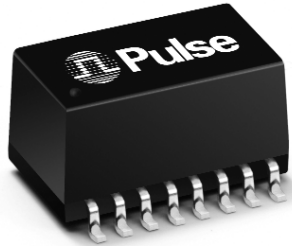


# SONET/SDH Dual Line Interface Transformer for E4/STM-1 Applications



- ☐ Compliant with ITU-T/G.703
- ☐ Supports 139.264 (E4) and 155.52 (STM-1) Mbps for Coded Mark Inversion (CMI) interfaces
- ☐ Designed to interface with Level One's LXT6155 for use with 75 Ω coaxial cable
- ☐ 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

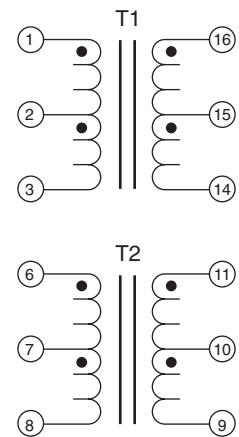
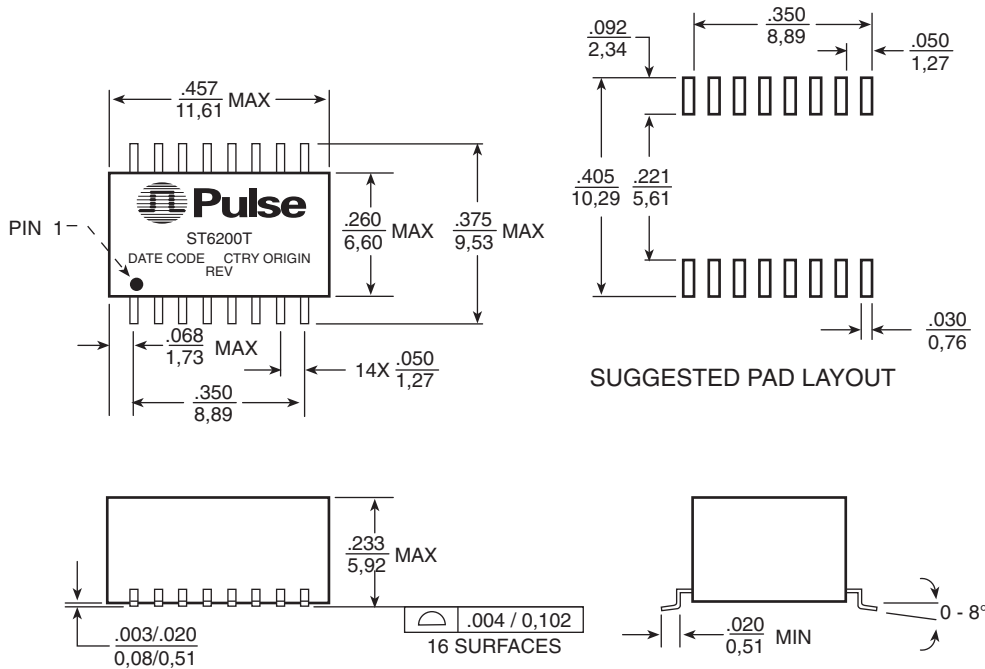
Part Number	Turns Ratio (±5%)	Primary Inductance OCL (μH MIN) @ 20m Vrms, 100 kHz	Leakage Inductance $L_L$ (nH MAX)	Interwinding Capacitance $C_{ww}$ (pF MAX)	DC Resistance DCR (Ω MAX)	Hipot (Vrms MIN)
ST6200T	1 : 1	36.0	100	6.0	.30	1500

**Note:** Modules are packaged in tubes unless Tape & Reel packaging is specified. Add the suffix “-R” (such as ST6200T-R) for Tape & Reel orders. Tape & Reel parts can only be ordered in multiples of 1000 pieces.

## Mechanical

## Schematic

### ST6200T



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

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

Weight . . . . . 1.0 grams (max)

Tape & Reel . . . . . 1000/reel

Tube . . . . . .42/tube

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PRELIMINARY A105.P (10/99)

# SONET/SDH Dual Line Interface Transformer for E4/STM-1 Applications

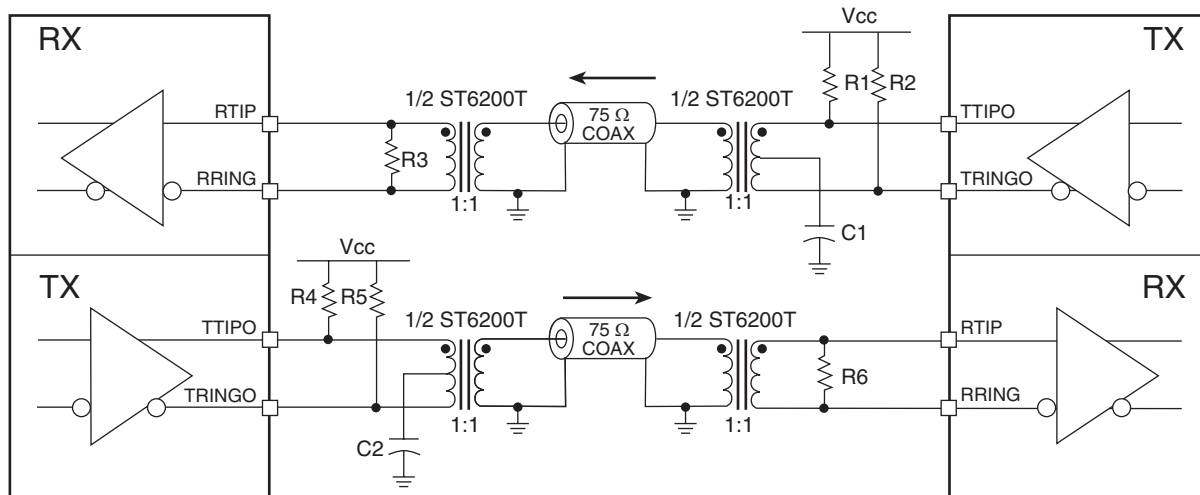


## Application Notes:

Pulse has designed the ST6200T, SONET/SDH dual line interface transformer specifically for high-speed, STM-1/E4 serial data interfaces utilizing 75  $\Omega$  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  $\Omega$  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  $\Omega$ , 2%, 1/4W
2. Resistors R3 and R6: 75  $\Omega$ , 2%, 1/4W

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