

# HORIZONTALLY ASSEMBLED POWER INDUCTOR



**AVR-1F070608S**

Request Samples



Check Inventory



7.2 x 6.5 x 8.2mm

RoHS/RoHS II Compliant

MSL Level = 1

## Features

- Ferrite Core
- Low DCR, High Efficiency
- High temperature current rating
- High saturation current rating

## Applications

- Single and Multiphase DC-DC converters
- Voltage regulator modules (VRMs)
- Renewable energy, Power inverters, DC links
- Electric Vehicles (EVs)
- Telecom infrastructure, datacenters, servers and switches
- Industrial and robotics equipment
- Medium and high-power switch mode power supplies (SMPS)

## Electrical Specifications @ 25°C

| Part Number*       | Inductance   | Inductance Tolerance | DC Resistance | Saturation Current |              | Temperature Rise Current |
|--------------------|--------------|----------------------|---------------|--------------------|--------------|--------------------------|
|                    | 100KHz/0.25V |                      | mΩ            | Typ.               |              | Typ.                     |
| Units              | nH           | %                    |               |                    | A            |                          |
| Symbol             | L            | M                    | DCR           | Isat1@ 25°C        | Isat2@ 100°C | Irms                     |
| AVR-1F070608S55NMT | 55           | 20%                  | 0.2 ± 7%      | 110                | 100          | 63                       |
| AVR-1F070608S70NMT | 70           |                      |               | 92                 | 78           |                          |
| AVR-1F070608SR10MT | 100          |                      |               | 65                 | 55           |                          |
| AVR-1F070608SR12MT | 120          |                      |               | 54                 | 46           |                          |

\* The “T” at the end of the part numbers refers to “Tape & Reel” packaging. For other options, please refer to the Part Identification section.

### Test Conditions:

**Isat1:** DC current at which the inductance drops 30% from its nominal value at 25°C.

**Isat2:** DC current at which the inductance drops 30% from its nominal value at 100°C.

**Irms:** DC current that causes the temperature rise ( $\Delta T$ , 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. 70 max.

AVR-1F070608S Series is **RoHS Compliant and Pb free**.



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**REVISION Initial Release :**  
**6/20/2024**

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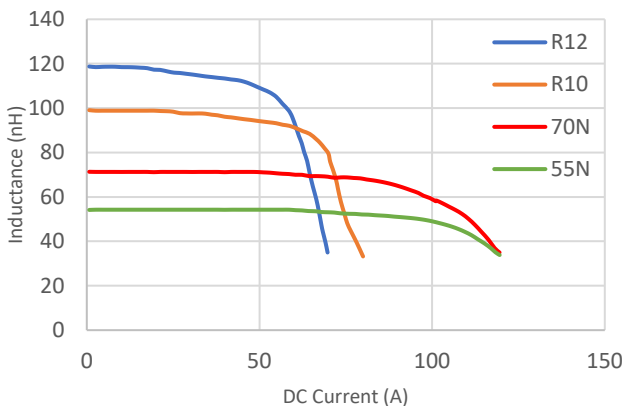
7.2 x 6.5 x 8.2mm

RoHS/RoHS II Compliant

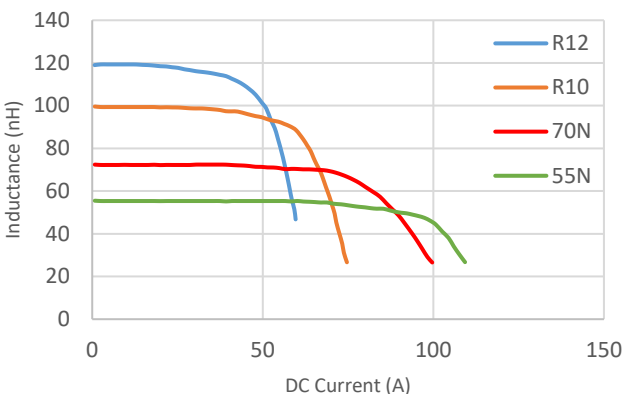
MSL Level = 1

## Performance Graphs

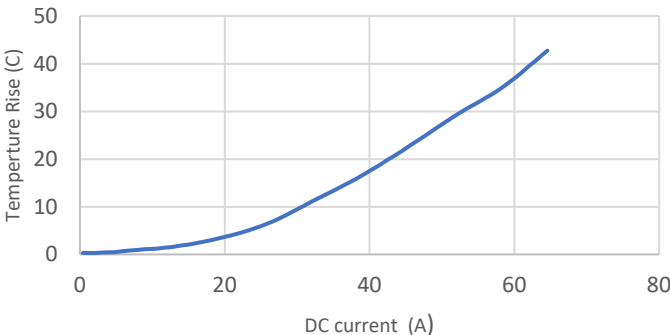
AVR-1F070608S Series Saturation Graphs @25C



AVR-1F070608S Series Saturation Graphs @100C



AVR-1F070608S Series Temperature Rise Graph



## Part Identification

AVR-1F070608S



### Inductance Code

See Electrical Specification table

### Tolerance

M =  $\pm 20\%$

### Packaging Options

T: Tape and Reel (See Packaging)

B: Bulk

\*Tolerance only available as indicated in electrical spec. table



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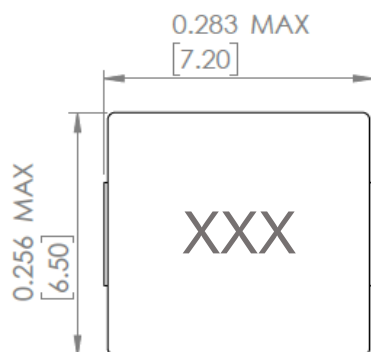


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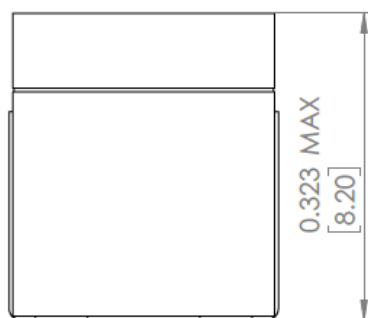
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## Mechanical Specifications

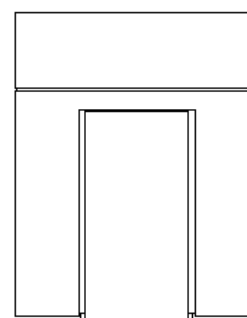
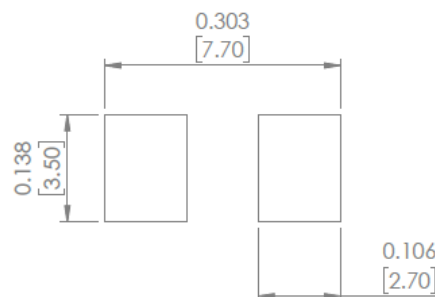


**TOP VIEW**

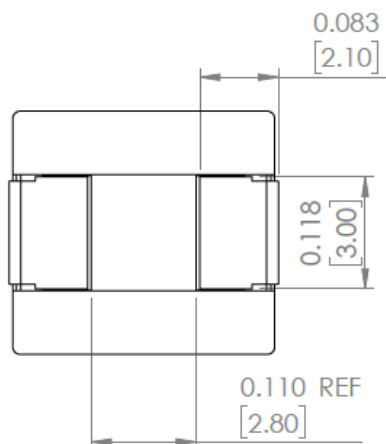


**FRONT VIEW**

### RECOMMENDED LAND PATTERN



**SIDE VIEW**



**BOTTOM VIEW**

**Markings:** Inductance code.

**Dimensions:** Inches[mm]



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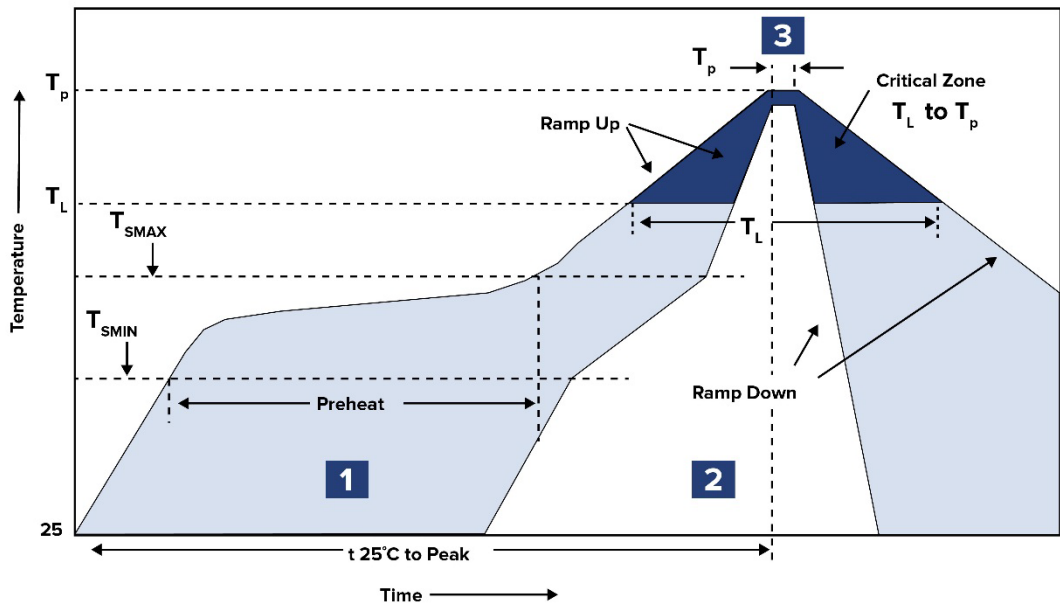


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## Reflow Profile



| Zone | Description | Temperature                               | Times         |
|------|-------------|-------------------------------------------|---------------|
| 1    | Preheat     | $T_{SMIN} \sim T_{SMAX}$<br>150°C ~ 180°C | 60 ~ 180 sec. |
| 2    | Reflow      | $T_L$<br>217°C                            | 60 ~ 150 sec. |
| 3    | Peak heat   | $T_P$<br>255°C ± 5°C                      | 5 ± 0.5 sec.  |

Ref. Solder paste: Sn/3.0Ag/0.5Cu

Ramp up rate: 3°C/s Max.

Ramp down rate: 6°C/s Max.



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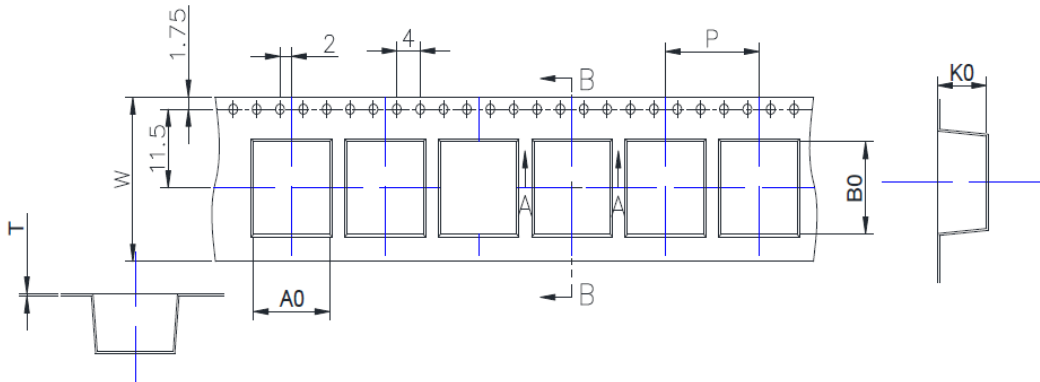
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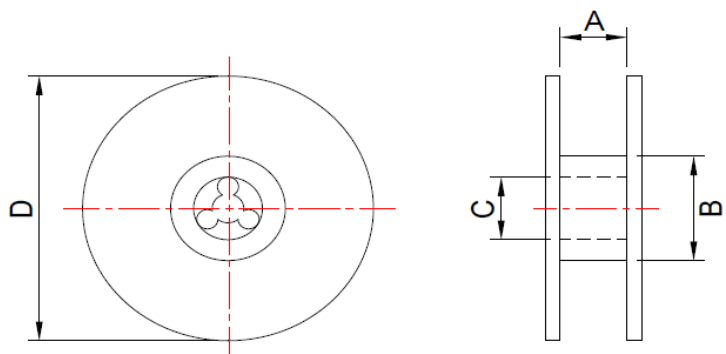
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## Packaging

Tape & Reel: 500 pcs/reel



| Ao        | Bo        | Ko        | P          | T          | W          |
|-----------|-----------|-----------|------------|------------|------------|
| 6.7 ± 0.1 | 7.4 ± 0.1 | 8.2 ± 0.1 | 12.0 ± 0.1 | 0.4 ± 0.05 | 24.0 ± 0.3 |



| A          | B         | C          | D        |
|------------|-----------|------------|----------|
| 24.0 ± 0.5 | 100 ± 2.0 | 13.5 ± 0.5 | 330 Ref. |

Dimensions: mm

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