



## Features

- Shielded construction for low radiation
- Dual winding inductors
- Extremely high current
- Inductance range: 70 to 200 nH
- RoHS compliant\* and halogen free\*\*

## Applications

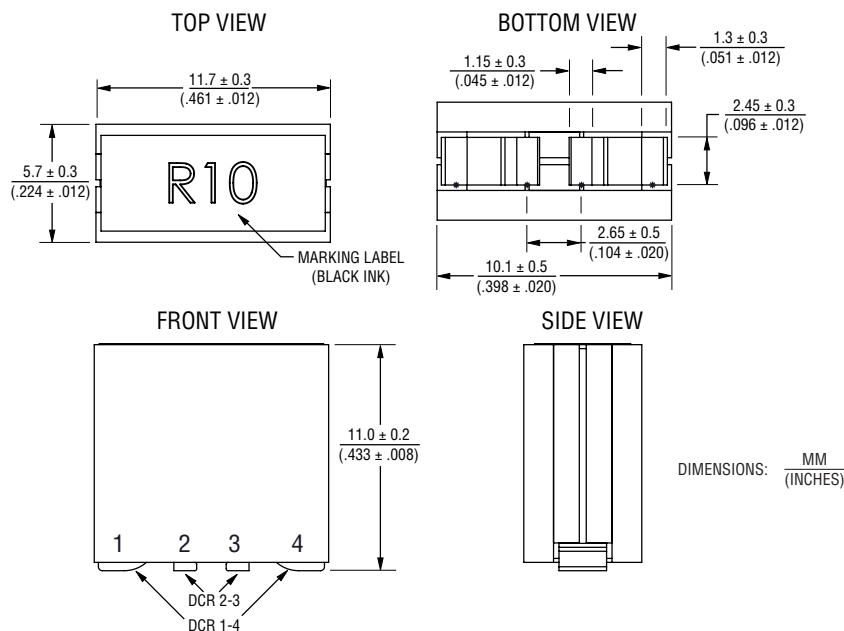
- Servers and workstations
- Data centers
- Data networking and storage systems
- Notebook and desktop computers
- Graphic cards and battery powered systems
- Multi-phase regulators
- Voltage Regulator Modules (VRMs)

## TLVR1105T Series – Trans-Inductor Voltage Regulator (TLVR) Inductors

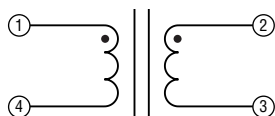
### Electrical Specifications @ 25 °C

| Bourns Part Number | Inductance |          | DCR ±10 % (mΩ) |         | Irms (A) |         | Isat1 (A) | Isat2 (A) | Isat3 (A) | Kps Typ. |
|--------------------|------------|----------|----------------|---------|----------|---------|-----------|-----------|-----------|----------|
|                    | L (nH)     | Tol. (%) | Pin 1-4        | Pin 2-3 | Pin 1-4  | Pin 2-3 | @25 °C    | @100 °C   | @125 °C   |          |
| TLVR1105T-70NY     | 70         | ±15      | 0.125          | 0.37    | 77       | 45      | 160       | 140       | 130       | 0.92     |
| TLVR1105T-80NY     | 80         | ±15      | 0.125          | 0.37    | 77       | 45      | 150       | 120       | 110       | 0.93     |
| TLVR1105T-90NY     | 90         | ±15      | 0.125          | 0.37    | 77       | 45      | 135       | 115       | 105       | 0.93     |
| TLVR1105T-R10Y     | 105        | ±15      | 0.125          | 0.37    | 77       | 45      | 125       | 106       | 98        | 0.94     |
| TLVR1105T-R12Y     | 120        | ±15      | 0.125          | 0.37    | 77       | 45      | 102       | 87        | 80        | 0.95     |
| TLVR1105T-R15Y     | 150        | ±15      | 0.125          | 0.37    | 77       | 45      | 84        | 71        | 58        | 0.96     |
| TLVR1105T-R17Y     | 170        | ±15      | 0.125          | 0.37    | 77       | 45      | 70        | 60        | 53        | 0.96     |
| TLVR1105T-R20Y     | 200        | ±15      | 0.125          | 0.37    | 77       | 45      | 58        | 50        | 43        | 0.96     |

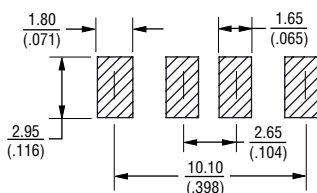
### Product Dimensions



### Electrical Schematic



### Recommended Layout



### Additional Information

Click these links for more information:



### General Specifications

Operating Temperature ..... -40 °C to +125 °C  
(Temperature rise included)  
Storage Temperature ..... -40 °C to +125 °C  
Temperature Rise ..... 40 °C typ. at rated Irms  
Rated Current ..... Inductance drops 20 % at Isat  
Moisture Sensitivity Level..... 1  
ESD Classification (HBM)..... N/A

### Materials

Core..... Ferrite  
Wire ..... Enameled copper  
Terminal Finish ..... Sn  
Packaging..... 400 pcs. per reel

### How to Order

TLVR1105T - 70NY

Model \_\_\_\_\_  
Value Code (see table) \_\_\_\_\_



**CALIFORNIA WARNING:** Can expose you to lead, a carcinogen and reproductive toxicant.  
See [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

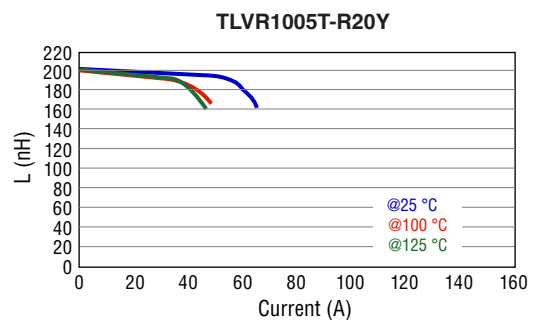
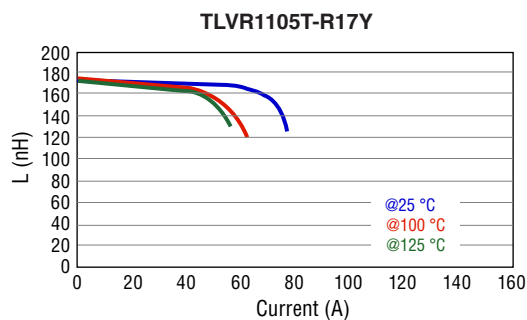
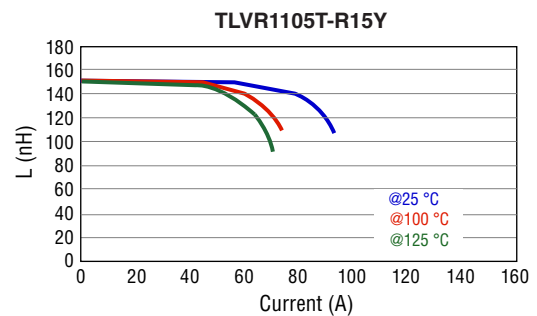
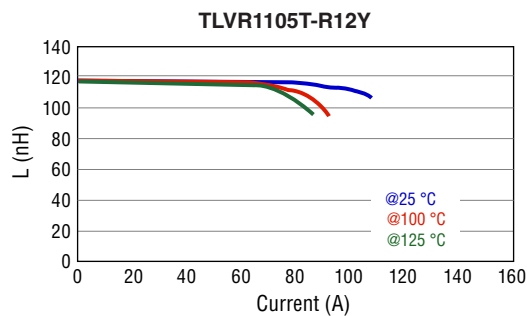
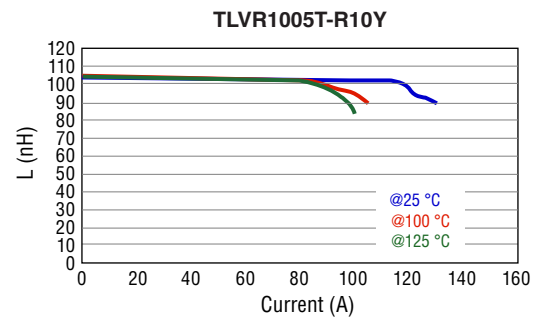
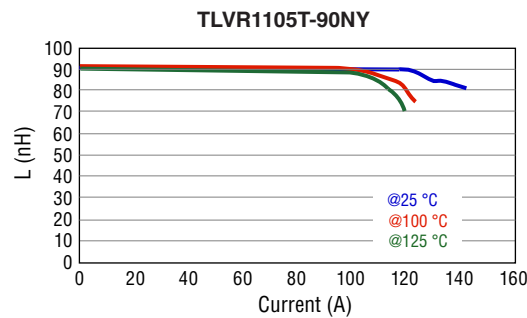
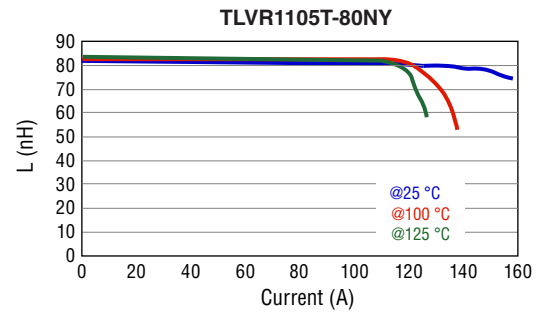
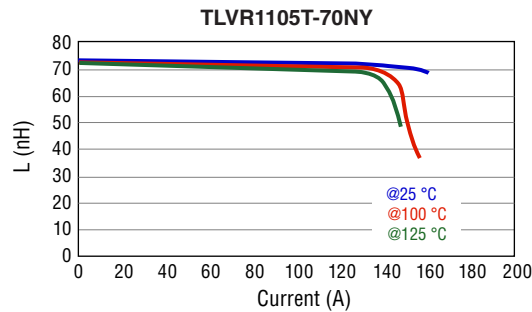
Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

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# TLVR1105T Series – Trans-Inductor Voltage Regulator (TLVR) Inductors

**BOURNS®**

## Typical Inductance vs. Current Curves



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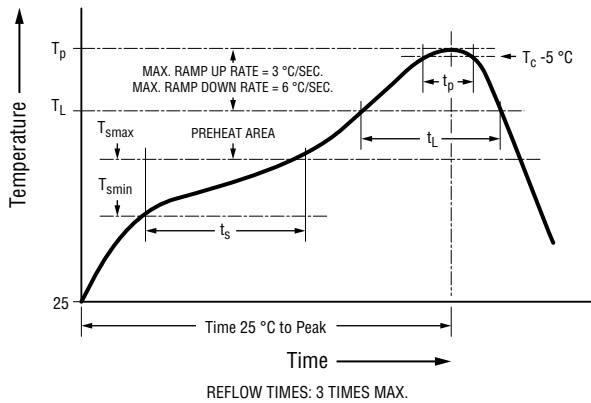
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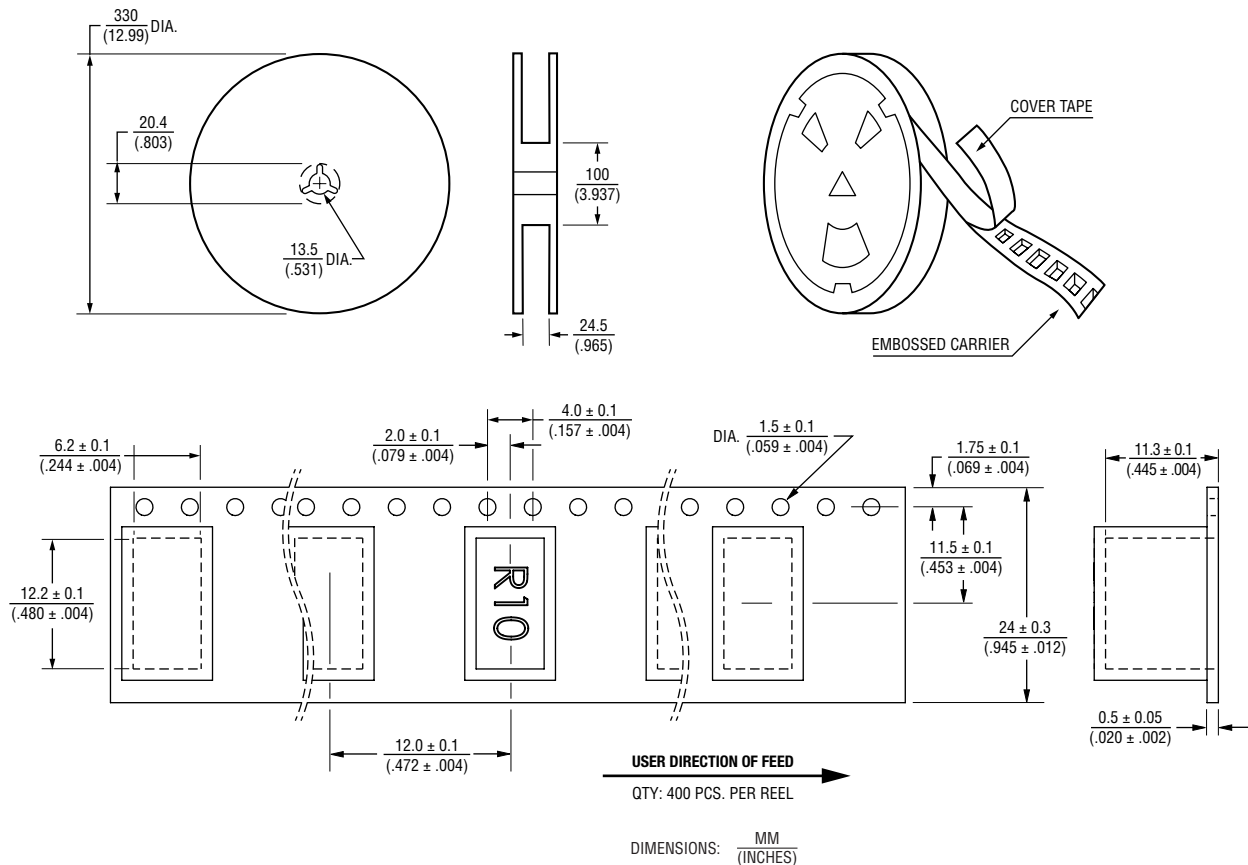
**BOURNS®**

## Soldering Profile



| Profile Feature                                                                                                                                                                                                                                | Pb Free Assembly                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| Preheat <ul style="list-style-type: none"> <li>- Temperature Min. (<math>T_{smin}</math>)</li> <li>- Temperature Max. (<math>T_{smax}</math>)</li> <li>- Time(<math>t_s</math>) from <math>T_{smin}</math> to <math>T_{smax}</math></li> </ul> | 150 °C<br>200 °C<br>60-120 seconds |
| Ramp-up Rate ( $T_L$ to $T_p$ )                                                                                                                                                                                                                | 3 °C/second max.                   |
| Liquidous temperature ( $T_L$ )<br>Time ( $t_L$ ) maintained above $T_L$                                                                                                                                                                       | 217 °C<br>60-150 seconds           |
| Peak package body temperature ( $T_p$ )                                                                                                                                                                                                        | 245 °C                             |
| Time ( $t_p$ ) at $T_c - 5 °C$<br>( $T_p$ should be equal to or less than $T_c$ )                                                                                                                                                              | < 30 seconds                       |
| Ramp-Down Rate ( $T_p$ to $T_L$ )                                                                                                                                                                                                              | 6 °C/second max.                   |
| Time 25 °C to Peak Temperature                                                                                                                                                                                                                 | 8 minutes max.                     |

## Packaging Specifications



REV. 09/25

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