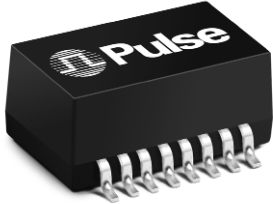# SONET/SDH
Dual Line Interface Transformers for E4/STM-1 Applications

- Compliant with ITU-T/G.703

- Supports 139.264 (E4) and 155.52 (STM-1) Mbps for Coded Mark Inversion (CMI) interfaces

- Designed to interface with AMCC's chip sets S3015/S3016 and S3031B for use with 75 Ω coaxial cable

- Dual design supports transmit and receive circuitry or PHY chip transmit cable and monitor outputs

- Fast rise time and low signal distortion

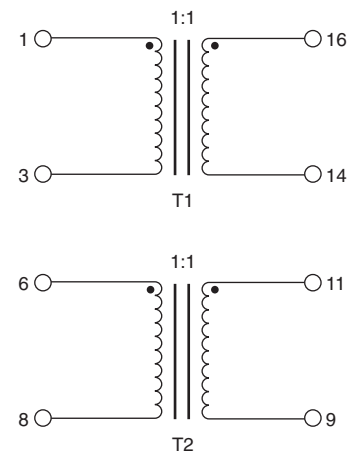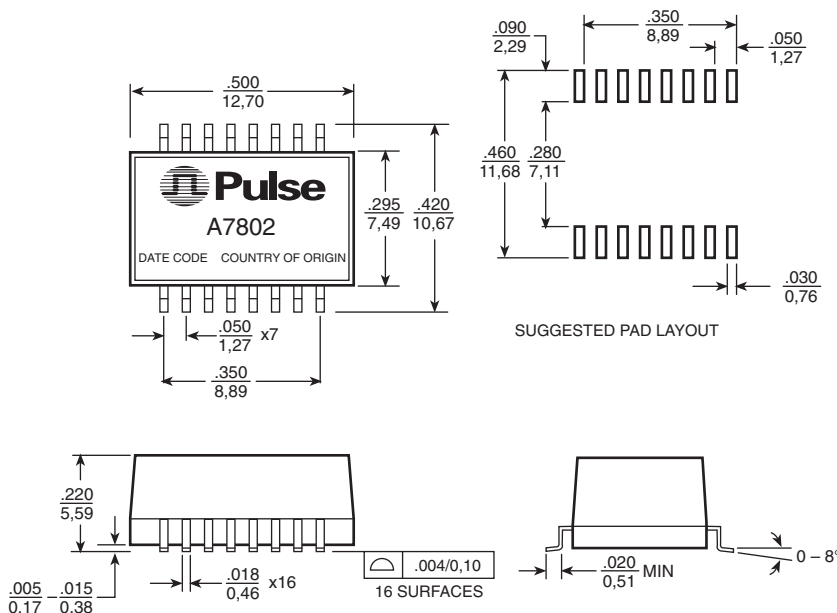|						
Electrical Specifications @ 25°C — Operating Temperature -40°C to +85°C						
Part Number	Turns Ratio (±5%)	Primary Inductance OCL (µH MIN) @ 20m Vrms, 100 kHz	Leakage Inductance L$_L$ (nH MAX)	Interwinding Capacitance Cww (pF MAX)	DC Resistance DCR (Ω MAX)	Hipot (Vrms MIN)
A7802	1 : 1	42.0	100	6.0	.25	1500

Note: Modules are packaged in tubes unless Tape & Reel packaging is specified. Add the suffix **"T"** (such as A7802**T**) for Tape & Reel orders. Tape & Reel parts can only be ordered in multiples of 500 pieces.

Mechanical

Schematic

A7802

SUGGESTED PAD LAYOUT

16 SURFACES

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

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

Weight . . . . 1.4 grams (max)
Tape & Reel 500/reel
Tube 45/tube

U.S.A: TEL 858 674 8100 • EUROPE: TEL 441 483 401 700 • ASIA: TEL 65 287 8998 • WEB: http://www.pulseeng.com

PRELIMINARY A103.P (8/99)

SONET/SDH
Dual Line Interface Transformers for E4/STM-1 Applications
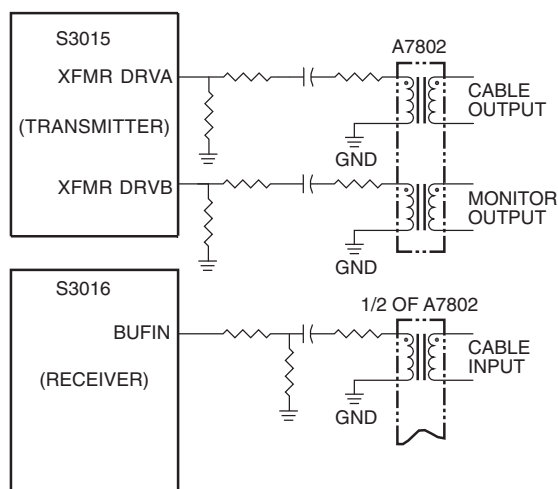
Pulse
A TECHNITROL COMPANY

Application Notes:

Pulse has designed the **A7802**, SONET/SDH dual line interface transformer specifically for high-speed, STM-1/E4 serial data interfaces utilizing 75 Ω coaxial cable. The isolation transformer protects the station from static charges that may develop on the cable and prevents ground loop currents from being transferred between stations. The device has also been designed to provide inherent common rejection within the transmission Pass Band and thus reduce EMI. The high bandwidth of this transformer minimizes data dependent jitter (DDJ) by providing fast signal rise times with minimal signal distortion. Insertion Loss is typically less than -3 dB within .20 - 330 MHz Pass Band and
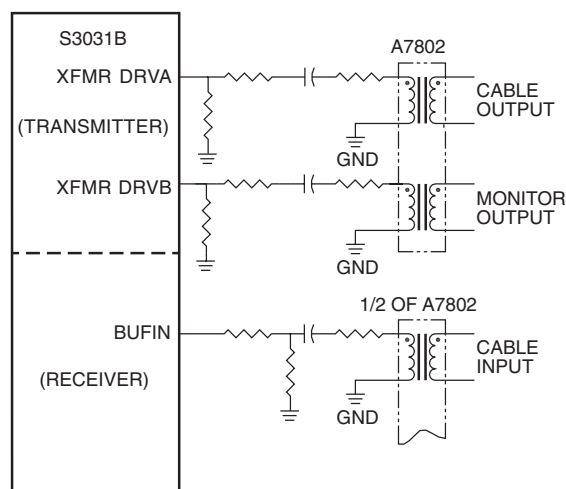
Return Loss is typically greater than -17 dB with 75 Ω load (can be affected by circuit board layout and other external electrical parasitics). With traditional coaxial links, the transformer also provides a balanced (differential) to single-ended connection between the transmitter/receiver IC and the coax.

The dual package allows connections of both transmit and receive channels or dual transmit (cable output and monitor output) channels as shown in the Application Circuits below. The auto-insertable, SMD packaging allows for a cost-effective solution for the application.
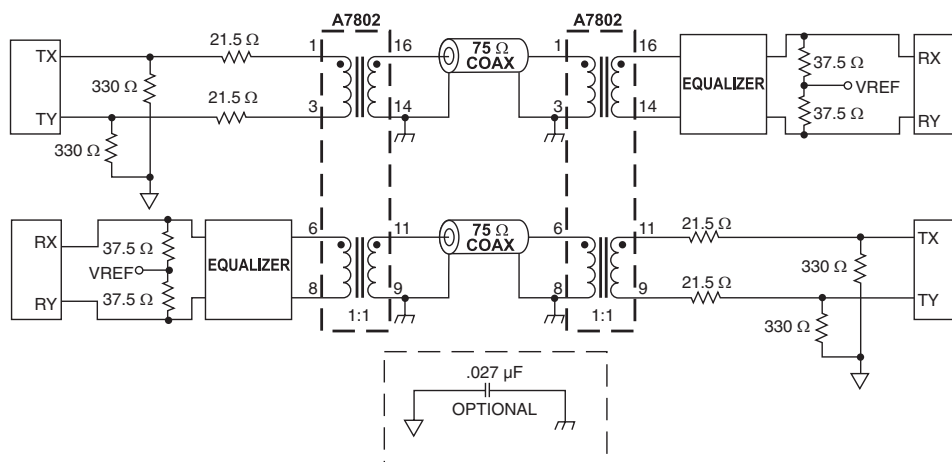
Application Circuits:

AMCC S3015/S3016 TRANSFORMER
INPUT AND OUTPUT APPLICATION

AMCC S3031B TRANSFORMER
INPUT AND OUTPUT APPLICATION

TYPICAL APPLICATION CIRCUIT OF TRADITIONAL COAXIAL LINK
PROVIDING BALANCED (DIFFERENTIAL) TO SINGLE-ENDED CONNECTION

For More Information :

PRELIMINARY A103.P (8/99)

Mouser Electronics

Authorized Distributor

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  [A7802T](#) [A7802](#)