

# Molded Inductor



**AMPLA5030Q**

Request Samples



Check Inventory



5.7 x 5.2 x 2.8 mm  
RoHS/RoHS II Compliant  
MSL Level = 1

## Features

- AEC-Q200 Qualified
- Shielded construction
- Soft saturation
- High current density
- Designed for switching frequencies between 100KHz-2MHz

## 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 (A) | Isat (A) | DC Resistance (mΩ) |      | Type      |
|------------------|-----------------|---------------|----------|----------|--------------------|------|-----------|
|                  |                 |               |          |          | Typ                | Max  |           |
| AMPLA5030Q-R10NT | 0.10            | 30            | 23       | 27       | 2.5                | 3.0  | Lead Type |
| AMPLA5030Q-R20NT | 0.20            | 30            | 16       | 25       | 2.6                | 3.2  | Lead Type |
| AMPLA5030Q-R22MT | 0.22            | 20            | 15.5     | 21       | 3.7                | 4.4  | Lead Type |
| AMPLA5030Q-R33MT | 0.33            | 20            | 14       | 18       | 4.3                | 5.0  | Lead Type |
| AMPLA5030Q-R47MT | 0.47            | 20            | 12       | 16       | 6.4                | 7.4  | Lead Type |
| AMPLA5030Q-R68MT | 0.68            | 20            | 8.5      | 14       | 10                 | 12   | Lead Type |
| AMPLA5030Q-1R0MT | 1               | 20            | 7.0      | 11       | 13                 | 14   | Lead Type |
| AMPLA5030Q-1R2MT | 1.2             | 20            | 6.5      | 11       | 14                 | 16   | Lead Type |
| AMPLA5030Q-1R5MT | 1.5             | 20            | 6.0      | 10       | 16                 | 25   | Lead Type |
| AMPLA5030Q-2R2MT | 2.2             | 20            | 5.5      | 9.0      | 25                 | 35   | Lead Type |
| AMPLA5030Q-3R3MT | 3.3             | 20            | 5.0      | 8.0      | 32                 | 38   | Lead Type |
| AMPLA5030Q-3R6MT | 3.6             | 20            | 4.9      | 7.0      | 46                 | 54   | Lead Type |
| AMPLA5030Q-4R7MT | 4.7             | 20            | 4.6      | 6.0      | 50                 | 53   | Lead Type |
| AMPLA5030Q-5R6MT | 5.6             | 20            | 4.25     | 4.5      | 55                 | 63   | Lead Type |
| AMPLA5030Q-6R8MT | 6.8             | 20            | 4.0      | 4.3      | 68                 | 76.2 | Lead Type |
| AMPLA5030Q-100MT | 10              | 20            | 2.75     | 3.5      | 110                | 128  | Lead Type |
| AMPLA5030Q-150MT | 15              | 20            | 2.1      | 2.6      | 165                | 190  | Lead Type |
| AMPLA5030Q-180MT | 18              | 20            | 2.0      | 2.3      | 195                | 230  | Lead Type |
| AMPLA5030Q-220MT | 22              | 20            | 1.9      | 1.7      | 220                | 250  | Lead Type |
| AMPLA5030Q-330MT | 33              | 20            | 1.6      | 1.6      | 330                | 440  | Lead Type |

\* Please refer to Part Identification Section

## Test Conditions

**Inductance:** 100 KHz, 1 V, 0 Adc

**Humidity Range:** 85 ± 2% RH

**Temperature Rise Current:** Current measured when ΔT of 40°C

**Saturation Current:** Current measured when ΔL of 30%



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## 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:** -55°C to +80°C

AMPLA5030Q series is **RoHS/ RoHS II Compliant and Pb free.**

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

**AEC-Q200 Qualified**

## Part Identification

AMPLA5030Q -

| Inductance Code                                     |
|---|
| Refer to Electrical Specification table<br>E.g. 1R0 |

| Tolerance |
|-----------|
| M: 20%    |
| N: 30%    |

| Packaging         |
|-------------------|
| T: 2,000 pcs/reel |

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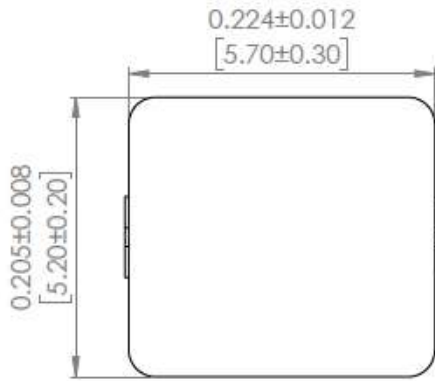


Check Inventory



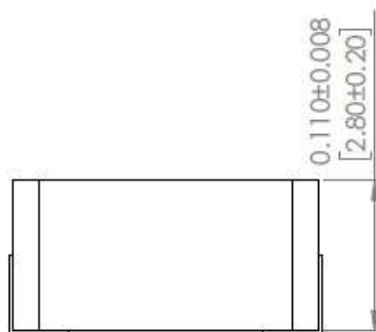
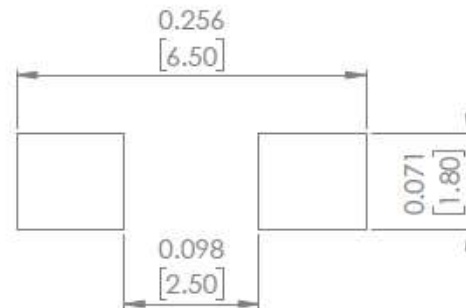
5.7 x 5.2 x 2.8 mm  
RoHS/RoHS II Compliant  
MSL Level = 1

## Mechanical Specifications

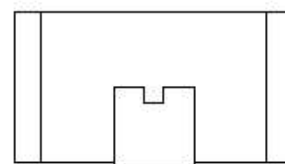


**TOP VIEW**

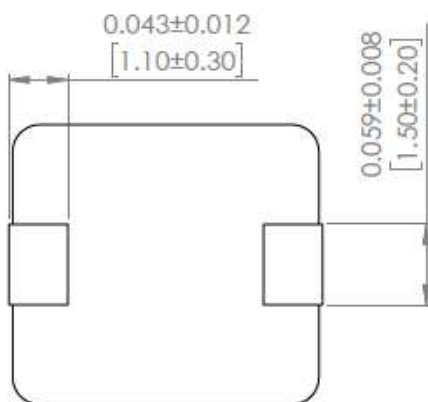
## RECOMMENDED LAND PATTERN



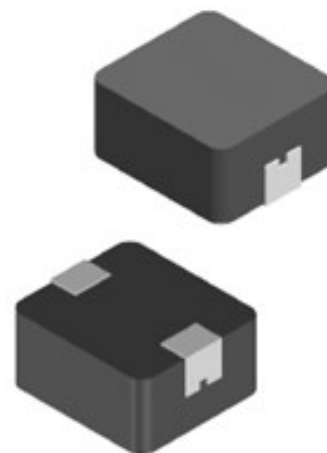
**FRONT VIEW**



**SIDE VIEW**



**BOTTOM VIEW**



Dimensions: inch/[mm]



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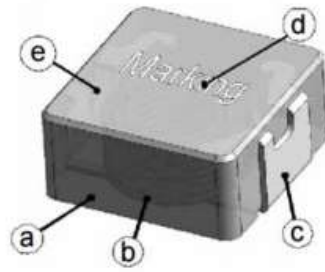


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5.7 x 5.2 x 2.8 mm  
**RoHS/RoHS II Compliant**  
MSL Level = 1

## Material Specifications



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

|          |                 |                        |
|----------|-----------------|------------------------|
| <b>a</b> | <b>Core</b>     | <b>Carbonyl Powder</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>Gray</b>            |

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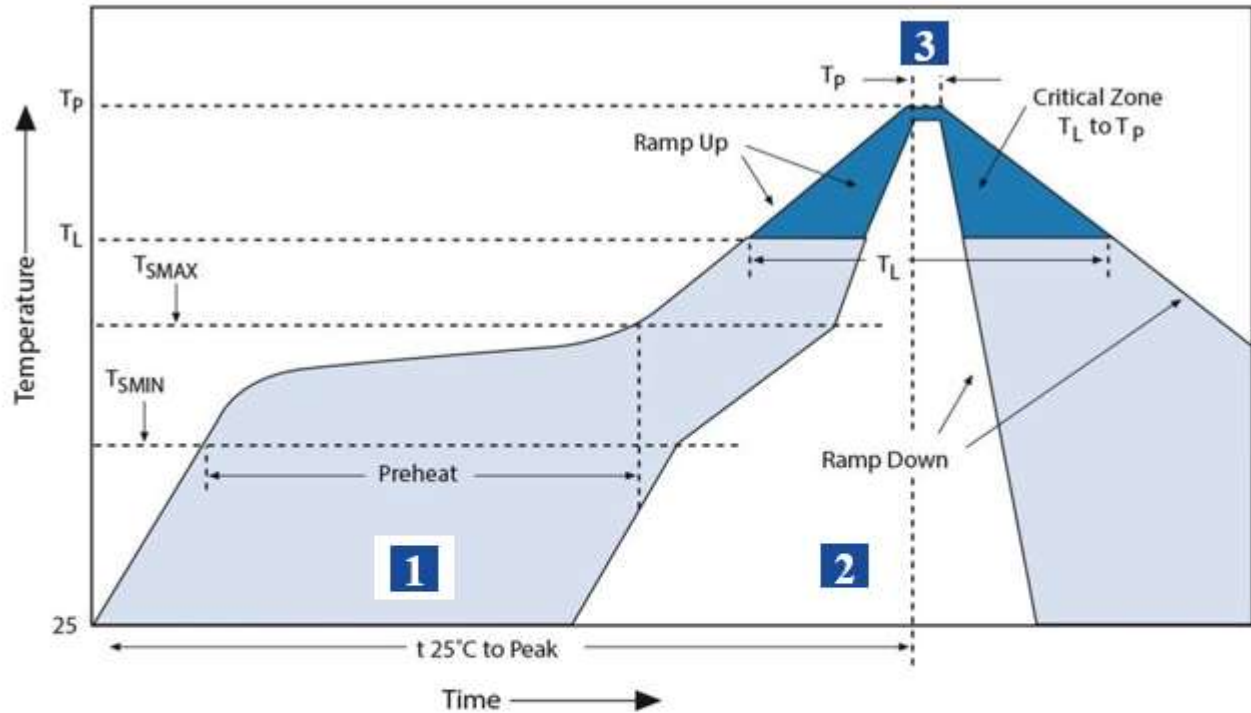


Check Inventory



5.7 x 5.2 x 2.8 mm  
**RoHS/RoHS II Compliant**  
 MSL Level = 1

## Reflow Profile



| Zone | Description | Temperature                               | Times         |
|------|-------------|---|---------------|
| 1    | Preheat     | $T_{SMIN} \sim T_{SMAX}$<br>150°C ~ 200°C | 60 ~ 180 sec. |
| 2    | Reflow      | $T_L$<br>217°C                            | 60 ~ 150 sec. |
| 3    | Peak heat   | $T_P$<br>260°C                            | 10 sec. MAX   |

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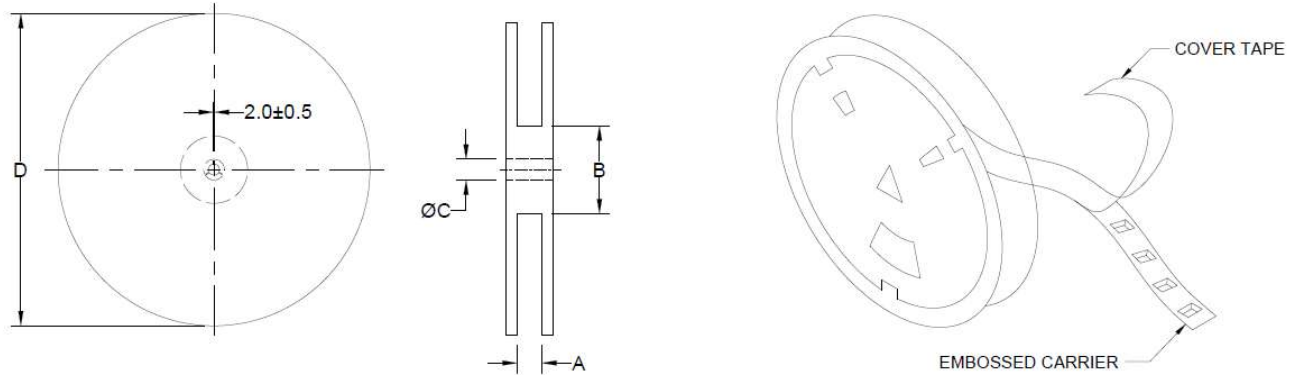
Check Inventory



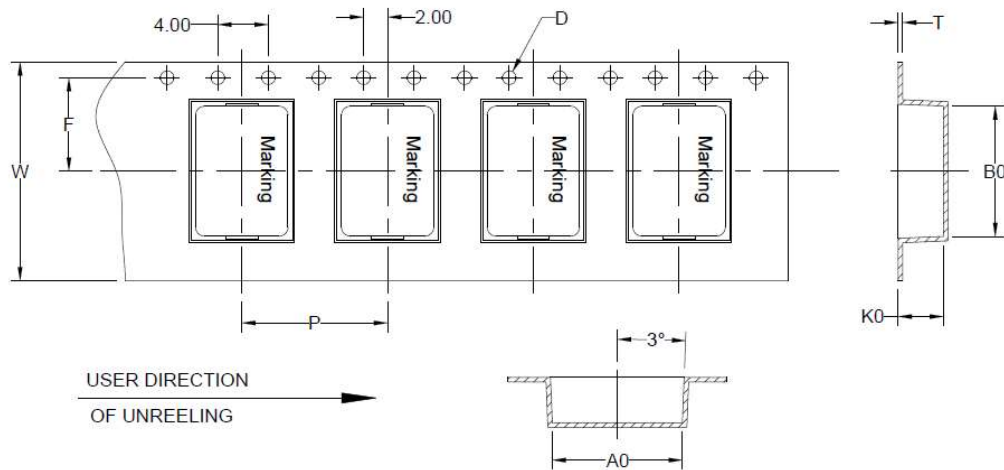
5.7 x 5.2 x 2.8 mm  
**RoHS/RoHS II Compliant**  
 MSL Level = 1

## Packaging

Tape and Reel: 2,000



| Type        | A          | B         | C              | D   |
|-------------|------------|-----------|----------------|-----|
| 13" x 12 mm | 12.4 +2/-0 | 100 ± 2.0 | 13.0 +0.5/-0.2 | 330 |



| B <sub>0</sub> | A <sub>0</sub> | K <sub>0</sub> | P         | W          | F         | T           | D         |
|----------------|----------------|----------------|-----------|------------|-----------|-------------|-----------|
| 6.2 ± 0.1      | 5.5 ± 0.1      | 3.3 ± 0.1      | 8.0 ± 0.1 | 12.0 ± 0.3 | 5.5 ± 0.1 | 0.35 ± 0.05 | 1.5 ± 0.1 |

**Dimensions: 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.
- 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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2. **Taxes:** Unless otherwise specified in the quotation, the prices do not include any taxes, import or export duties, tariffs, customs charges or any such other levies. Buyer agrees to reimburse AB the amount of any federal, state, county, municipal, or other taxes, duties, tariffs, or custom charges AB is required to pay. If Buyer is exempt from any such charges, Buyer must provide AB with appropriate documentation.
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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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7. **Packing:** Packaging shall be AB's standard shipping materials or as specified on the face hereof. Any cost of non-standard packaging and handling requested by Buyer shall be abided by AB provided Buyer gives reasonable prior notice and agrees in writing to pay additional costs.
8. **Security Interest:** Buyer hereby grants AB a purchase money security interest in the Products sold and in the proceeds of resale of such Products until such time as Buyer has paid all charges. AB retains all right and remedies available to AB under the Uniform Commercial Code.
9. **Specifications:** Specifications for each Product are the specifications specified in the published datasheets of such Product, as of the date of AB's quotation (the "Specifications"). Except as otherwise agreed, AB reserves the right to modify the Specifications at any time without adversely affecting the functionality.
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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