

POWERLINE CARRIER ISOLATION TRANSFORMER

P2824

Features

- * Lead-free (Pb-free)
- * RoHS compliant
- * 14.6mm seated height
- * Reinforced insulation
- * Vacuum encapsulated
- * Low distortion
- * IEC 60950 and UL 60950 certified
- * UL Recognized Component
- * Ratio 1:1

Applications

- * Powerline Carrier

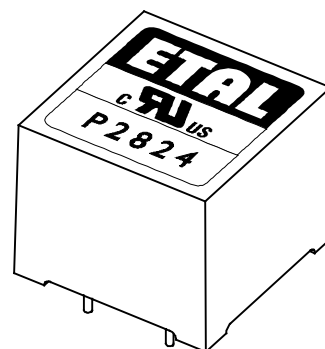
DESCRIPTION

P2824 is specifically designed to provide signal coupling with safety isolation for FSK modems operating at 132.45kHz such as the SGS Thomson ST7537.

Typically, the device is driven from a low-impedance source and connected to the mains network using a capacitor whose value is chosen to resonate with the transformer leakage inductance.

P2824 is certified to IEC 60950 and UL 60950 for reinforced insulation, is a UL Recognized Component and is supported by an IEC CB Test Certificate. The part is completely lead-free, compliant with RoHS Directive 2002/95/EC, and suitable for lead-free and conventional processing.

Furthermore, the device is designed for low distortion and meets the requirements of EN 50065-1 for conducted emissions.



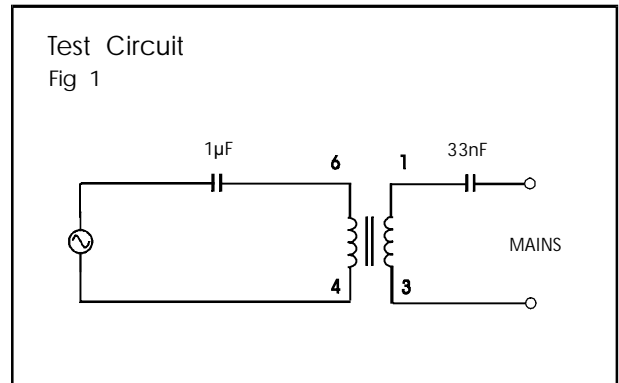
SPECIFICATIONS

Distortion

Exceed requirements of EN 50065-1 for conducted emissions

Conditions:

Fundamental 132.45kHz into artificial mains network of EN 50065-1 at 116dB μ V and AC magnetizing current of 3mA rms at 50Hz. Circuit as Figure 1.

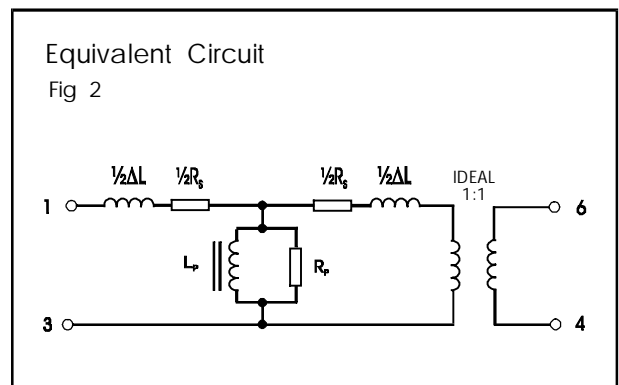


Voltage Isolation

4kVrms at 50Hz

Operating range

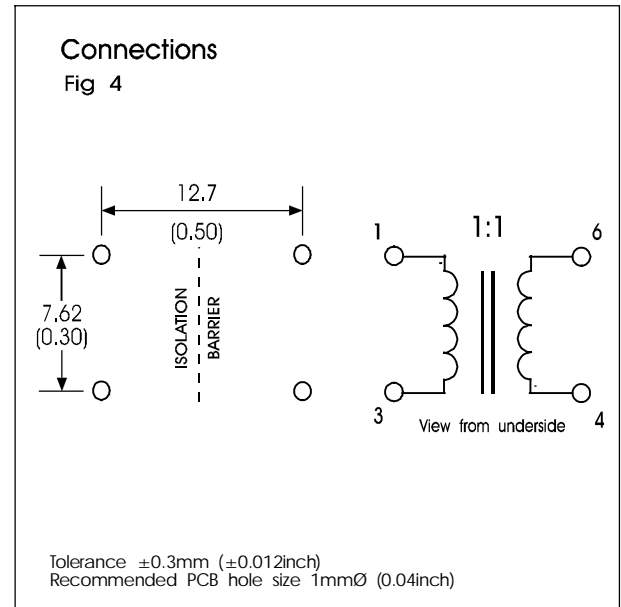
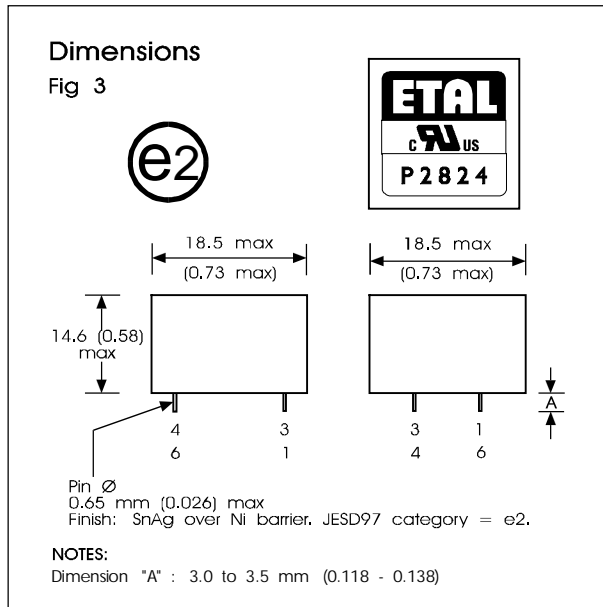
Ambient	-25 to +85°C
Storage	-40 to +125°C
Relative Humidity	to 95%



Typical lumped parameters as Fig. 2, referred to pins 1-3.

Parameter	Conditions	Typical	Units
Series resistance R_s (DCR+ AC resistance)	125kHz, 1V	1.3	Ω
Leakage inductance ΔL	125kHz, 1V	46	μH
Shunt inductance L_p	125kHz, 1V	1200	μH
Shunt loss R_p	125kHz, 1V	50	k Ω

CONSTRUCTION



Dimensions shown are in millimetres (inches).

Geometric centres of outline and pad grid coincide within a tolerance circle of 0.3mm \varnothing .

SAFETY

Constructed in accordance with IEC 60950-1:2001, EN 60950-1:2001 and UL 60950-1, first Edition, reinforced insulation 250Vrms maximum working voltage, flammability class V-0.

Distance through solid insulation 0.4mm minimum.
Creepage and clearances in circuit are 9mm minimum where PCB pads do not exceed $\varnothing 3\text{mm}$.

CERTIFICATION

Certified under the IEC CB scheme (Certificate DK-9431) to IEC 60950-1:2001, sub-clauses 1.5, 1.5.1, 1.5.2, 1.7, 1.7.1, 2, 2.9, 2.9.1, 2.9.2, 2.9.3, 2.10, 2.10.1, 2.10.2, 2.10.3, 2.10.3.1, 2.10.3.3, 2.10.4, 2.10.5, 2.10.5.1, 2.10.5.4, 4, 4.7, 4.7.1, 4.7.3, 4.7.3.1, 4.7.3.4, 5, 5.2, 5.2.1, and 5.2.2 for a maximum working voltage of 250Vrms, nominal mains supply voltage not exceeding 250Vrms and a maximum operating temperature of 85°C in Pollution Degree 2 environments, reinforced insulation, including national differences for Denmark, Finland, Germany, Norway, Sweden, Switzerland, USA, Canada and UK.

Recognized under the Component Recognition Program of Underwriters Laboratories Inc. to US and Canadian requirements CAN/CSA C22.2 No. 60950-1-03/UL60950-1, First Edition, based on IEC 60950-1, First Edition, maximum working voltage 250Vrms, Pollution Degree 2, reinforced insulation.

UL File number E203175.

Additionally, Profec Technologies certifies all transformers as providing voltage isolation of 3.88kVrms, 5.5kV DC minimum. All shipments are supported by a certificate of conformity to current applicable safety standards.

ABSOLUTE MAXIMUM RATINGS

(Ratings of components independent of circuit).

Short term isolation voltage (1s)	4.6kVrms, 6.5kVDC
Storage temperature	-40°C to +125°C
Lead temperature, 10s	260°C

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