TRANSFORMERS FOR DIGITAL AUDIO DATA TRANSMISSION

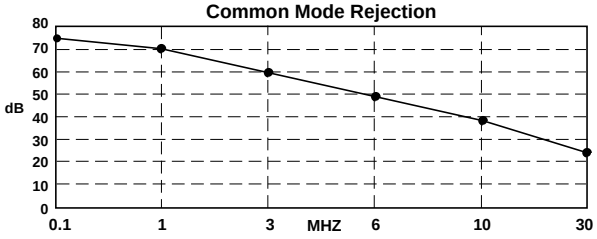
For Use with Crystal Semiconductor's CS8401, CS8402 for ICs

Pulse
INTELLIGENT SOLUTIONS

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

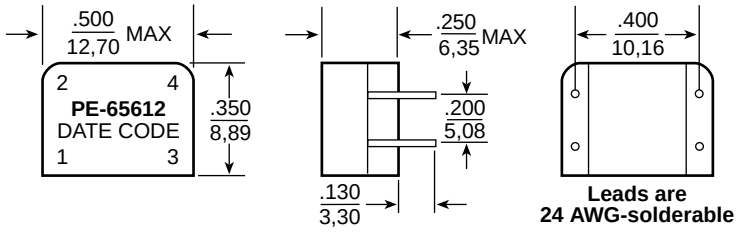
Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

Part Number	Turns Ratio (±5%)	Primary Inductance (mH ±20%)	L_L (µH) MAX	Rise Time (nsec) MAX	ET (V-µsec) MAX	Isolation (Vrms) MIN	Bandwidth (100 KHz- 55 MHz) TYP	Return Loss (100 kHz-10MHz) MIN	Schematic
PE-65612	1:1	2.5	.50	25	20	2000	3 dB	22 dB	THT
PE-65812	1:1	2.5	.50	25	20	2000	3 dB	22 dB	SMT

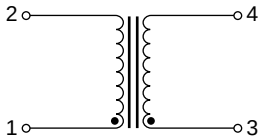


Mechanicals

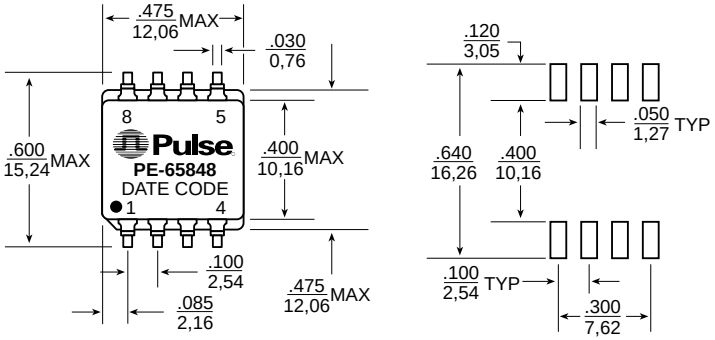
PE-65612



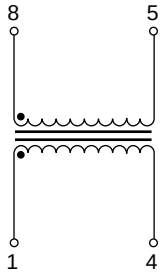
Schematics

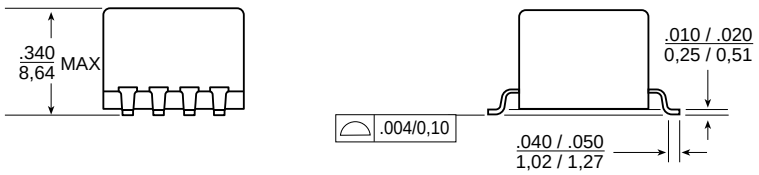


PE-65812



SUGGESTED PAD LAYOUT





	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 ±.010 / 0,25

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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.II 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.

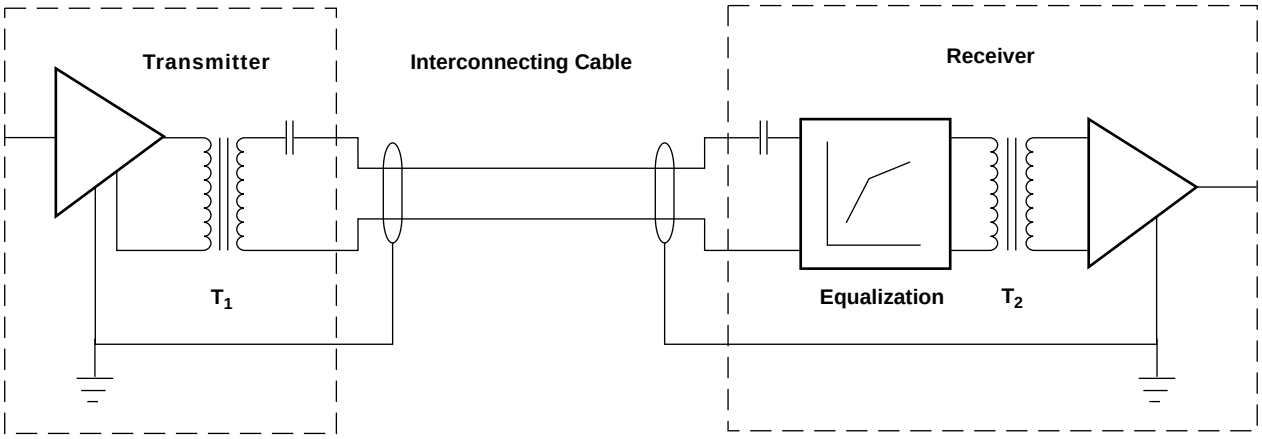
These transformers are recommended for use with the Crystal Semiconductor CS8401/2 "Digital Audio Interface Transmit Device."

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_1, T_2: PE-65612 or PE-65812

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