General Purpose Transformers

LL1527 and LL1527XL

LL1527 is a truly general purpose transformer for microphone or line input, for output and for galvanic isolation of units. LL1527 has been generally accepted by the audio industry as the general purpose audio transformer.

The LL1527 is built-up from two coils, each with one primary and one secondary winding separated by an electrostatic shield. The core is a high permeability mu metal core. The transformer is housed in a mu-metal can.

In the LL1527XL, the core is about 45% larger than in the LL1527, resulting in a larger level capability.

Turns ratio:

\[ 1 + 1 : 1 + 1 \]

Pin layout (viewed from component side) and winding schematics:

Spacing between pins: 5.08 mm (0.2”)
Spacing between rows of pins: 27.94 mm (1.1”)
Offset of earth pin from adjacent row: 2.54 mm (0.1”)

LL1527
Dimensions (L x W x H above PCB, in mm): 38 x 24 x 17
Weight: 48 g
Rec. PCB hole diameter: 1.5 mm
Static resistance of each primary: 43 \( \Omega \)
Static resistance of each secondary: 56 \( \Omega \)
Distortion (primaries connected in series, source impedance 800 \( \Omega \)): +6 dB 0.1% @ 50 Hz
Self resonance point: >200 kHz
Optimum load for best square-wave response (sec. in series): 3 - 4 k\( \Omega \)
Frequency response (source 800 \( \Omega \), load 4 k\( \Omega \) serial connection): 10 Hz -- 150 kHz +/- 0.2 dB
Loss across transformer (at midband, with above termination): 0.4 dB
Isolation between windings/ between windings and shield: 4 kV / 2 kV

Connection alternatives and suggested applications:

Serial-serial connection (1 : 1) for line input

Parallel-parallel connection (1 : 1) (e.g. mic input)

Parallel-serial connection (1 : 2) (e.g. mic. input)

Parallel-split connection (1 : 1 + 1)