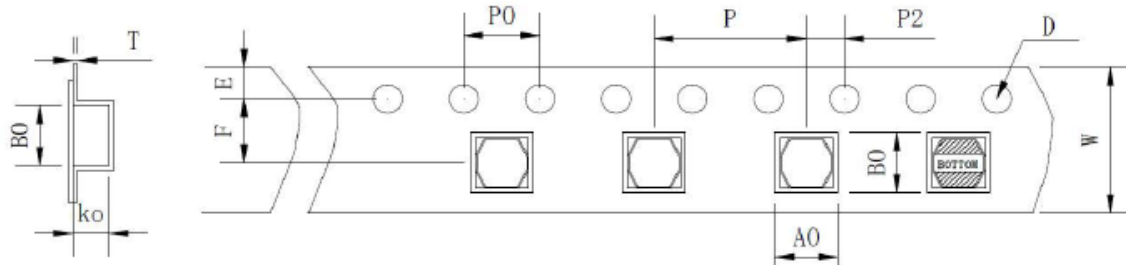
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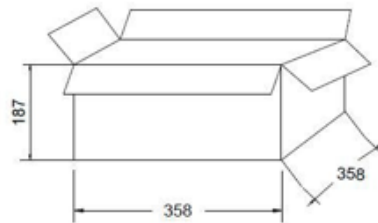
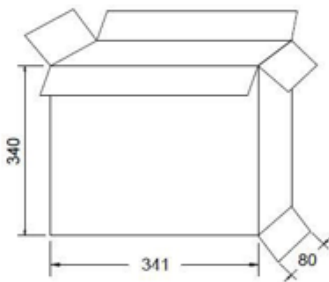
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Packaging

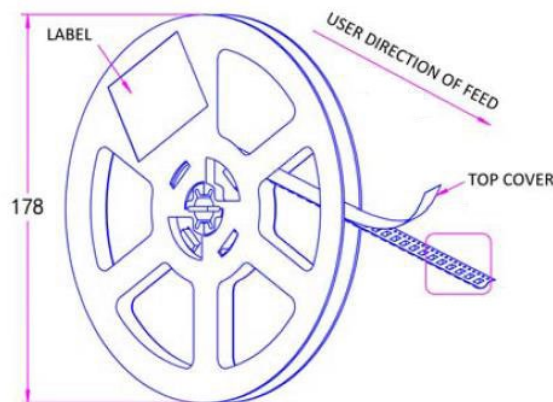
Tape & Reel: 2,000 pcs/reel



W	A0	B0	K0	D	F	E	P	P0	P2	T
8.0±0.3	3.3±0.1	3.3±0.1	1.9±0.1	1.5+0.1/-0	3.5±0.05	1.75±0.1	4.0±0.15	4.0±0.1	2.0±0.1	0.25±0.03



Quantity (pcs)		
Reel	Box	Carton
2,000	10,000	50,000
1 Reel	5 Reels / box	5 boxes/ carton



Dimensions: mm

ATTENTION: Abracon LLC's products are Commercial-Off-The-Shelf (COTS), which are designed, intended and validated for use in commercial, industrial and automotive applications. The customer is responsible for testing and verifying the performance of an Abracon solution to meet their system-level requirements.



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