



BOURNS®

Features

- Single port Gigabit Ethernet
- Working voltage: 800 V
- Hi-Pot: 4680 VDC
- Design construction: Reinforced insulation per IEC 60664-1 and IEC 62368-1 requirements
- Creepage distance > 8 mm, pollution degree 2, material group CTI I
- Clearance distance > 8 mm, overvoltage category II
- RoHS compliant*

SM91604L LAN Transformer

Additional Information

Click these links for more information:



Electrical Specifications @ 25 °C

| | |
|-------------------------------------|---|
| OCL (100 kHz / 0.1 V, 8 mA DC Bias) | 0.35 μ H min. |
| (-40 °C to +105 °C) | |
| Leakage Inductance (100 kHz/0.1 V) | 0.35 μ H max. |
| DCR | |
| Transformer Side | 0.90 Ω max. |
| CM Choke Side | 1.30 Ω max. |
| Turns Ratio | 1 : 1 \pm 2 % |
| Insertion Loss | |
| 1~60 MHz | -1.0 dB max. |
| 60~100 MHz | -1.5 dB max. |
| 100~125 MHz | -2.0 dB max. |
| Return Loss (Z out = 100 Ω) | |
| 1~30 MHz | -13.0 dB min. |
| 30~45 MHz | -10.0 dB min. |
| 45~60 MHz | -8.0 dB min. |
| 60~80 MHz | -6.0 dB min. |
| 80~100 MHz | -5.0 dB min. |
| 100~125 MHz | -4.0 dB min. |
| Common Mode Rejection | |
| 1~100 MHz | -25.0 dB min. |
| Cross Talk (Between each channel): | |
| 1 MHz | -58 dB min. |
| 5~100 MHz | -30+20*LOG ₁₀ (f/20 MHz) dB min. |
| Hi-POT (1 mA, 60 S) | 4680 VDC |
| Working Voltage | up to 800 V |
| Operating Temperature | -40 °C to +105 °C |
| Storage Temperature (Component) | -50 °C to +125 °C |
| Moisture Sensitivity Level | 1 |
| ESD Classification (HBM) | N/A |

Packaging Specification

Tape & Reel..... 200 pcs. per 13-inch reel

How To Order

SM91604 L - E

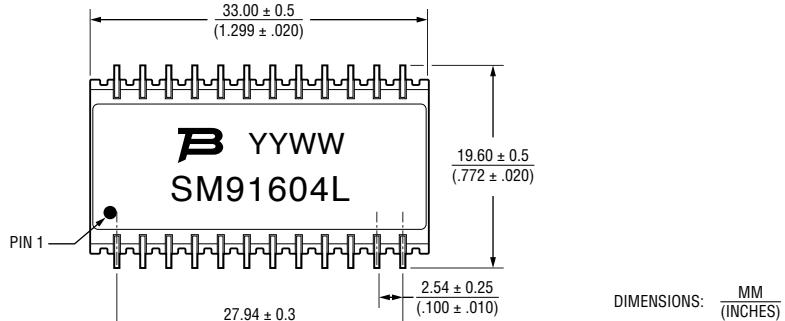
Model _____

RoHS Compliance Designator _____

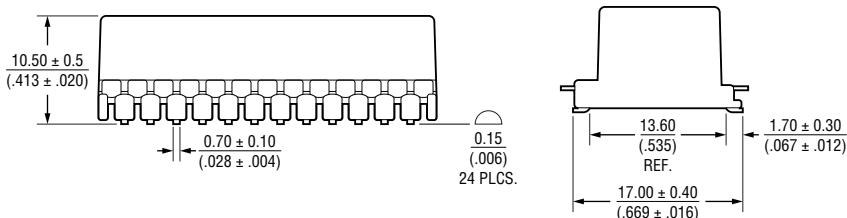
Packaging _____

E = 200 pcs. per 13-inch Reel

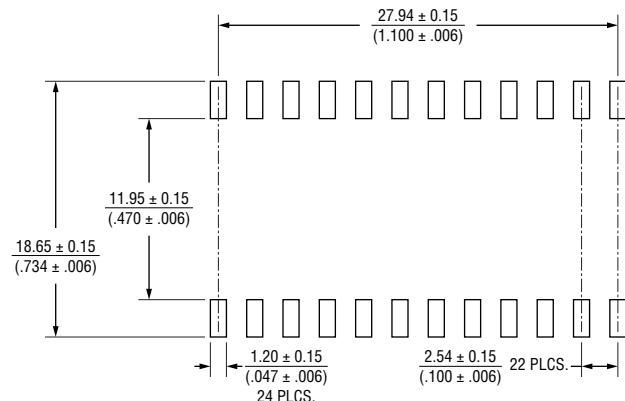
Product Dimensions



DIMENSIONS: MM (INCHES)



Recommended Layout



DIMENSIONS: MM (INCHES)



WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

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

Specifications are subject to change without notice.

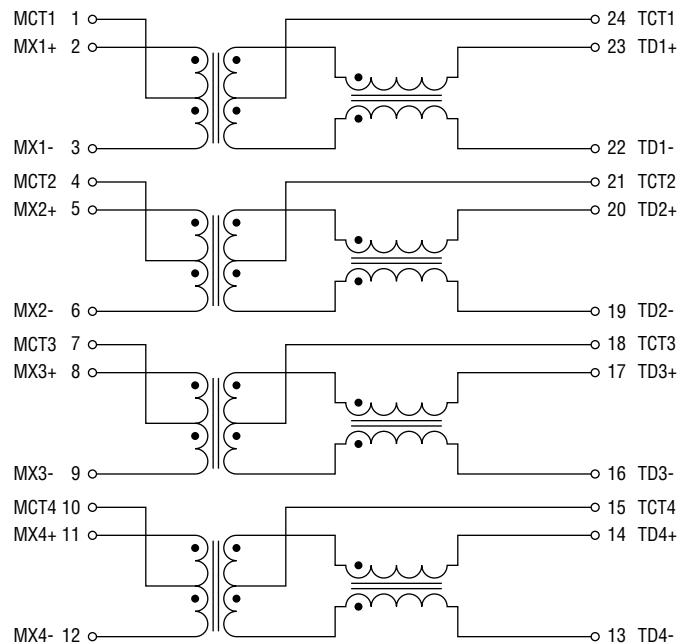
Users should verify actual device performance in their specific applications.

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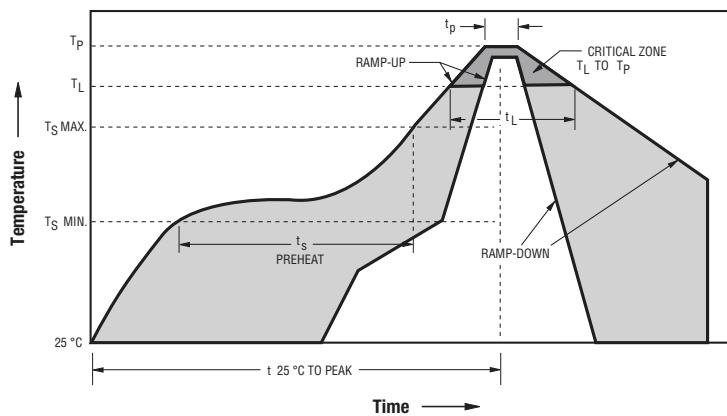
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Electrical Schematic



Reflow Solder Profile



| Profile Feature | Pb-Free Assembly |
|---|--------------------|
| Average Ramp-Up Rate | 3 °C / second max. |
| PREHEAT: | |
| Temperature Min. (T_{smin}) | 150 °C |
| Temperature Max. (T_{smax}) | 200 °C |
| Time (T_{smin} to T_{smax}) | 60~180 seconds |
| Liquidus Temperature (T_L) | 217 °C |
| Time Above Liquidus Temperature (t_L) | 60~150 seconds |
| Peak Temperature (T_p) | 245-250 °C |
| Time within 5 °C of Actual Peak Temperature (t_p) | 20~40 seconds |
| Ramp-Down Rate from Peak Temperature | 6 °C / second max |
| Time 25 °C to Peak Temperature (T_p) | 8 minutes max. |
| Do Not Exceed | 250 °C |

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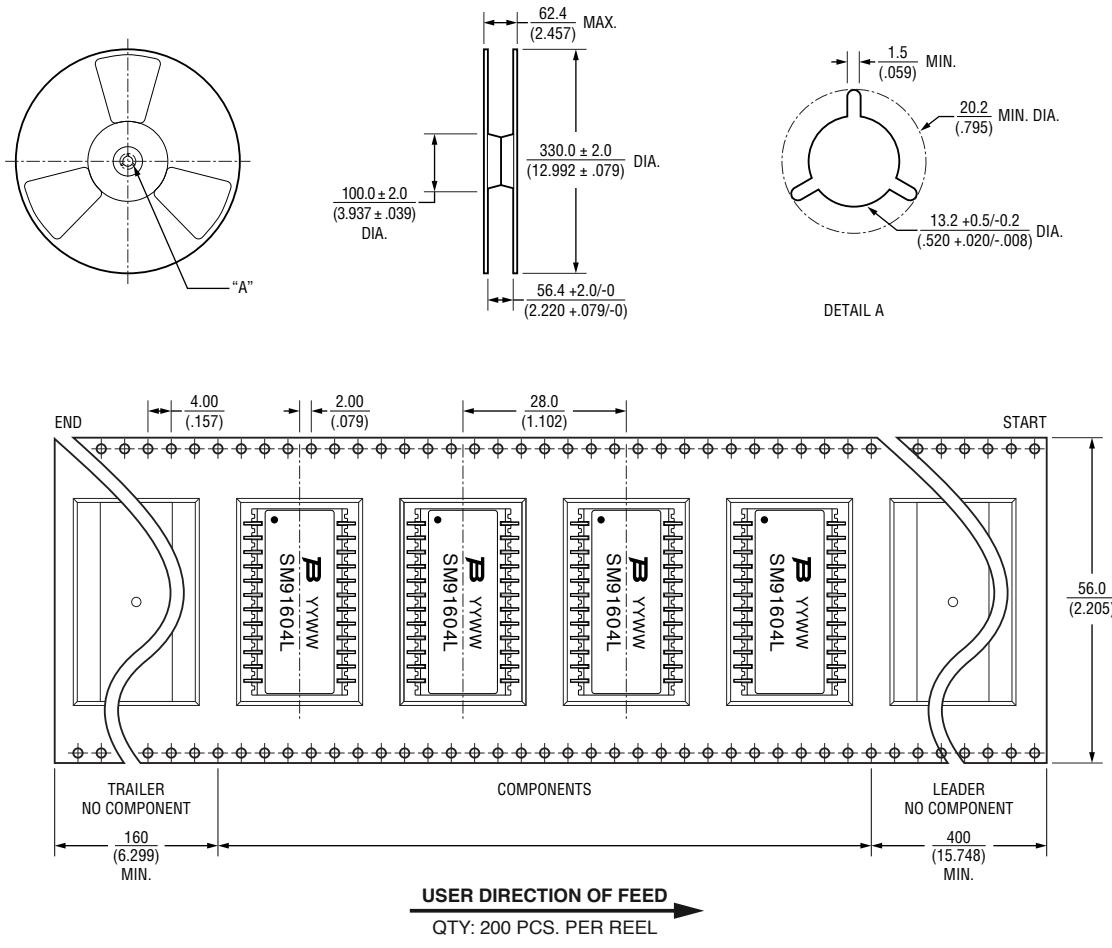
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Packaging Specifications

Specifications and tolerances comply with EIA-481 requirements.



DIMENSIONS: $\frac{\text{MM}}{\text{INCHES}}$

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