
(1) 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
- Peak temperature profile $250^{\circ} \mathrm{C}$; NL parts peak temperature is $245^{\circ} \mathrm{C}$.
(1) AS9100 Certified (Based on and including ISO 9001:2000)

Electrical Specifications @ $25^{\circ} \mathrm{C}$ - Operating Temperature $-55^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}$

| Part Number | Turns Ratio $( \pm 5 \%)$ | Primary Inductance ( $\mu \mathrm{H} M \mathbb{N}$ ) | $\begin{aligned} & \text { Risse } \\ & \text { Time @ } 20 \\ & \& 80 \% \\ & (\text { pS MAX) } \end{aligned}$ | DC Resistance <br> ( $\Omega$ MAX) | Hi-Pot (Vrms MIN) | Insertion Loss <br> (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-5315CT | 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 @ 1 Vrms, 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-33OSCT 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, T1250SCT and T-1485SCT



# Copperhead ${ }^{\text {TM }}$ High Speed <br> Dual Transformers 



## Application

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 packagin also allows a cost-effective solution.


1. The transformer, $51 \Omega$ resistors, and the impedance of the driver are matched to achieve the best return loss (S11) for the transmitter of the $150 \Omega$ system.
2. The total impedance of termination resistor network is $150 \Omega$.
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 $0.27 \mathrm{uF}, 500 \mathrm{v}$ capacitor.

## For More Information

| Pulse Worldwide | Pulse Europe | Pulse China Headquarters | Pulse North China | Pulse South Asia | Pulse North Asia |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Headquarters | Einsteinstrasse 1 | B402, Shenzhen Academy of | Room 2704/2705 | 135 Joo Seng Road | 3F, No. 198 |
| 12220 World Trade Drive | D-71083 Herren- | Aerospace Technol- | Super Ocean Finance | \#03-02 | Zhongyuan Road |
| San Diego, CA | berg | ogy Bldg. |  | PM Industrial Bldg. | Zhongli City |
| 92128 | Germany | 10th Kejinan Road | 2067 Yan An Road | Singapore 368363 | Taoyuan County 320 |
| U.S.A. |  | High-Tech Zone |  |  | Taiwan R. O. C. |
|  |  | Nanshan District | Shanghai 200336 |  | Tel: 88634356768 |
|  |  | Shenzen, PR China | China | Tel: 65628889998 | Fax: 88634356823 |
| Tel: 8586748100 | Tel: 4970327806 | 518057 |  | Fax: 6562878998 | (Pulse) |

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