

# TRANSFORMERS FOR DIGITAL AUDIO DATA TRANSMISSION

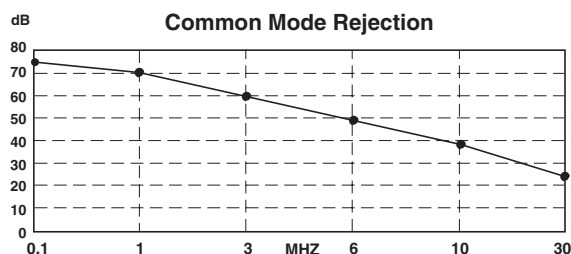
For Use with Cirrus Logic's CS8401,  
CS8402, CS8403 & CS8404 ICs



-  Operating transmission rates: 1 to 7 Mbps
-  Controlled rise time: 25 nsec MAX
-  High isolation voltage: 2 kV MIN

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

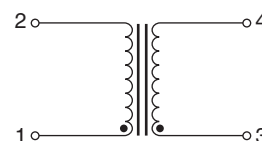
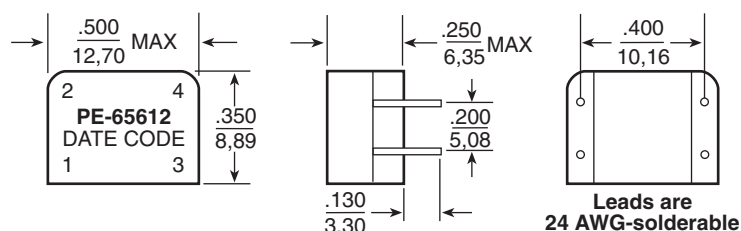
| Part Number | Turns Ratio       | Primary Inductance (mH $\pm 20\%$ ) | $L_L$ ( $\mu$ H) MAX | Rise Time (nsec) MAX | ET (V- $\mu$ sec) MAX | Isolation (Vrms) MIN | Bandwidth (100 KHz- 55 MHz) TYP | Return Loss (100 kHz-10MHz) MIN | Schematic |
|-------------|-------------------|-------------------------------------|----------------------|----------------------|-----------------------|----------------------|---------------------------------|---------------------------------|-----------|
| PE-65612    | 1:1 ( $\pm 5\%$ ) | 2.5                                 | .50                  | 25                   | 20                    | 2000                 | 3 dB                            | 20 dB                           | THT       |
| PE-65812    | 1:1 ( $\pm 5\%$ ) | 2.5                                 | .50                  | 25                   | 20                    | 2000                 | 3 dB                            | 20 dB                           | SMT       |



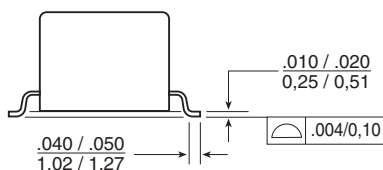
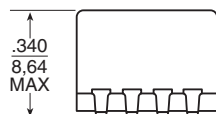
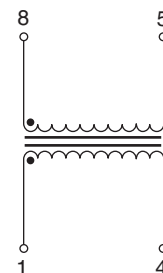
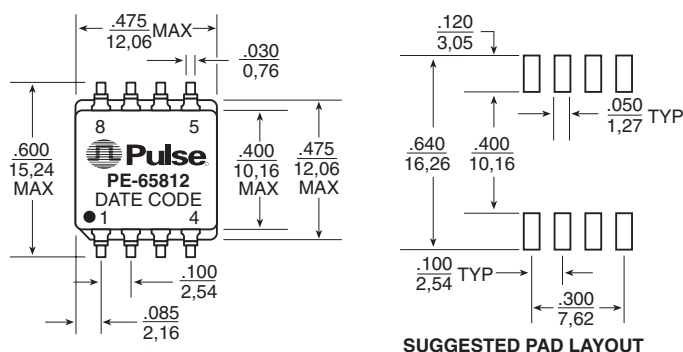
## Mechanicals

## Schematics

### PE-65612



### PE-65812



|                                                                   | PE-65612  | PE-65812  |
|-------------------------------------------------------------------|-----------|-----------|
| Weight                                                            | 1.2 grams | 2.0 grams |
| Tape & Reel                                                       | .NA       | .250/reel |
| Tube                                                              | .60/tube  | .30/tube  |
| Dimensions:                                                       | Inches    | mm        |
| Unless otherwise specified all tolerances are $\pm .010$ / $0,25$ |           |           |

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For Use with Cirrus Logic's CS8401, CS8402, CS8403 & CS8404 ICs



## Application

These transformers have been designed for use at the interface between line driver and receiver and the interconnecting medium in Digital Audio Data Transmission Systems according to AES 3-199X or IEC 958. In such systems, two channels of periodically sampled and uniformly quantized audio signals are transmitted on a single shielded twisted pair.

The electrical parameters of the interface are based on those of CCITT V.11 or balanced voltage digital circuits which allow signal transmission up to a few hundred meters.

The isolation transformers are essential in improving the balance of the transmitter and the receiver circuitry, and reducing common mode noise and EMI.

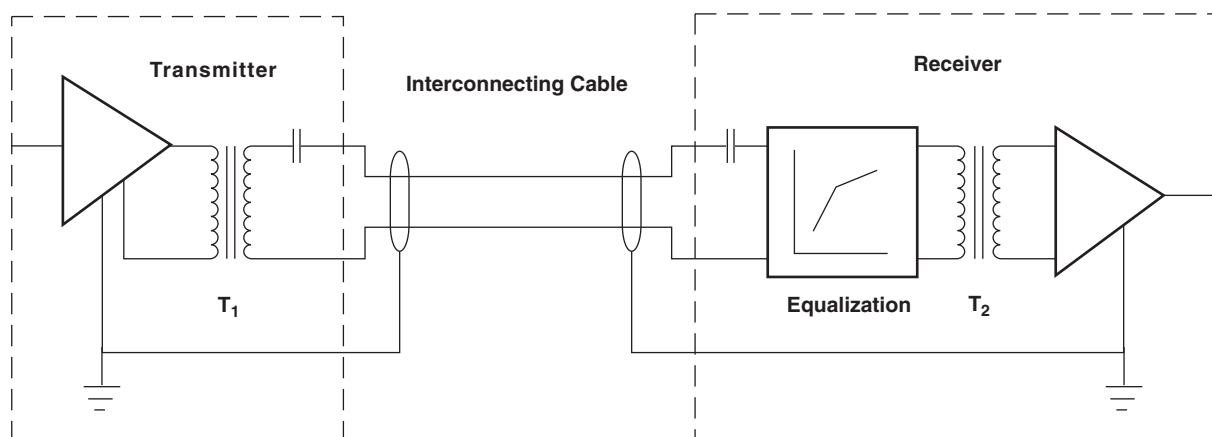
These transformers are recommended for use with the Cirrus Logic CS8401, CS8402, CS8403 and CS8404 "Digital Audio Interface Transmit Device."

The schematic below represents an implementation of transmit and receive circuits using isolation transformers at both ends. Equalization in the receiver may permit to increase the length of the interconnecting cable.

## Applicable Documents

AES 3-1985 (ANSI S4.40-1985), AES 3-199XDraft, IEC 958, CP-340, EBU 3250

## Application Circuit



T<sub>1</sub>, T<sub>2</sub>: PE-65612 or PE-65812

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