Microphone Input Transformer, Line-box Transformer
LL1951

The LL1951 is a high turns ratio microphone input transformers/line-box transformers with high permeability mu-metal cores and high bandwidth coils. The LL1951 use the same pin-out as our well known microphone transformer LL1538.

LL1951 is built around two-section coils with Faraday shields between primary and secondary sections. The moderate sectioning results in less internal capacitance, which is suitable for this type of high turns-ratio microphone transformers. The transformers are encapsulated in mu-metal cases for magnetic shielding.

Pin layout (component side view) and winding schematics:

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Spacing between pins</th>
<th>Spacing between rows of pins</th>
<th>Recommended PCB hole diameter</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Length x Width x Height above PCB (mm)</td>
<td>5.08 mm (0.2&quot;)</td>
<td>27.94 mm (1.1&quot;)</td>
<td>1.5 mm</td>
<td>51 g</td>
</tr>
</tbody>
</table>

Turns ratio: 1 + 1 : 14
 STATIC resistance of each primary: 11 Ω
STATIC resistance of secondary: 1.5 kΩ
Primary level at 0.2 % THD, 50 Hz signal:
Primaries connected in parallel (fig b), source impedance 50Ω: -2 dBu (sec. level +20 dBu)
Primary level at 1 % THD, 50 Hz signal:
Primaries connected in parallel (fig b), source impedance 50Ω: +6 dBu (sec level +28 dBu)
Frequency response +0, -1 dB to balanced input:
Signal level -6 dBu, source 200 Ω, fig b, no termination: 10Hz – 16kHz
Frequency response +/- 1 dB to balanced input:
Signal level -6 dBu, source 50 Ω, fig b, load 80 kΩ + 100pF: 10Hz – 50kHz
Isolation between windings / between windings and shield: 4 kV / 2 kV

Connection alternatives

Fig. a. Primaries in series.
Turns ratio 1 : 7

Fig. b. Primaries in parallel.
Turns ratio 1 : 14

The transformer is often used reversed (14:1) in line boxes and tube microphones.