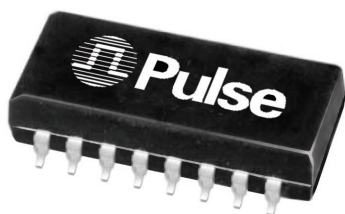


# COPPERHEAD™ HIGH SPEED DUAL TRANSFORMERS



- Compliant with ANSI X3T111, Fiber Channel, FC-PH-3 for quarter/full speed applications, SMPTE, IEEE1394 Firewire
- Moisture sensitivity Level 3
- Pick and place compatible
- IC grade package withstands 225°C peak temperature profile
- AS9100 Certified (Based on and including ISO 9001:2000)

## Electrical Specifications @ 25°C — Operating Temperature -55°C to +125°C

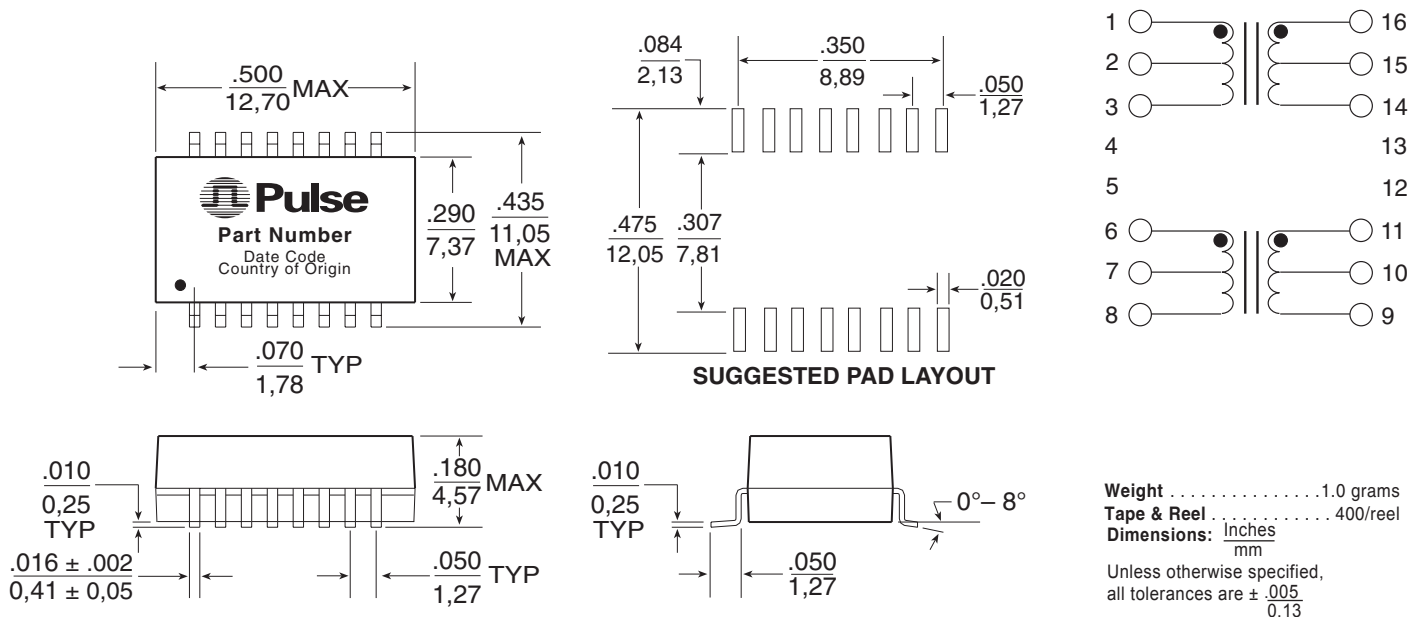
Part Number	Turns Ratio (±5%)	Primary Inductance (μH MIN)	Rise Time @ 20% to 80% (pS MAX)	DC Resistance (Ω MAX)	Hi-Pot (Vrms MIN)	Insertion Loss (dB MAX)	Application Nominal Bit Rate (Mbaud)
T-330SCT	1CT:1CT	26 @ 1Vrms, 100kHz	350	0.2	1,500	-1.5 @ 15-165MHz	265.6 (1/4 speed)
T-531SCT	1CT:1CT	7.5 @ 1Vrms, 100kHz	325	0.2	1,500	-2.0 @ 50-265MHz	531 (half speed)
T-1062SCT	1CT:1CT	3.75 @ 1Vrms, 100kHz	280	0.2	1,500	-2.0 @ 100-531MHz	1,062.5 (full speed)
T-1250SCT	1CT:1CT	3.75 @ 1Vrms, 100kHz	280	0.2	1,500	-2.0 @ 125-650MHz	1,250
T-1485SCT	1CT:1CT	3.75 @ 1Vrms, 100kHz	280	0.2	1,500	-2.0	1,485 (SMTPE)
T-3200SCT	1:1	0.70	200	0.2	1,500	-4.5	3,200

NOTES: 1. To order a RoHS compliant part, add the suffix "NL" to the part number, i.e. T-330SCT becomes T-330SCTNL.  
 2. Add suffix "T" to part number for Tape & Reel package (i.e. T-330SCTT).

## Mechanical

## Schematic

### T-330SCT, T-531SCT, T-1062SCT, T-1250SCT and T-1485SCT



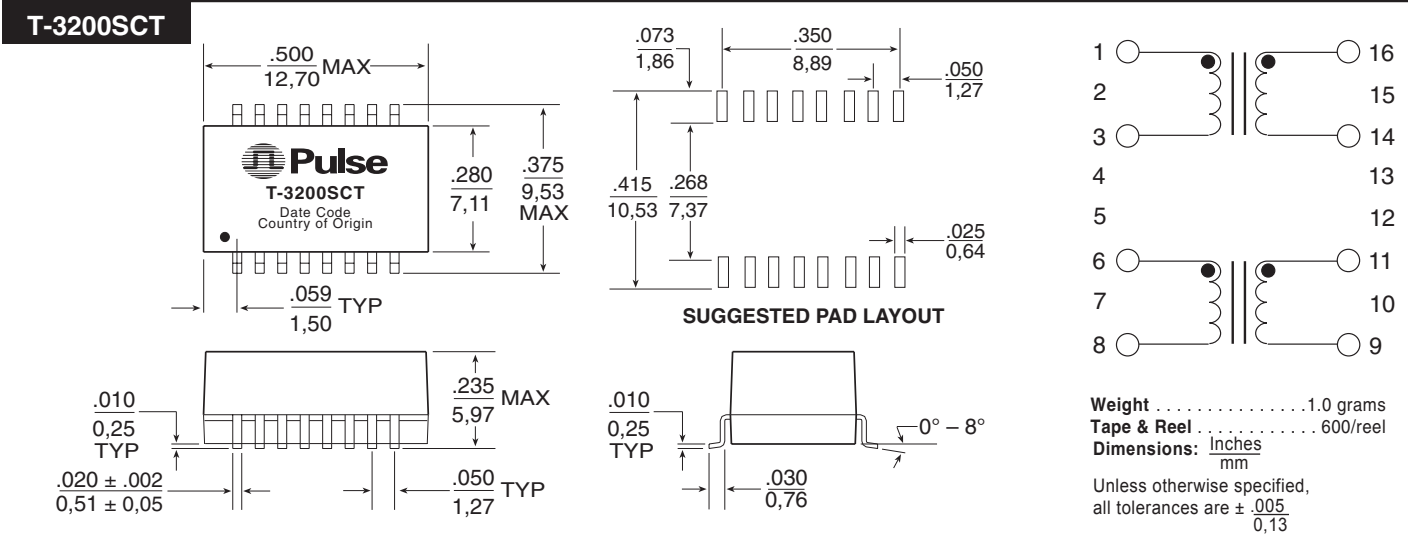
# COPPERHEAD™ HIGH SPEED DUAL TRANSFORMERS



**Pulse**  
A TECHNITROL COMPANY  
Military / Aerospace Division

## Mechanical

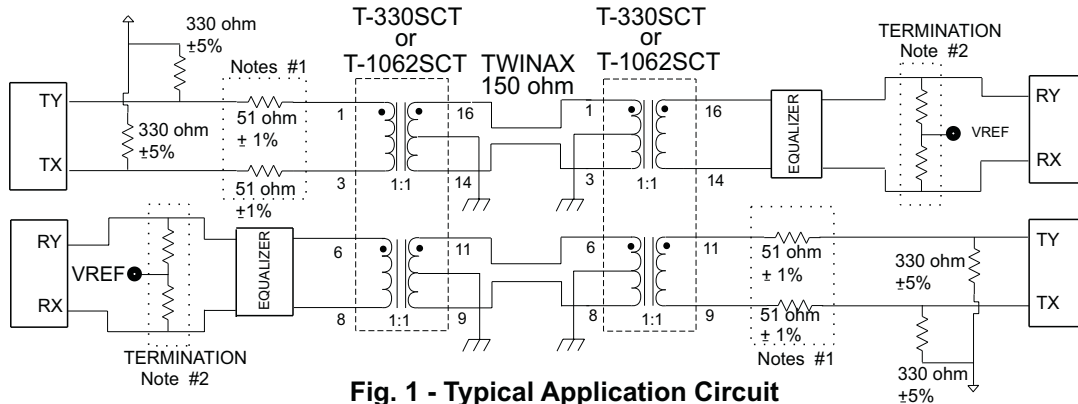
## Schematic



## Application Notes

Pulse Specialty Components has designed Fibre Channel dual transformers specifically for point to point coupling to 150 twinax cable. The isolation transformers protect the station from static charges that may develop on the cable, and prevents ground loop currents from being transferred between stations. The devices have also been designed to provide common mode rejection within the transmission

band and thus reduce EMI. The wide bandwidth of these devices minimizes data dependent jitter by providing fast signal rise times. Low-end bandwidth also minimizes base-line wander, another contributor to jitter. The dual package allows connection of both transmit and receive channels, as shown in the application circuit below. Surface-mount packaging also allows a cost-effective solution.



1. The transformer, 51Ω resistors, and the impedance of the driver are matched to achieve the best return loss (S11) for the transmitter of the 150Ω system.
2. The total impedance of termination resistor network is 150 Ω.
3. When laying out PCB, transmission line methods must be utilized to maintain return loss and signal integrity. Transformer must be

- located within .50" of the DB9 connector.
4. It is recommended that the center tap (CT) of transformer(s), cable side, be connected to earth/chassis (cable shield) ground either directly or via a transient voltage suppressor (TVS) type component and earth/chassis ground should be "AC-coupled" to signal (digital) ground through a .027uF, 500V capacitor.

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