

# Molded Inductor



AMDLA4012Q

Request Samples



Check Inventory



4.4 x 4.0 x 1.8 mm  
RoHS/RoHS II Compliant  
MSL Level = 1

## Features

- AEC-Q200 Qualified
- Shielded construction
- Soft saturation
- Low DCR per cubic mm
- Designed for switching frequencies between 100KHz-5MHz

## Applications

- Body electronics and comfort system
- Infotainment and entertainment
- Electric vehicles
- Lighting
- Solar inverters and power
- Industrial and robotics
- Medium and high-power switch mode power supplies.

## Electrical Specifications

Part Number*	Inductance (uH)	Tolerance (%)	Irms Max (A)	Isat Max (A)	DC Resistance (mΩ)		Type
					Typ	Max	
AMDLA4012Q-R47MT	0.47	20	8.0	8.0	9.2	11	Lead Frame
AMDLA4012Q-R68MT	0.68	20	7	7.5	11.2	13.5	Lead Frame
AMDLA4012Q-1R0MT	1	20	5.5	7.0	17	21	Lead Frame
AMDLA4012Q-1R5MT	1.5	20	4.0	5.4	22	26	Lead Frame
AMDLA4012Q-2R2MT	2.2	20	4.2	4.2	32	38	Lead Frame
AMDLA4012Q-3R3MT	3.3	20	3.0	3.8	44	55	Lead Frame
AMDLA4012Q-4R7MT	4.7	20	2.2	3.2	57	70	Lead Frame
AMDLA4012Q-6R8MT	6.8	20	2.4	2.6	114	138	Lead Frame
AMDLA4012Q-100MT	10	20	1.8	2.1	170	190	Lead Frame
AMDLA4012Q-150MT	15	20	1.2	1.5	220	275	Lead Frame

\* Please refer to Part Identification Section

### Test Conditions

**Inductance:** 1 MHz, 1 V, 0 Adc

**Humidity Range:** 65% RH

**Temperature Rise Current:** Current measured when  $\Delta T$  of 40°C

**Saturation Current:** Current measured when  $\Delta L$  of 30%

### General Specifications

**Operating Temperature:** -55°C to +125°C with (40°C rise) Irms current.

**Maximum Part Temperature:** +125°C

**Components Storage Temperature:** -55°C to +125°C

**Tape and Reel packaging Temperature:** <35°C

AMDLA4012Q series is **RoHS/ RoHS II Compliant and Pb free.**

**Moisture Sensitivity Level (MSL) – Level 1**

**AEC-Q200 Qualified**



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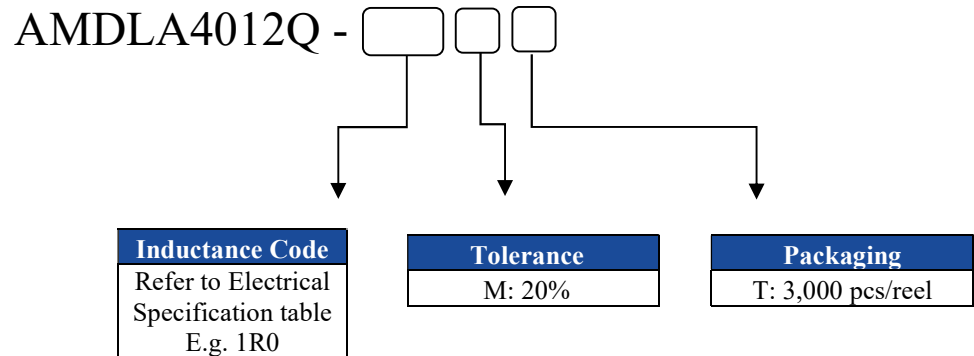


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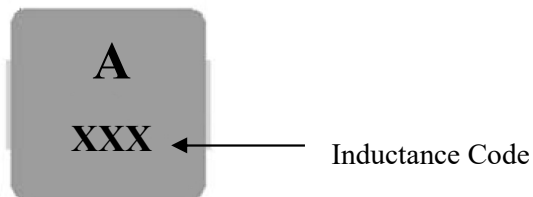


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MSL Level = 1

## Part Identification



## Marking



Marking Method = Ink Marking

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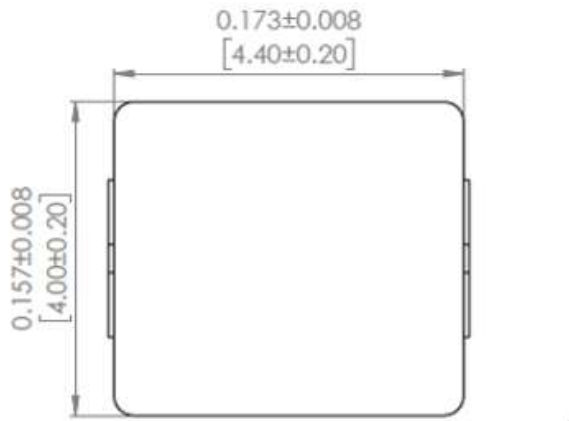


Check Inventory



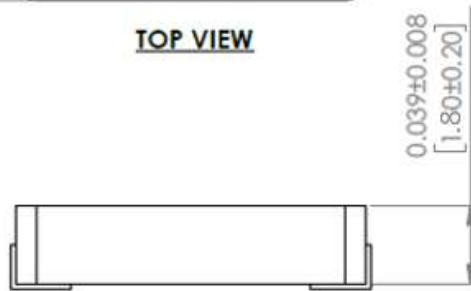
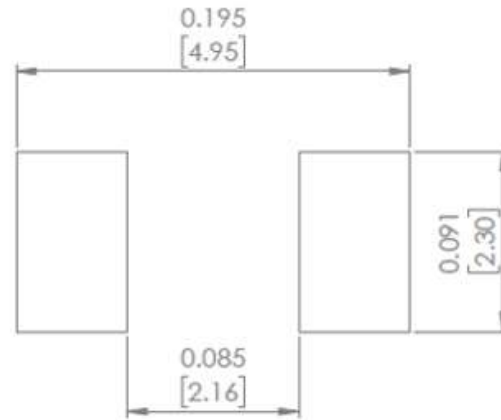
4.4 x 4.0 x 1.8 mm  
RoHS/RoHS II Compliant  
MSL Level = 1

## Mechanical Specifications

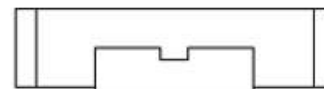


TOP VIEW

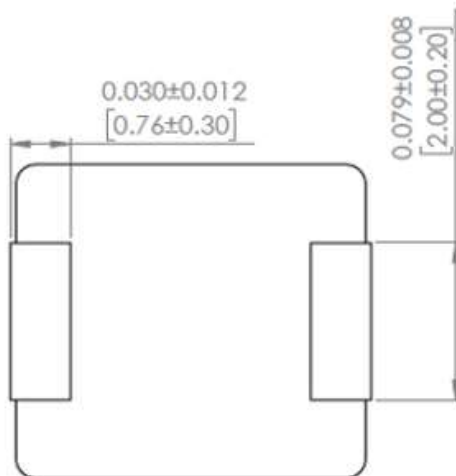
## RECOMMENDED LAND PATTERN



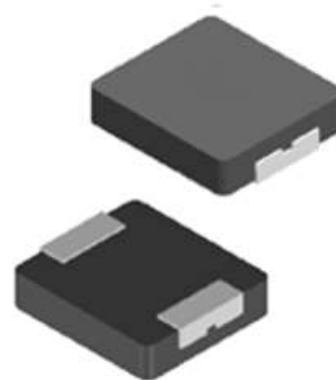
FRONT VIEW



SIDE VIEW



BOTTOM VIEW



Dimensions: inch/[mm]

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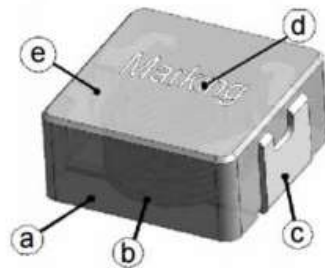


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4.4 x 4.0 x 1.8 mm  
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MSL Level = 1

## Material Specifications



- (a) Core
- (b) Wire
- (c) Terminal
- (d) Ink
- (e) Paint

<b>a</b>	<b>Core</b>	<b>Metal Alloy</b>
<b>b</b>	<b>Wire</b>	<b>Copper</b>
<b>c</b>	<b>Terminal</b>	<b>Tin plating</b>
<b>d</b>	<b>Ink</b>	<b>Black</b>
<b>e</b>	<b>Paint</b>	<b>No Paint</b>

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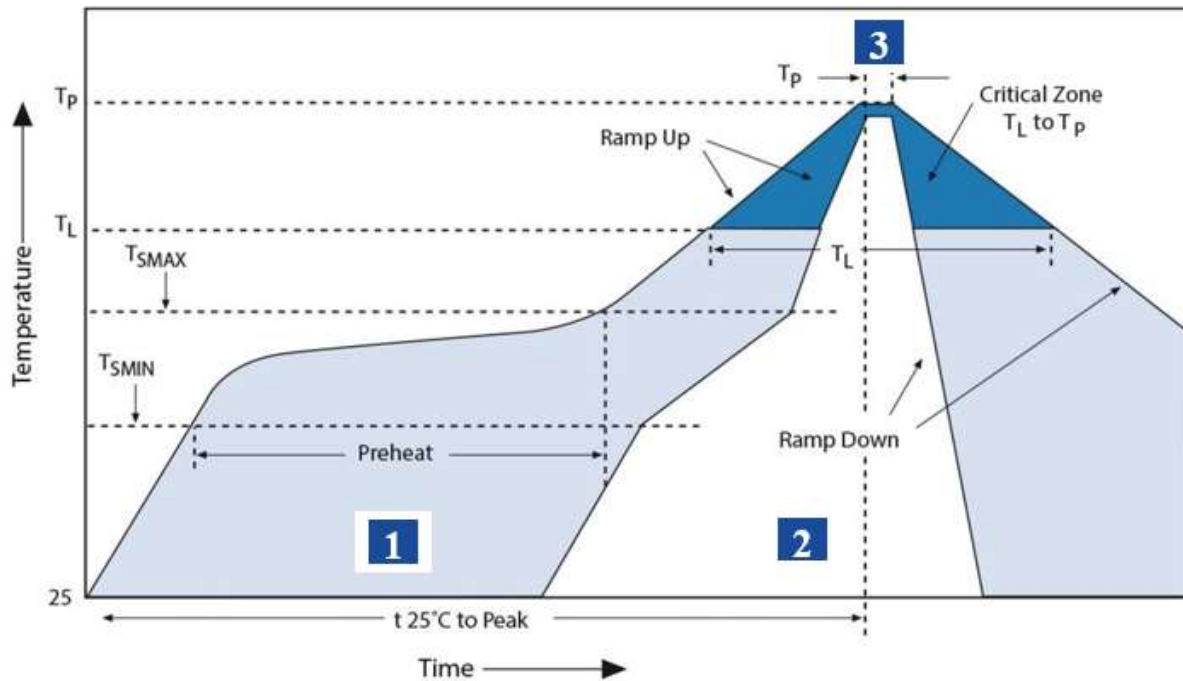


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4.4 x 4.0 x 1.8 mm  
RoHS/RoHS II Compliant  
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## Reflow Profile



Zone	Description	Temperature	Times
1	Preheat	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 180°C	60 ~ 120 sec.
2	Reflow	$T_L$ 230°C	30 ~ 40 sec.
3	Peak heat	$T_P$ 250°C+0/-5°C	10 sec. MAX

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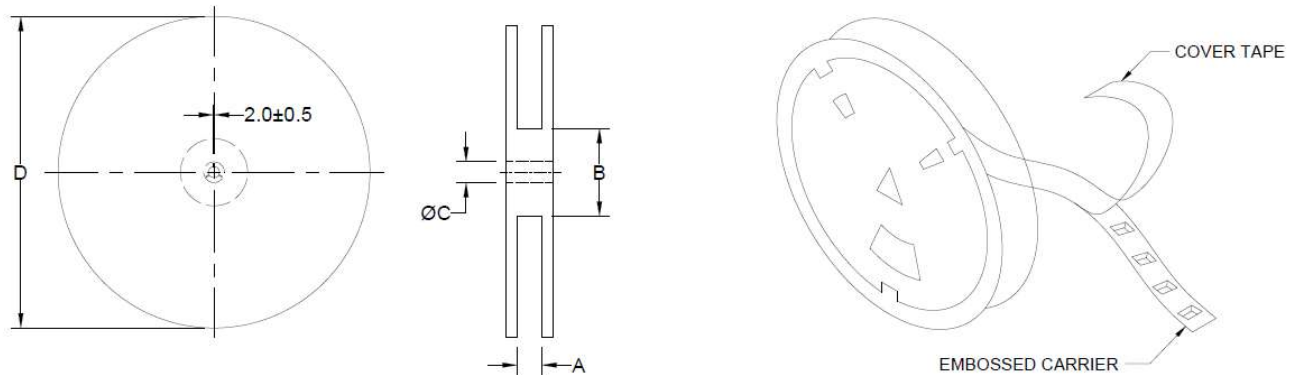
Check Inventory



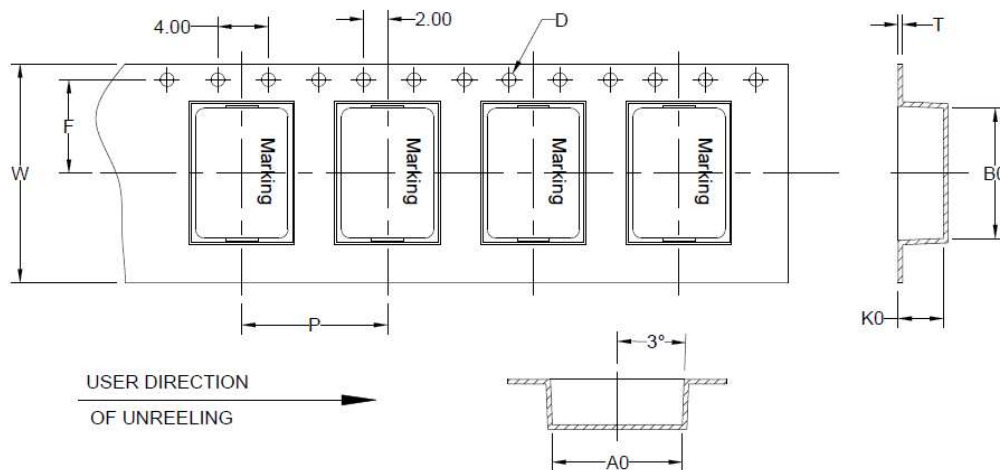
**4.4 x 4.0 x 1.8 mm**  
**RoHS/RoHS II Compliant**  
**MSL Level = 1**

## Packaging

Tape and Reel: 3,000



Type	A	B	C	D
13"X12mm	12.4+2.0/-0	100±0.5	13.0+0.5/-0.2	330



B <sub>0</sub>	A <sub>0</sub>	K <sub>0</sub>	P	W	F	T	D
4.85±0.10	4.45±0.10	1.40±0.10	8.00±0.10	12.00±0.30	3.50±0.10	0.30±0.05	1.50

**Dimensions: mm**

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- 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.
- ii) ABRACON will supply the parts in accordance with this specification unless we receive a written request to modify prior to an order placement.
- iii) In no case shall ABRACON be liable for any product failure from in appropriate handling or operation of the item beyond the scope of this specification.
- iv) When changing your production process, please notify ABRACON immediately.
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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.

4. **Delivery and Shipment:** Shipment dates are estimates only. Failure to deliver by a specified date shall neither entitle Buyer to any compensation nor impose any liability on AB. AB reserves the right to ship and bill ten percent more or less than the exact quantity specified on the face hereof. All shipments will be made Ex Works as per Incoterms 2000 from AB's place of shipment. In the absence of specific instructions, AB will select the carrier. Claims against AB for shortages must be made in writing within ten (10) days after the arrival of the shipment. AB is not required to notify Buyer of the shipment. Buyer shall pay all freight charges, insurance and other shipping expenses. Freight charges, insurance and other shipping expenses itemized in advance of actual shipment, if any, are estimates only that are calculated on the basis of standard tariffs and may not reflect actual costs. Buyer must pay actual costs.
5. **Purchase Order Changes and Cancellations:** Purchase orders for standard AB Products may not be canceled within sixty (60) days of the original shipping date. Purchase orders for non-standard AB Products are non-cancelable and non-returnable. All schedule changes must be requested at least thirty (30) days prior to original shipping date. Maximum schedule change "push-out" shall be no more than thirty (30) days from original shipping date. AB may terminate or cancel this order, in whole or in part, at any time prior to the completion of performance by written notice to Buyer without incurring any liability to Buyer for breach of contract or otherwise. AB reserves the right to allocate Products in its sole discretion among Buyer and other potential buyers, or defer or delay the shipment of any Product, which is in short supply due to any reason.
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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.
11. **Limited Warranties and Disclaimers:** AB warrants to Buyer that each Product, for a period of twelve (12) months from shipment date thereof, will conform to the Specifications and be free from defects in materials and workmanship. AB's sole liability and Buyer's exclusive remedy for Products that fail to conform to this limited warranty ("Defective Products") is limited to repair or replacement of such Defective Products, or issue a credit or rebate of no more than the purchase price of such Defective Products, at AB's sole option and election. This warranty shall not apply: (i) if Products have been damaged or submitted to abnormal conditions (mechanical, electrical, or thermal) during transit, storage, installation, or use; or (ii) if Products are subject to Improper Use (as defined below); or (iii) if the non-conformance of Products results from misuse, neglect, improper testing, storage, installation, unauthorized repair, alteration, or excess usage at or beyond the maximum values (temperature limit, maximum voltage, and other Specification limits) defined by AB; (iv) to any other default not attributable to AB; or (v) removal, alteration, or tampering of the original AB product labeling. This warranty does not extend



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