



### Features

- Shielded construction for low radiation
- Dual winding inductors
- Extremely high current
- Inductance range: 70 to 170 nH
- RoHS compliant\* and halogen free\*\*

### Applications

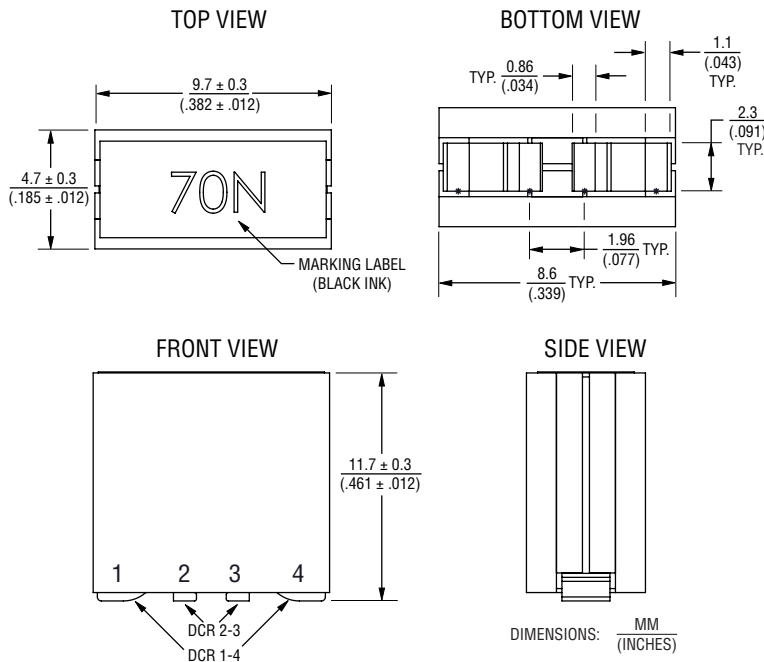
- Servers and workstations
- Data centers
- Data networking and storage systems
- Notebook and desktop computers
- Graphic cards and battery powered systems
- Multi-phase regulators
- Voltage Regulator Modules (VRMs)

## TLVR1005T Series – Trans-Inductor Voltage Regulator (TLVR) Inductors

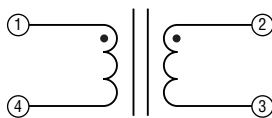
### Electrical Specifications @ 25 °C

Bourns Part Number	Inductance Pin 1-4 / Pin 2-3		Inductance @Isat1 Min. Pin 1-4	DCR ±10 % (mΩ)		I <sub>rms</sub> (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	
TLVR1005T-70NK	70	±10	50	0.125	0.450	75	35	127	110	100	0.93
TLVR1005T-80NK	80	±10	57	0.125	0.450	75	35	111	96	87	0.94
TLVR1005T-90NK	90	±10	64	0.125	0.450	75	35	98	85	77	0.95
TLVR1005T-R10K	100	±10	72	0.125	0.450	75	35	89	77	70	0.95
TLVR1005T-R12K	120	±10	86	0.125	0.450	75	35	74	64	58	0.96
TLVR1005T-R15K	150	±10	108	0.125	0.450	75	35	59	51	46	0.96
TLVR1005T-R17K	170	±10	122	0.125	0.450	75	35	52	45	41	0.97

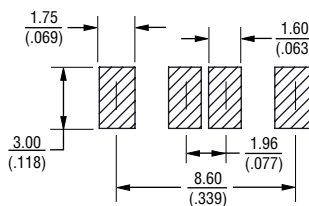
### Product Dimensions



### 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 I<sub>rms</sub>  
 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 ..... 300 pcs. per reel

### How to Order

**TLVR1005T - 70NK**  
 Model \_\_\_\_\_  
 Value Code (see table) \_\_\_\_\_



**WARNING**  
**Cancer and Reproductive Harm**  
[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.

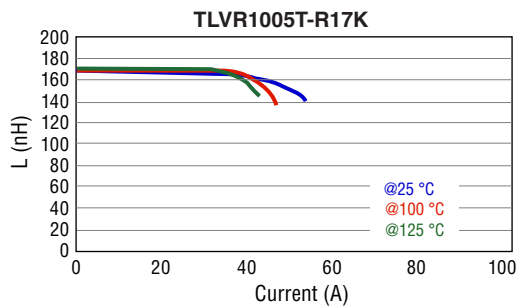
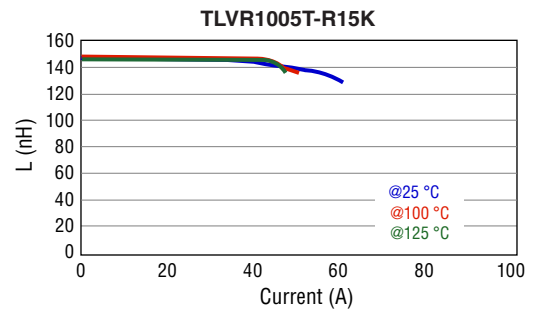
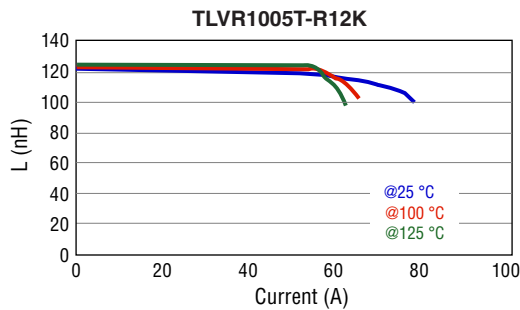
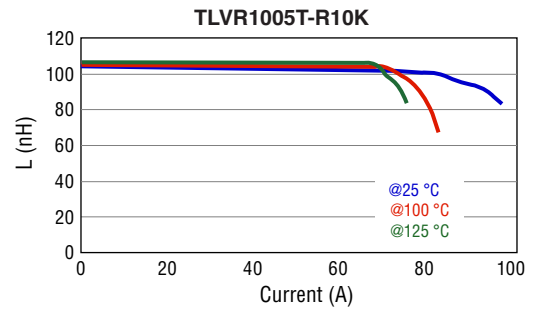
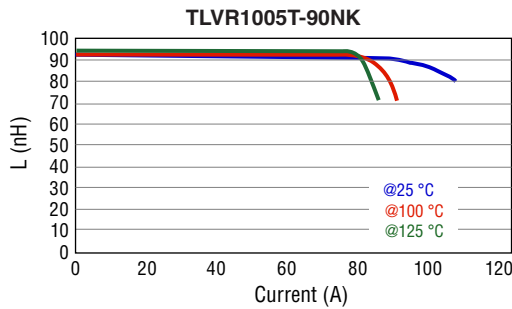
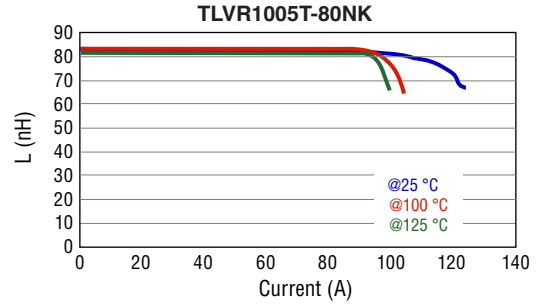
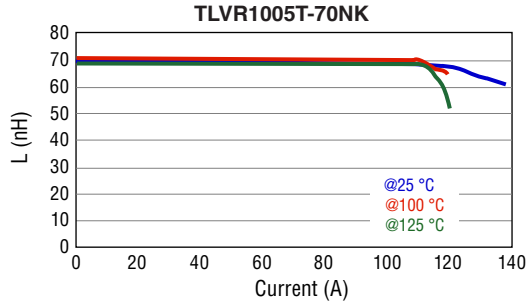
Users should verify actual device performance in their specific applications.

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# TLVR1005T Series – Trans-Inductor Voltage Regulator (TLVR) Inductors



## Typical Inductance vs. Current Curves



REV. 12/23

Specifications are subject to change without notice.

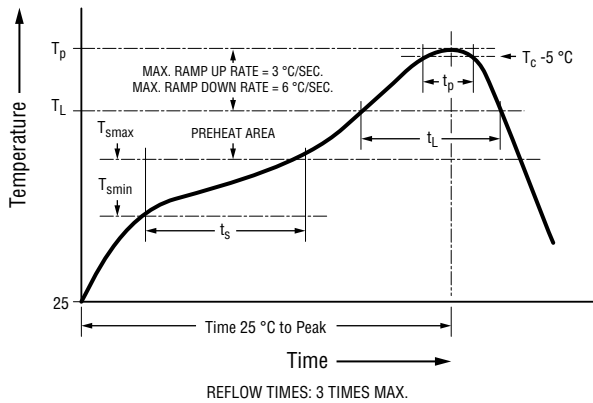
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# TLVR1005T Series – Trans-Inductor Voltage Regulator (TLVR) Inductors

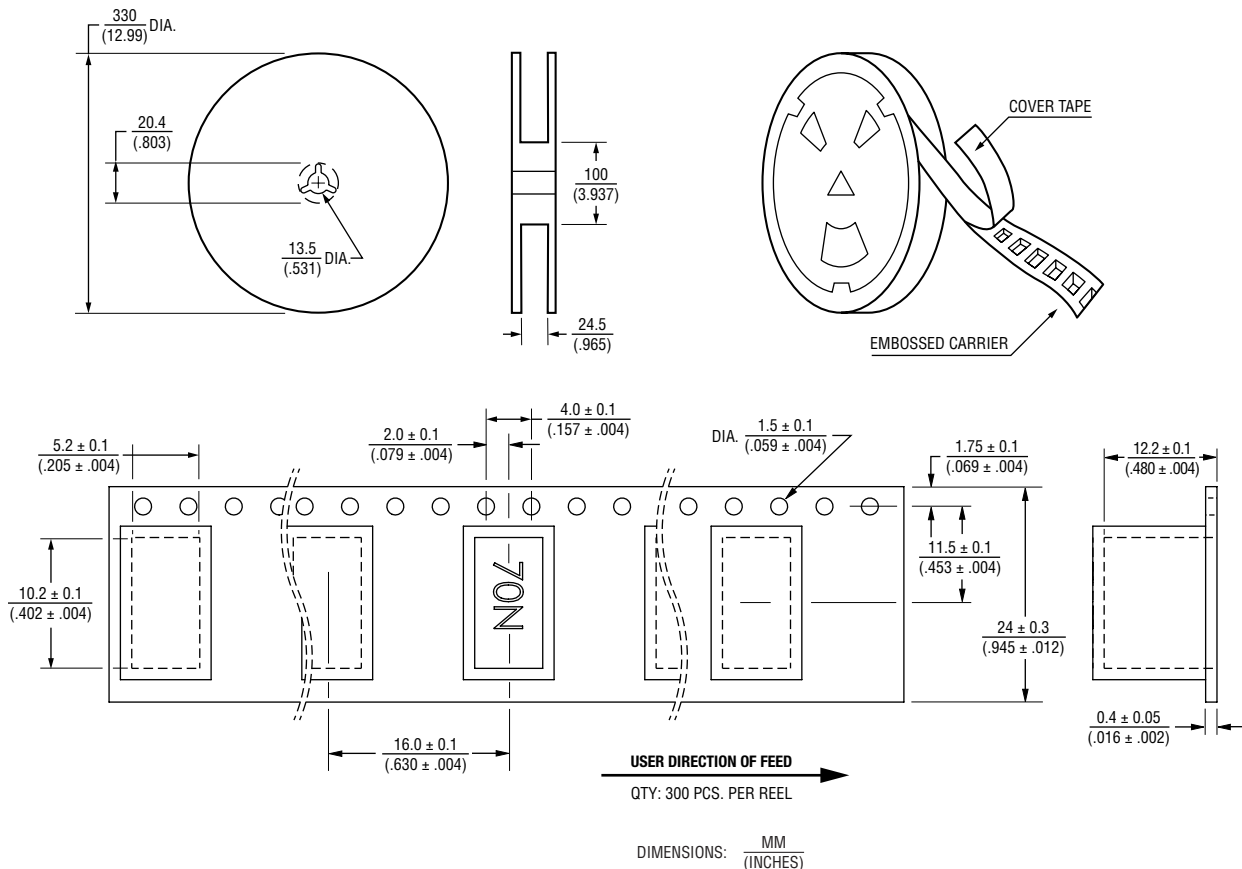


## Soldering Profile



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 200 °C 60-120 seconds
Ramp-up Rate ( $T_L$ to $T_p$ )	3 °C/second max.
Liquidous temperature ( $T_L$ ) Time ( $t_L$ ) maintained above $T_L$	217 °C 60-150 seconds
Peak package body temperature ( $T_p$ )	245 °C
Time ( $t_p$ ) at $T_c - 5$ °C ( $T_p$ 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. 04/24

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