

# FIBRE CHANNEL DUAL TRANSFORMERS

## For Use with 75Ω Coaxial or 150Ω STP Cable



### Application Notes:

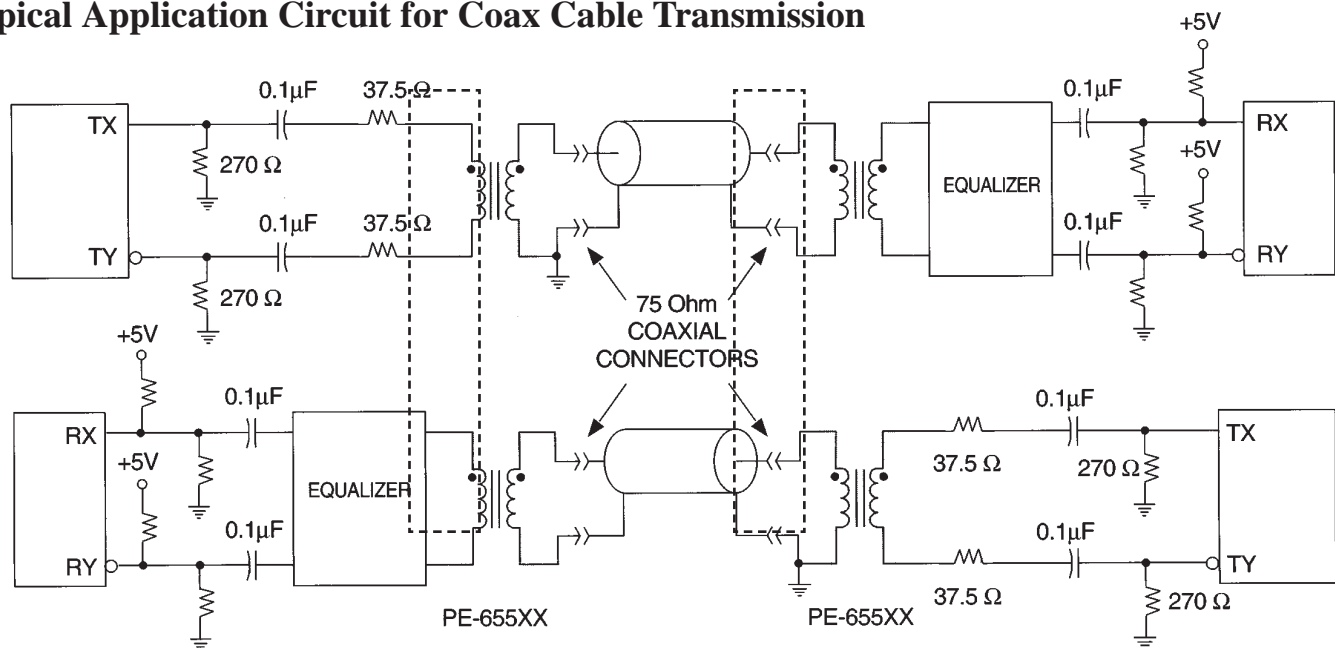
Fibre channel is a bi-directional point-to-point serial data link, structured for high performance transmission. To allow low cost interconnection between supercomputers and high-end peripherals, the ANSI X3T9.5 FC-0 Committee has specified coaxial and STP cable interconnects as an alternative to optical 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 531Mbps 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 commonmode rejection within the transmission band and thus reduce the 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 lowend 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 150Ω 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 75Ω 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 -40dB of crosstalk attenuation out to 800MHz. The transformers are available in either tubes or Tape & Reel packaging.

### Typical Application Circuit for Coax Cable Transmission



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