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Through Hole Current Sense Transformers

VDE Approved



- *Meet IEC62368-1 insulation requirements*
- *4250VRMS primary to secondary breakdown voltage*
- *Frequency range 10kHz to 200kHz*

Electrical Specifications @ 25°C – Operating Temperature -40°C to +130°C

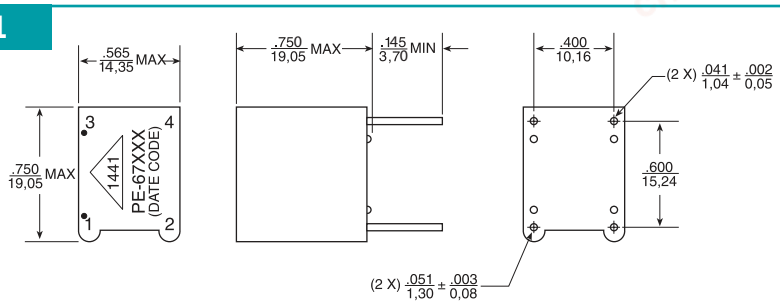
Part Number	I_{PK} (Amps)	R_T (Ω)	Droop (%)	K_{VI} (Volt/Amp)	L_S (mH MIN)	DCR R_S (ΩMAX)	Turns ($N_S \pm 1\%$)	K_B	K_{CL}	R_{EQ} (mΩ)
PE-67050NL	35	15	2.4	0.30	5.0	0.70	50	$.269 \times 10^{6}$	51.2×10^{-6}	.95
PE-67100NL	37	56	2.2	0.56	20	1.40	100	$.0671 \times 10^{6}$	1.56×10^{-6}	.85
PE-67200NL	38	200	2.0	1.00	80	4.50	200	$.0168 \times 10^{6}$	47.3×10^{-9}	.82
PE-67300NL	37	510	2.2	1.70	180	11.0	300	$.00746 \times 10^{6}$	6.13×10^{-9}	.84

Notes:

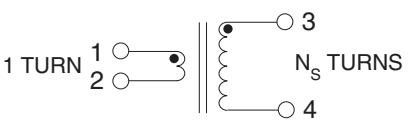
1. These current sense transformers have a 1 turn primary winding, secondary turns (Ns) as indicated in the table.
2. The reference values are for unipolar operation, 50kHz, 40% duty factor, and an estimated 55°C temperature rise.
3. The maximum useable peak sense current (I_{PK}) depends on the temperature rise or core saturation, which should be evaluated for the operating conditions.
4. These Current Sense Transformers are recommended for switch mode power supply applications, unipolar or bipolar, operating at frequencies from 10kHz to 200kHz.
5. The maximum recommended operating flux density (B_{OP}) is 2000 gauss to prevent saturation at an operating temperature of 105°C.
6. The core loss factor (K_{CL}) is valid from 10kHz to 200kHz at 105°C.
7. The terminating resistor (R_T) may be varied to adjust operating flux (B_{OP}), droop, or scale factor (K_{VI}).
8. The scale factor (K_{VI}) is proportional to the terminating resistor (R_T) and is equal to 1 volt/amp when R_T=N_S.
9. The secondary inductance (LS) is measured at 15kHz and .5V for PE-67050, 1V for PE-67100, 2V for PE-67200 and 3V for PE-67300.

Mechanical

PE-XXXXXNL



Schematic



Parts per package 80

Dimension: Inches / mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

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Transformers for Digital Audio Data Transmission

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

Application

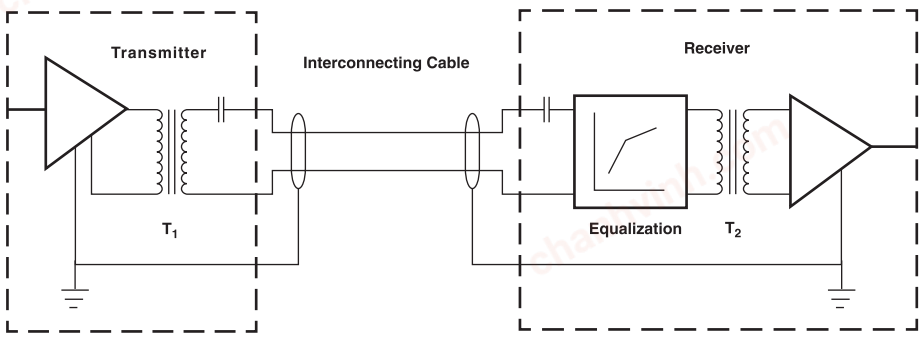
These transformers have been designed for use at the interface between line driver and receiver and the interconnecting medium in Digital Audio Data Transmission Systems according to AES 3-199X or IEC 958. In such systems, two channels of periodically sampled and uniformly quantized audio signals are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



T_1, T_2: PE-65612 or PE-65812

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