

#### Features

- Designed for [TIDA-010957](#) high-power three-phase flying capacitor inverter
- Low profile design
- High saturation current
- Flat wire winding
- Low ESR design
- RoHS compliant\*

#### Applications

- Data centers
- Servers
- String inverters
- On-board chargers (OBC)
- Fast charging stations

#### Sustainability

- High pallet density for lower CO<sub>2</sub>
- Eco-logistics-friendly packing
- High efficiency, low power loss
- ISO 14001, low-impact energy
- Responsibly sourced and produced
- Meets EU 94/62/EC standards

The information provided in this pre-production sample product data sheet is for reference only and is intended to accelerate initial design and prototyping phases. For a tailored, production-ready solution, contact Bourns for further discussion.

#### Product Overview

Bourns® Model MAG-3002584 is an 87 µH high-power inductor developed for high frequency PFC and inverter applications in high voltage, three-phase power systems. Originally designed for Texas Instruments' [TIDA-010957](#) flying capacitor reference design, it features

low DCR (10.1 mΩ typ.), and 42 A saturation current to support high efficiency (>98.5 %) and high power density operation.

Custom configurations are available upon request.

Electrical Specifications	
Specification	Value
Inductance @ 0 ADC	87 µH
Tolerance	±10 %
DCR	10.1 mΩ typ.
SRF	1.5 MHz typ.
Isat @ 30 %	42 A
Irms	15 A
	49 A
Height	51 mm
*Q Factor	650

\*Q-Factor: To calculate core flux density,  $Bp-p$  (gauss) =  $K \times L(\mu H) \times \Delta I$  (peak-to-peak ripple current, A), determine core loss from Core Loss vs. Flux Density plot

General Specifications	
Specification	Value
Operating Temperature (Including Self-Temperature Rise)	-40 °C to +125 °C
Storage Temperature	-25 °C to +85 °C
Test Frequency / Voltage	100 kHz / 1 V
Measurement Pins	1,2,3,4 - 5,6,7,8
Moisture Sensitivity Level (MSL)	1

Materials	
Specification	Value
Base	Phenolic
Core	Ferrite
Wire	Litz wire
Terminal Finish	Tin
Glue	Epoxy

#### How to Order

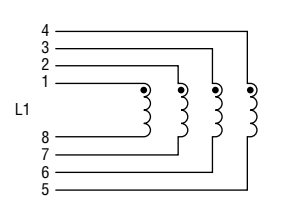
MAG-3002584

Model \_\_\_\_\_

#### Packaging Specifications

Packaging	Pieces per Box
Box	6

#### Electrical Schematics



#### Contact Information

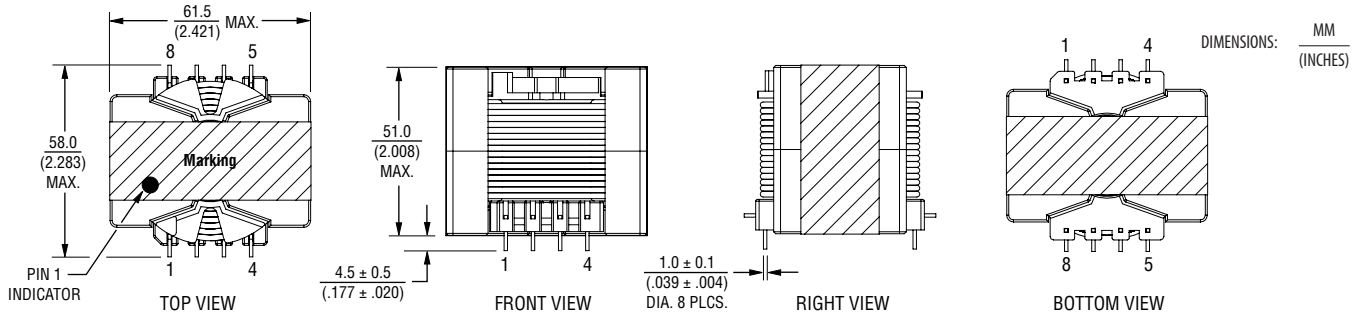
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\* RoHS Directive 2015/863, Mar 31, 2015 and Annex. Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

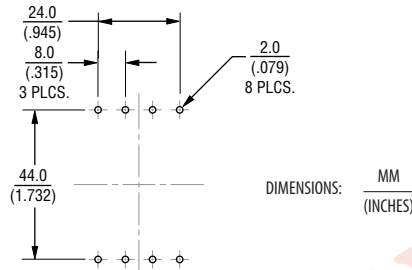
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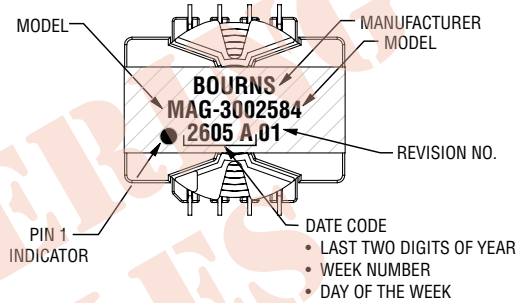
#### Product Dimensions



#### Recommended Layout

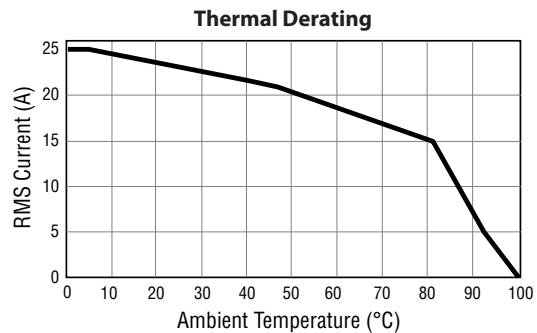
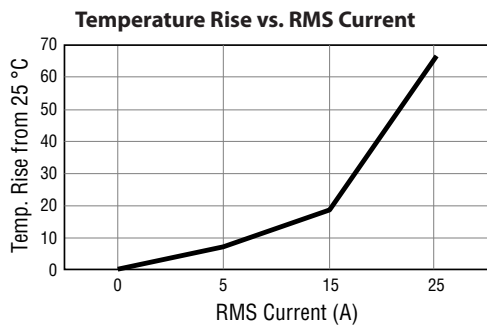
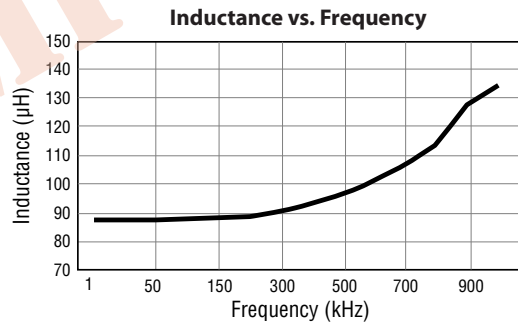
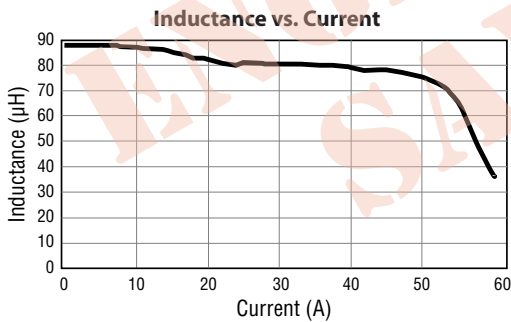


#### Typical Part Marking



#### Typical Performance Characteristics

Derived under defined electrical specifications.



REV. 05/26  
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