Low cost audio isolation transformer

LL1591

LL1591 is a low cost audio isolation transformer, pin compatible with e.g. LL1527 and LL1581XL. The purpose with LL1591 is to provide a low cost solution, when noise rejection requirements are small. The LL1591 does not have internal Faraday shields, nor mu metal housing.

**Turns ratio:** \(1 + 1 : 1 + 1\)

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

<table>
<thead>
<tr>
<th>Pin</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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**Spacing between pins**
5.08 mm (0.2”)

**Spacing between rows of pins**
27.94 mm (1.1”)

**Dimensions:** (L x W x H above PCB, in mm)
37 x 22 x 17

**Weight:**
39 g

**Rec. PCB hole diameter:**
1.5 mm

**Static resistance of each primary:**
43Ω

**Static resistance of each secondary:**
55Ω

**Distortion** (primaries connected in series, source impedance 800Ω):
+ 6 dBu 0.1% @ 50 Hz

**Self resonance point:**
> 120 kHz

**Optimum load for best square-wave response** (sec. in series):
3 – 4 kΩ

**Frequency response** (source 600Ω, load 10 kΩ serial connection):
10 Hz -- 80 kHz +/- 1 dB

**Loss across transformer** (at midband, with above termination):
0.4 dB

**Isolation between windings/ between windings and core:**
3 kV / 1.5 kV

**Connection alternatives and suggested applications:**

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

- **Parallel-split connection** (1 : 1 + 1)
(In this connection, the transformer picks up external magnetic fields)

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

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