

# 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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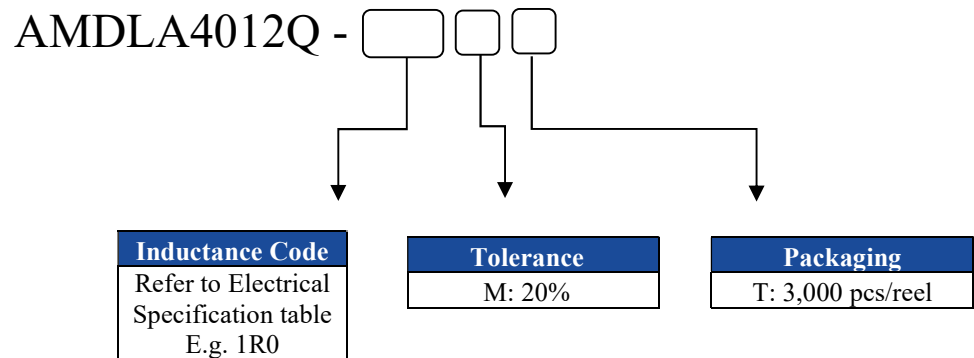


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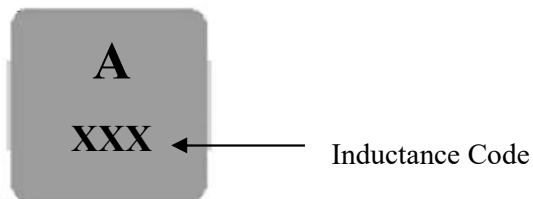


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RoHS/RoHS II Compliant  
MSL Level = 1

## Part Identification



## Marking



Marking Method = Ink Marking

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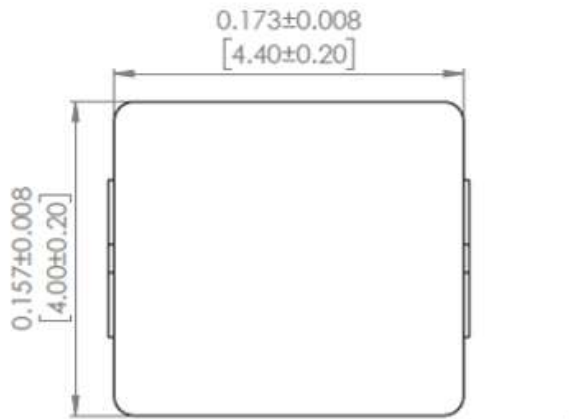


Check Inventory



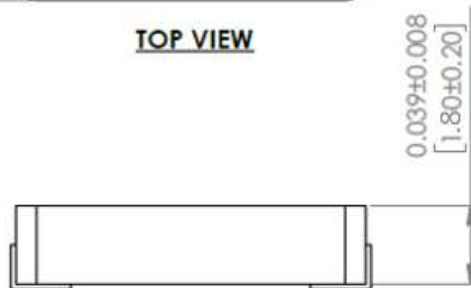
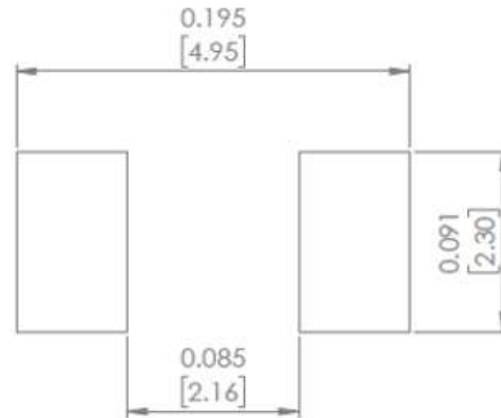
4.4 x 4.0 x 1.8 mm  
RoHS/RoHS II Compliant  
MSL Level = 1

## Mechanical Specifications

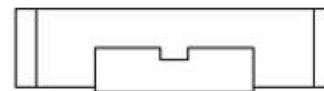


TOP VIEW

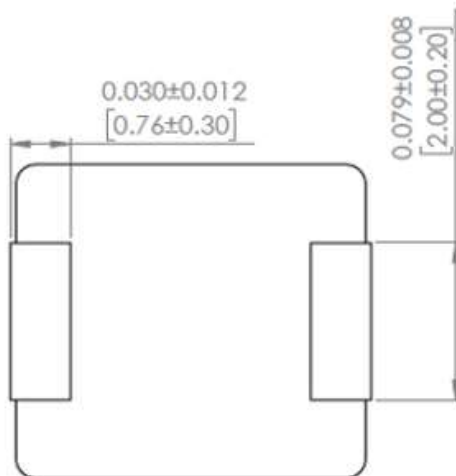
## RECOMMENDED LAND PATTERN



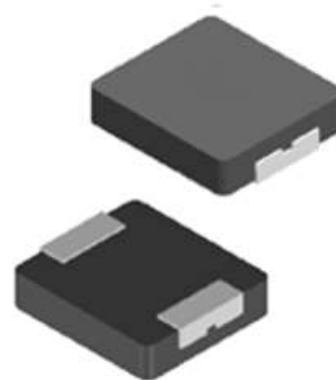
FRONT VIEW



SIDE VIEW



BOTTOM VIEW



Dimensions: inch/[mm]



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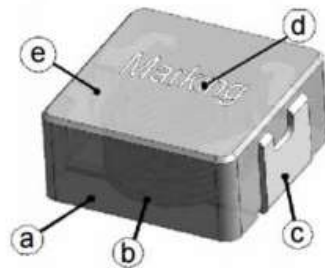


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4.4 x 4.0 x 1.8 mm  
RoHS/RoHS II Compliant  
MSL Level = 1

## 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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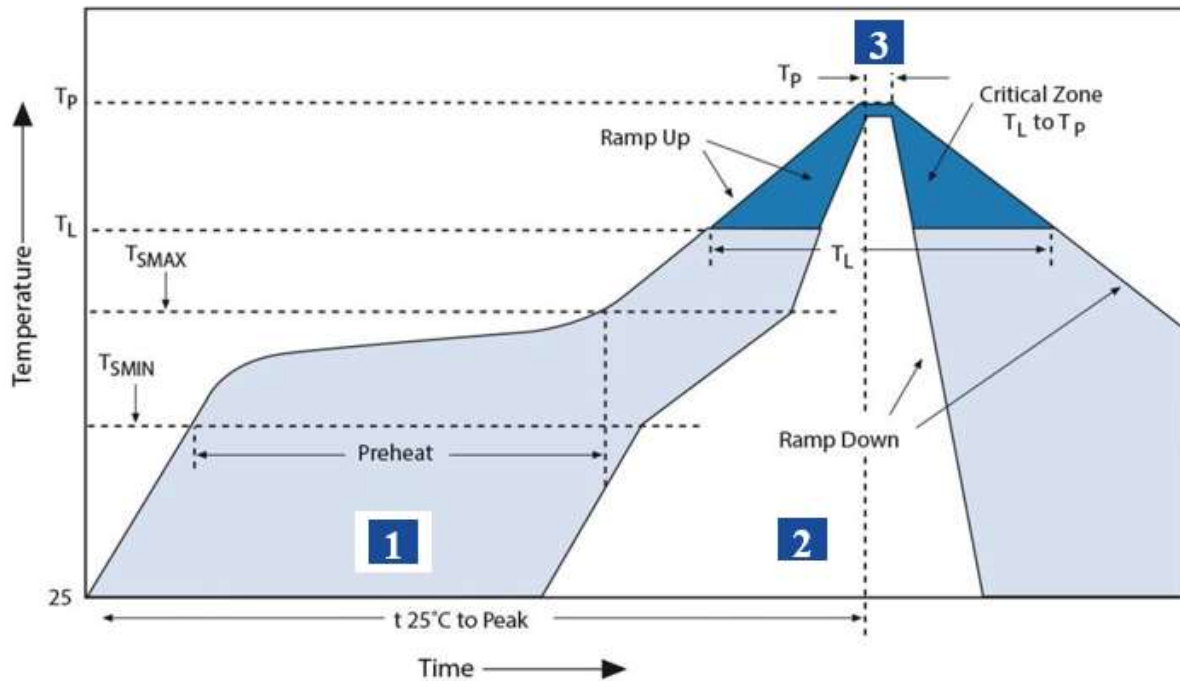


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RoHS/RoHS II Compliant  
MSL Level = 1

## Reflow Profile



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

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**AMDLA4012Q**

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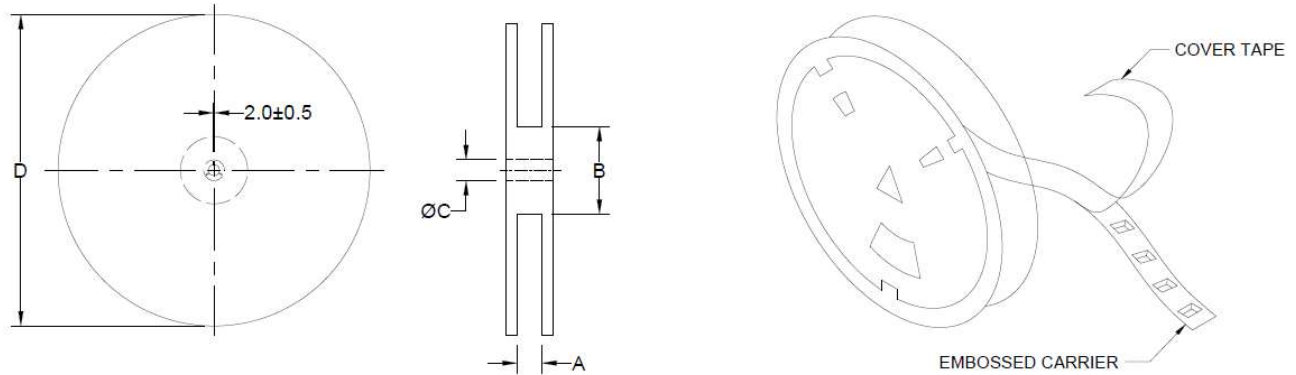
Check Inventory



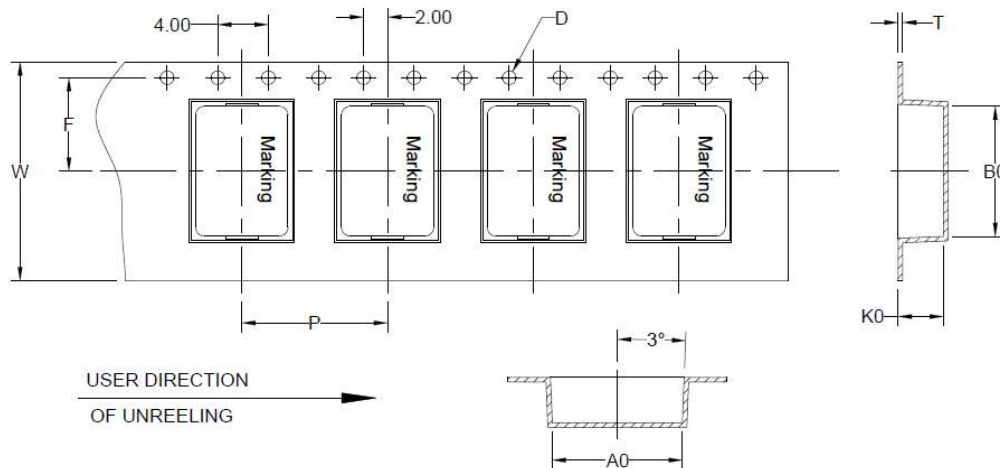
**4.4 x 4.0 x 1.8 mm**  
**RoHS/RoHS II Compliant**  
**MSL Level = 1**

## 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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- 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.
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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.
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