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APPLICATION NOTE AN622001

Using Type 6220-1A Transformer for the Measurement of Low Frequency EMI Currents



APPLICATION

The Type 6220-1A Audio Isolation Transformer was especially designed for screen room use in making conducted audio frequency susceptibility tests as required by MIL-STD-461/462 and other EMI specifications.

The transformer may also be used as a pickup device to measure low frequency EMI currents at lower levels than conventional current probes.

In addition, its secondary may be used as an isolating inductor in the power line during transient susceptibility tests. (See Application Note AN622001.)

DESCRIPTION

The transformer is capable of handling up to 200 watts of audio power into its primary over the frequency range 30 Hz to 250 KHz. The turns ratio provides a two-to-one step down to the special secondary winding. The secondary will handle up to fifty amperes of a.c. or d.c. without saturating the transformer. Another secondary winding is connected to a pair of binding posts suitable for connecting to a.c. voltmeter as directed by the applicable EMI specifications. This winding serves to isolate the voltmeter from power ground. Neither the primary nor the secondary windings are connected to the end bells of the core. The transformer may be used as a 4-ohm primary and 1-ohm secondary or 2.4-ohm primary and 0.6-ohm secondary or 2-ohm primary and 0.5-ohm secondary.

FEATURES

- Provides a convenient bench model unit with three-way binding posts on primary and output voltmeter leads. Standard 0.75" spacing of binding posts allows use of standard plugs. High current secondary uses 1/4-20 threaded studs.
- Capable of handling the audio power required by EMI specifications and up to 50 amperes of a.c. or d.c. through the secondary in series with the test sample.
- May be used as a pickup device or an isolating inductor in other tests.
- Suitable for fastening to the bench top in permanent test setups.

ADDITIONAL MODELS

Type 6220-2 100 amperes high current transformer.

Type 6220-4 50 amperes 4 KV transient voltage HV transformer.

Type 9707-1 10 amperes low current transformer.

SPECIFICATIONS

Primary: Less than 5 ohms.

Secondary: One-fourth the primary impedance.

Frequency Response: 30 Hz to 250 KHz.

Audio Power: 200 watts.

Dielectric Test: 600 volts d.c. primary to secondaries and each winding to end bells.

Secondary Saturation: 50 amperes a.c. or d.c. maximum.

Turns Ratio: Two-to-one step down.

Secondary Inductance: Approximately 1.0 mH (unloaded).

Weight: 18 pounds.

Size: 4.5" wide, 5.25" high, 6.25" deep plus terminals. (114 mm x 133 mm x 159 mm.)

