

# ISOLATING SIGNAL TRANSFORMER

# P2824

## Features

- \* 14.6mm seated height
- \* Vacuum encapsulated
- \* Low distortion
- \* IEC 950, UL 1950 and EN 60950 certified
- \* UL Recognized Component
- \* CSA NRTL/C Certificate of Compliance

## 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 950, EN 60950 and UL 1950, is a UL Recognized Component and is supported by a CSA Certificate of Compliance and an IEC CB Test Certificate.

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



to Electronic Techniques  
(Anglia) Limited

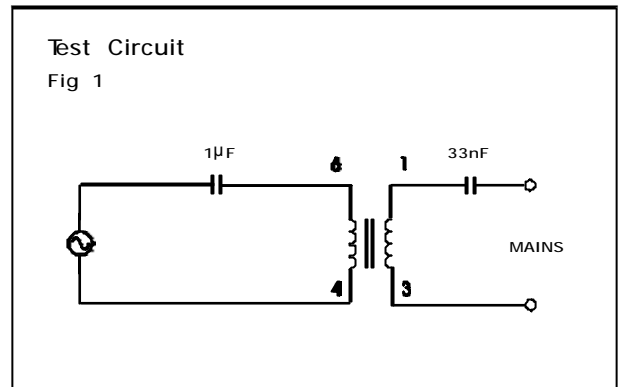
## SPECIFICATIONS

### Distortion

Exceed requirements of EN 50065-1 (1991) for conducted emissions

#### Conditions:

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

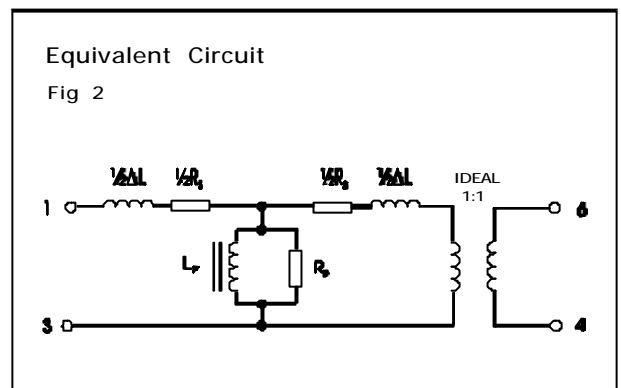


### Voltage Isolation

4kVrms at 50Hz

### Operating range

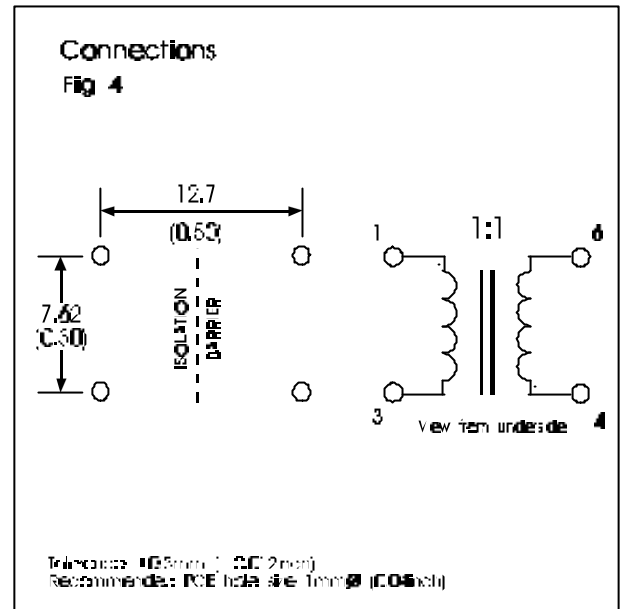
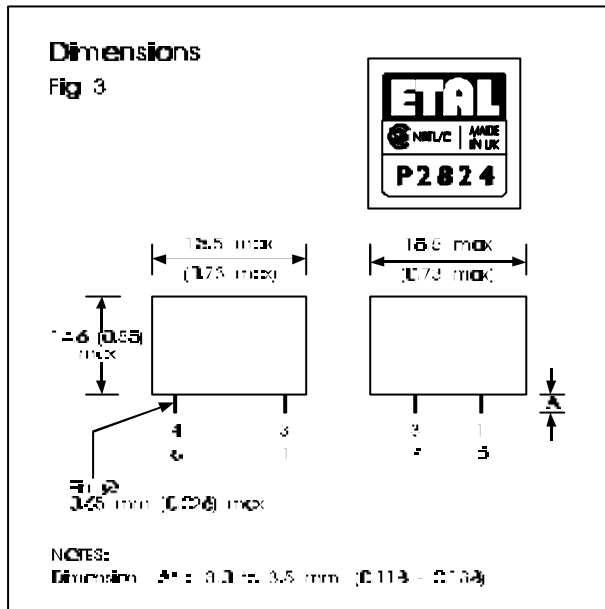
Ambient	0 to +70°C
Storage	-25 to +125°C
Relative Humidity	to 95%



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	$\Omega$
Leakage inductance $\Delta L$	125kHz, 1V	46	$\mu H$
Shunt inductance $L_P$	125kHz, 1V	1200	$\mu H$
Shunt loss $R_P$	125kHz, 1V	50	k $\Omega$

## 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 IEC950:1991, EN 60950:1992 (BS 7002:1992) to amendment 3 reinforced insulation, amendment 5 supplementary insulation and UL 1950 3rd 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 GB442W) to IEC 950:1991, sub-clauses 1.5, 1.5.1, 1.5.3, 2.2, 2.2.2, 2.2.3, 2.2.4, 2.9.2, 2.9.3, 2.9.4, 2.9.6, 2.9.7, 4.4, 4.4.3.2 (class V-0) and 5.3 for a maximum working voltage of 250Vrms, nominal mains supply voltage not exceeding 250Vrms and a maximum operating temperature of 70°C in Pollution Degree 2 environments, reinforced insulation to amendment 3, supplementary to amendment 4.

Recognized under the Component Recognition Program of Underwriters Laboratories Inc. to US and Canadian requirements CAN/CSA C22.2 No. 950-95/UL1950, Third Edition, including revisions through to revision date March 1, 1998, based on Fourth Amendment of IEC 950, Second Edition, maximum working voltage 250Vrms, Pollution Degree 2, reinforced insulation.

UL File number E203175.

CSA Certificate of Compliance 1107696 (Master Contract 188107).

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)	4.6 kVrms, 6.5kVDC
Storage temperature	-25°C to +125°C
Lead temperature, 10s	260°C

**COPYRIGHT**

ETAL, and P2824 are Trade Marks of Profec Technologies Ltd.

The Trade Mark ETAL is registered at the UK Trade Marks Registry.

Profec Technologies Ltd. is the owner of the design right under the Copyright Designs and Patents Act 1988 and no rights or licences are hereby granted or implied to any third party.

© 1997 and 2000 Profec Technologies Ltd.  
Reproduction prohibited.

**PROFEC**  
TRANSFORMING THE FUTURE



ISO 9001  
FM 25326

Profec Technologies Ltd., 10 Betts Avenue, Martlesham Heath, Ipswich, IP5 3RH, England  
Telephone: +44 (0) 1473 611422 Fax: +44 (0) 1473 611919  
Websites: [www.etal.ltd.uk](http://www.etal.ltd.uk) [www.profec.com](http://www.profec.com)  
Email: [info@etal.ltd.uk](mailto:info@etal.ltd.uk) [sales@profec.com](mailto:sales@profec.com)