




# FIBRE CHANNEL DUAL TRANSFORMERS

For Use with 75 Ω Coaxial or  
150 Ω STP Cable



-  Designed for fast rise time and low baseline wander
-  IC grade transfer-molded package withstands 235°C IR reflow
-  Pick & Place compatible

## Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

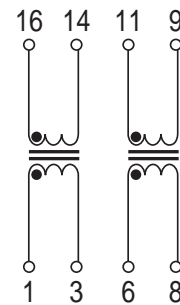
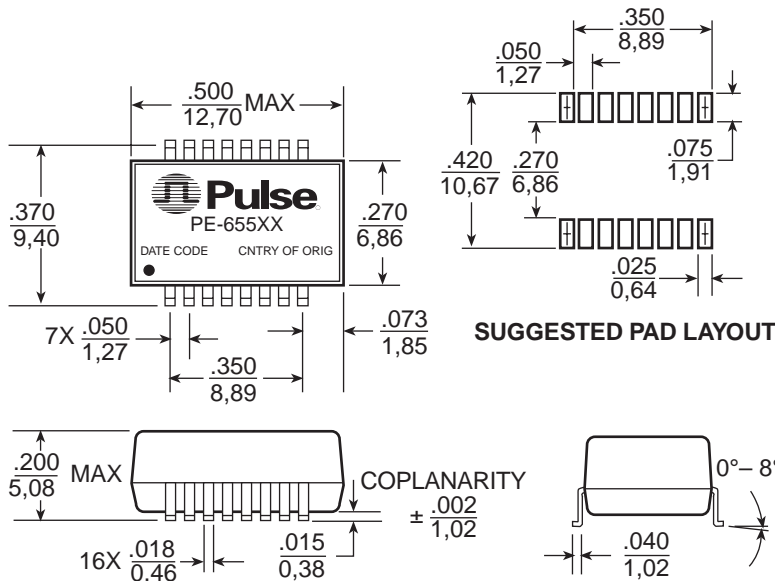
Part Number	Turns Ratio (±5%)	Primary Inductance OCL (μH MIN)	Rise Time @ 20-80% (ns MAX)	C <sub>ww</sub> (pF MAX)	L <sub>L</sub> sec (μH MAX)	DCR (Ω MAX)	Hipot (Vrms MIN)
PE-65506	1:1	30.0	1.6	5.0	.10	.20	2000
PE-65507	1:1	15.0	0.8	5.0	.10	.20	2000
PE-65508	1:1	7.5	0.5	5.0	.10	.20	2000
PE-65510	1:1	60.0	2.0	5.5	.10	.20	2000

Modules are packaged in tubes unless Tape & Reel is specified. Add the suffix "T" (such as PE-65506T) for Tape & Reel orders.

## Mechanical

## Schematic

### PE-655XX



### Selection Table

Baud Rate (MHz)	Coax Cable (75 Ω)	STP Cable (150 Ω)
133	PE-65506	PE-65510
266	PE-65507	PE-65506
531	PE-65508	—

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

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

Weight ..... 1.0 grams

Tape & Reel ..... .600/reel

Tube ..... .40/tube

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## For Use with 75 $\Omega$ Coaxial or 150 $\Omega$ STP Cable

### Application Notes:

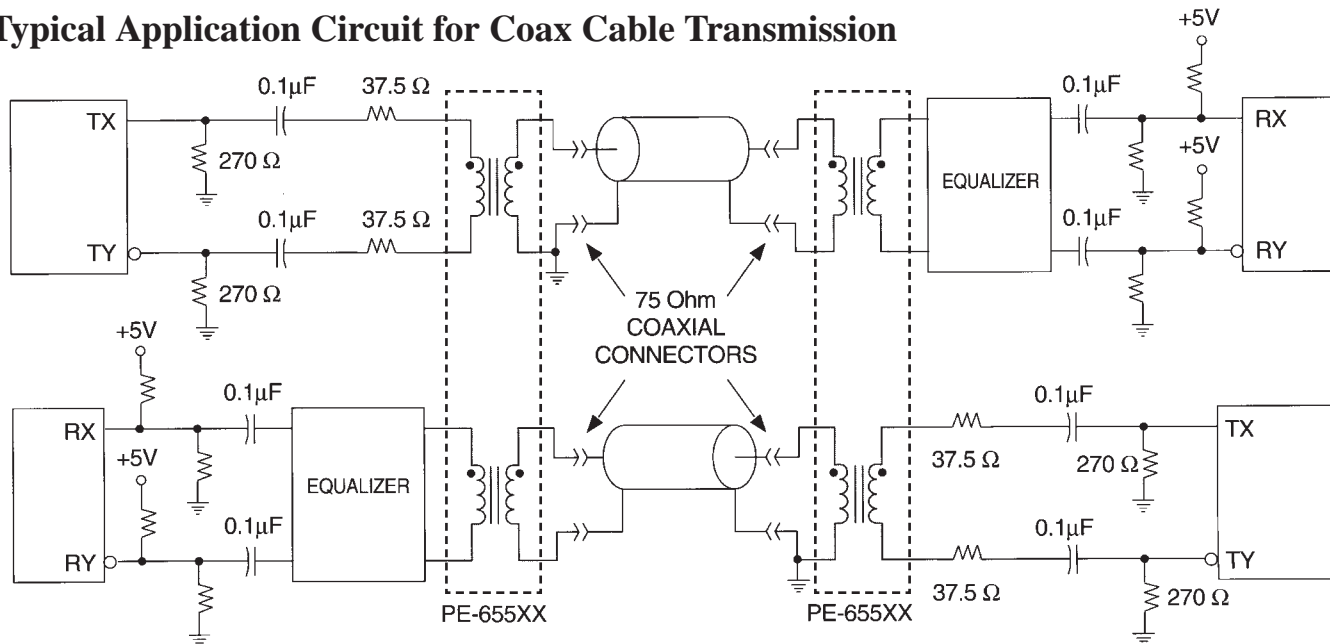
Fibre channel is a bi-directional point-to-point serial data link, structured for high performance transmission. To allow low cost interconnection between supercomputers and high-end peripherals, the ANSI X3T9.5 FC-0 Committee has specified coaxial and STP cable interconnects as an alternative to optical fibre cable. Although the transmission distance through alternative cable is limited in distance, it offers a significant cost advantage over the optical fibre interface. Pulse has designed the fibre channel dual transformers specifically for point-to-point coupling to shielded twisted pair (STP) and coaxial cable. This transformer series complies with the ANSI X3T9.5 FC-0 specification over 133, 266, and 531 Mbps data rates over distances of up to 100 meters on coaxial and STP cable.

The isolation transformers protect the station from static charges that may develop on the cable and prevent ground loop currents from being transferred between stations. When coaxial links are used, the transformers also provide a balance to single-ended connections between the transmitter/receiver IC and the coax.

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. In addition, use of the proper transformers will provide sufficient low end bandwidth to minimize baseline wander, another contributor to jitter. Low end bandwidth is a function of the channel impedance and the primary inductance of the transformer. The selection table, on the front side of this data sheet, matches the proper transformer to the different cables and data rates. STP cable has a 150  $\Omega$  characteristic impedance, while the FC-0 specification also allows the usage of RG-6, RG-58 coax and RG-179 mini-coax. Each of the coaxial cables has a 75  $\Omega$  characteristic impedance.

The dual package allows connection of both the transmit and receive channels, as shown in the application circuit below. Surface mount packaging allows a cost effective solution while providing over -40 dB of crosstalk attenuation out to 800 MHz. The transformers are available in either tubes or Tape & Reel packaging.

### Typical Application Circuit for Coax Cable Transmission



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