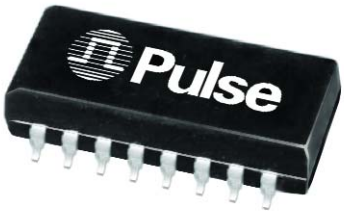
COPPERHEAD™ HIGH SPEED DUAL TRANSFORMERS

Pulse
A TECHNITROL COMPANY
Military / Aerospace Division



- 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

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

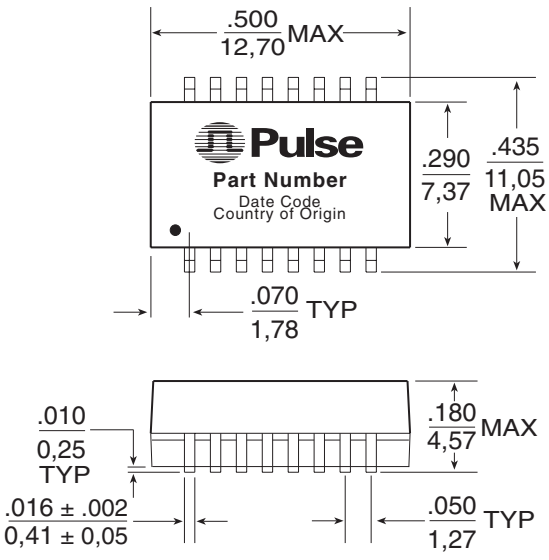
Part Number	Turns Ratio (±5%)	Primary Inductance (µH MIN)	Rise Time @ 20& to 80% (pS MAX)	DC Resistance (Ω MAX)	Hi-Pot (Vrms MIN)	Insertion Loss (dB MAX)	Application Nominal Bit Rate (Mbaud)
T-330SCT	1CT:1CT	26 @ 1Vrms, 100kHz	350	0.2	1,500	-1.5 @ 15-165MHz	265.6 (1/4 speed)
T-531SCT	1CT:1CT	7.5	325	0.2	1,500	-2.0 @ 50-265MHz	531 (half speed)
T-1062SCT	1CT:1CT	3.75 @ 10Vrms, 100kHz	280	0.2	1,500	-2.0 @ 100-165MHz	1,062.5 (full speed)
T-1250SCT	1CT:1CT	3.75	280	0.2	1,500	-2.00	1,250
T-1485SCT	1CT:1CT	3.75	280	0.2	1,500	-2.00	1,485 (SMTPE)
T-3200SCT	1:1	0.70	200	0.2	1,500	-4.50	3,200

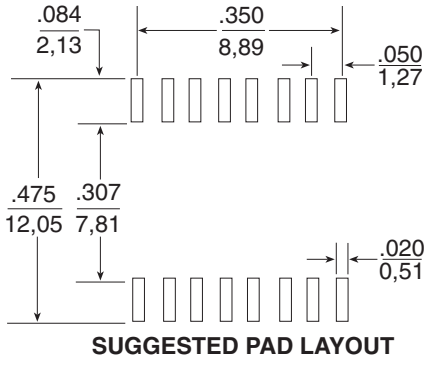
NOTE: Add suffix "**T**" to part number for Tape & Reel package (i.e. T-330SCT**T**).

Mechanical

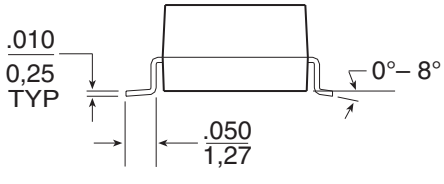
Schematic

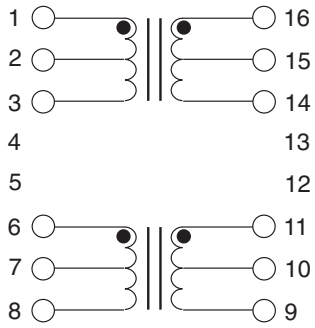
T-330SCT, T-531SCT, T-1062SCT, T-1250SCT and T-1485SCT





SUGGESTED PAD LAYOUT





Weight . . . . . .1.0 grams
Tape & Reel 400/reel
Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .005 / 0,13

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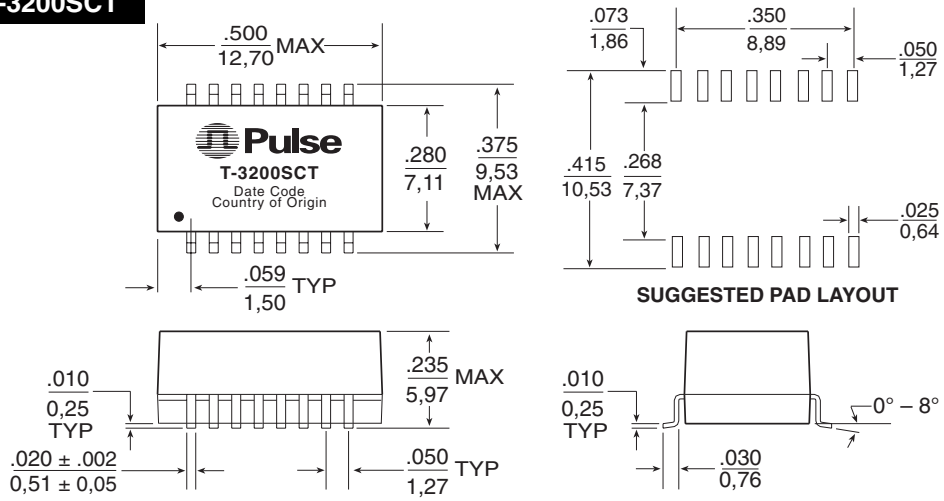
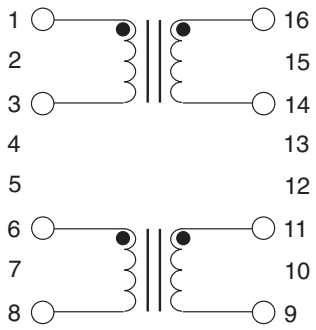
Mechanical

T-3200SCT



Schematic



Weight . . . . . .1.0 grams
Tape & Reel 600/reel
Dimensions: Inches / mm

Unless otherwise specified, all tolerances are ± .005 / 0,13

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.

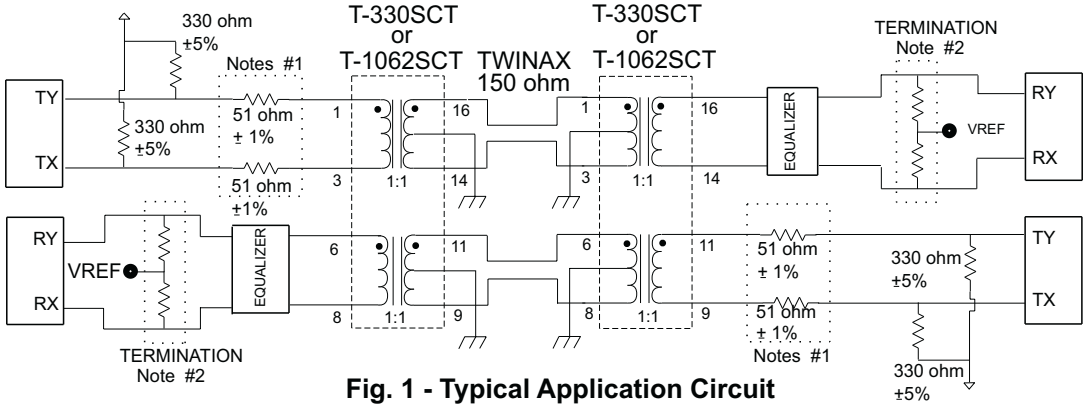


Fig. 1 - Typical Application Circuit

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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