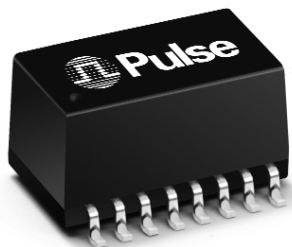


SONET/SDH

Dual Line Interface Transformer

for E4/STM-1 Applications



- Supports 139.264 (E4) and 155.52 (STM-1) Mbps for Coded Mark Inversion (CMI) interfaces
- Designed to interface with Intel's LXT6155 for use with 75 Ω coaxial cable
- Excellent Return Loss performance
- Dual design supports transmit and receive circuitry
- Designed for fast rise time and low signal distortion

Electrical Specifications @ 25°C — Operating Temperature -40°C to +85°C

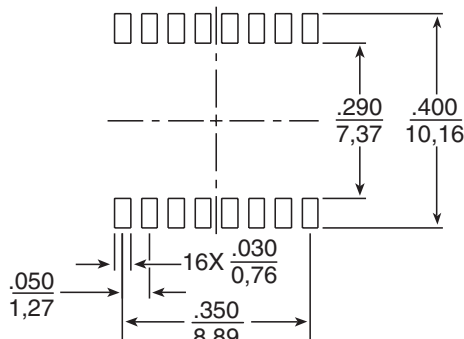
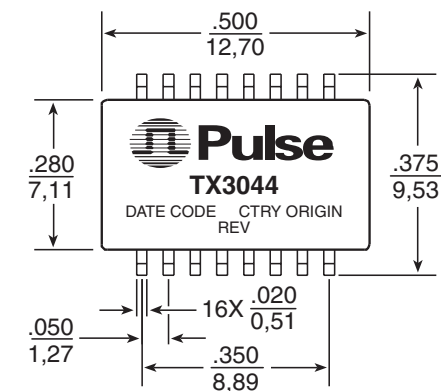
Part Number	Turns Ratio ($\pm 5\%$)	Primary Inductance OCL @ 20mVrms, 100kHz (μH MIN)	Leakage Inductance L_L (nH MAX)	Interwinding Capacitance C_{ww} (pF MAX)	Hipot (Vrms MIN)
TX3044	1 : 1	36.0	100	6.0	500

Note: Modules are packaged in tubes unless Tape & Reel packaging is specified. Add the suffix "T" (such as TX3044T) for Tape & Reel orders. Tape & Reel parts can only be ordered in multiples of 600 pieces.

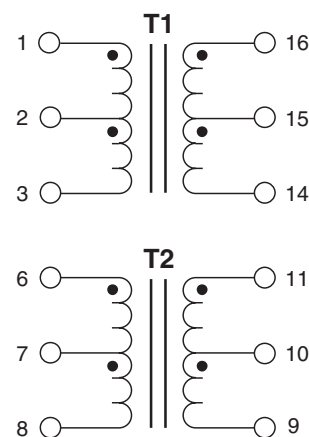
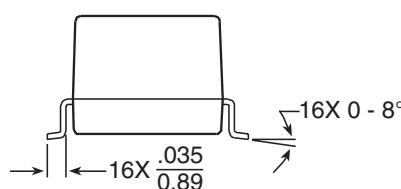
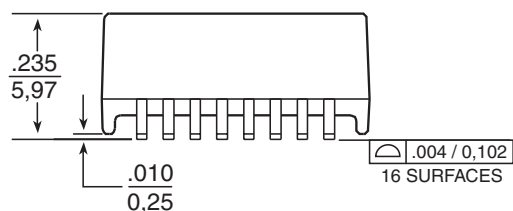
Mechanical

Schematic

TX3044



SUGGESTED PAD LAYOUT



Dimensions: $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified, all tolerances are $\pm .010$
 $0,25$

Weight 1.0 grams (max)

Tape & Reel 600/reel

Tube 40/tube

SONET/SDH

Dual Line Interface Transformer

for E4/STM-1 Applications

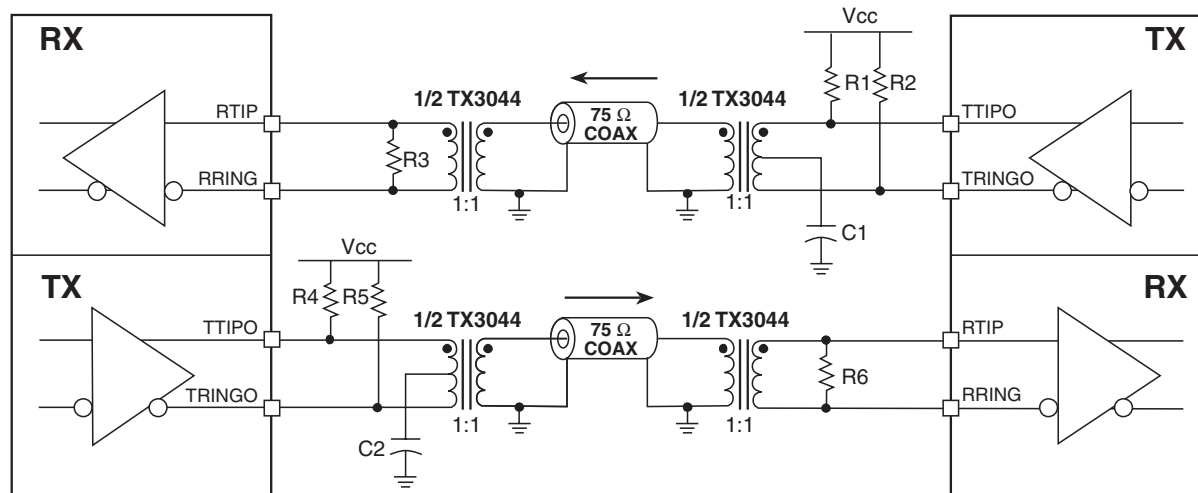


Application Notes:

Pulse has designed the TX3044, SONET/SDH dual line interface transformer specifically for high-speed, STM-1/E4 serial data interfaces utilizing 75 Ω coax cable. The isolation transformer protects the station from static charges that may develop on the cable and prevents ground loop currents from being transferred between stations. These devices have also been designed to provide inherent common rejection within the transmission pass band and thus reduce EMI. The high bandwidth of these devices minimizes data dependent jitter (DDJ) by providing fast signal rise times with minimal signal distortion. Insertion loss is typically less

than -3 dB within 10 MHz to 320 MHz passband and return loss is typically greater than -15 dB (8 MHz to 240 MHz) with 75 Ω load (this can be effected by circuit board layout and other external electrical parasitics). With traditional coaxial links, the transformer also provides a balanced differential to single-ended connection between the transmitter/receiver IC and the coax. The dual package allows connections of both transmit and receive channels as shown in the Application Circuit below. The auto-insertable SMD packaging allows for a cost-effective solution for the application.

Application Circuit:



NOTES:

1. Resistors R1, R2, R4, R5: 37.5 Ω , 2%, 1/4W
2. Resistors R3 and R6: 75 Ω , 2%, 1/4W

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