

PICK-OFF TRANSFORMER

P3127

Features

- * 14.6mm seated height
- * Vacuum encapsulated
- * Compliant with EN 50020 and EN 60950

Applications

- * Potentially explosive atmospheres
- * Telecommunications
- * Pick-off applications
- * Telemetry
- * Instrumentation

DESCRIPTION

P3127 is a high impedance transformer for applications where high performance and safety isolation to the most exacting international standards are required in a compact case size.

In conjunction with external protection (e.g. fuses, zener diodes, etc.) the device is compliant with EN 50020 for peak rated voltage $\leq 375V$.

P3127 has a turns ratio of 1.732:1 giving an impedance transformation of 3:1.

P3127 is designed for "listening" applications when placed across a line, presenting a very high impedance to minimize circuit loading. Signal performance is equivalent to ETAL® P1487.

SPECIFICATIONS

Electrical

At T = 25°C and as reference circuit Fig. 2 unless otherwise stated.

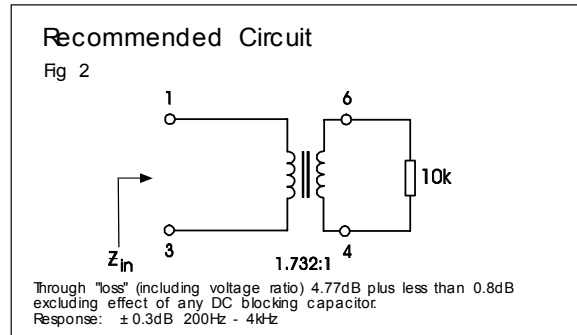
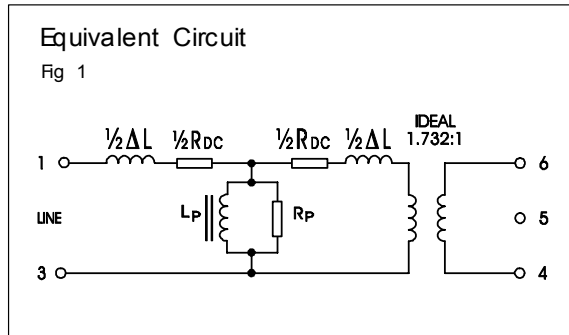
Parameter	Conditions	Min	Typ	Max	Units
Voltage isolation ⁽¹⁾	50Hz	3.88	-	-	kVrms
	DC	5.5	-	-	kV
Balance	DC - 5kHz Method TG25	50	-	-	dB
Input impedance	200Hz – 4kHz, Fig 2	20	-	-	kΩ
Operating range:	Ambient temperature				
Functional		-10	-	+70	°C
Storage		-40	-	+125	°C
Humidity		-	-	95	%R.H.

Lumped equivalent circuit parameters as Fig. 1

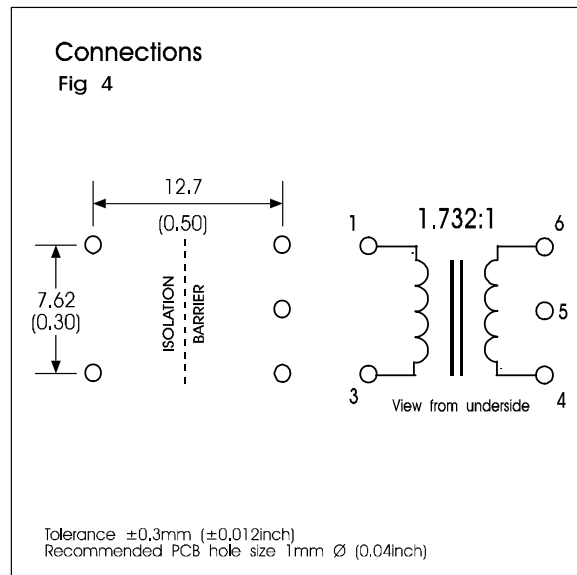
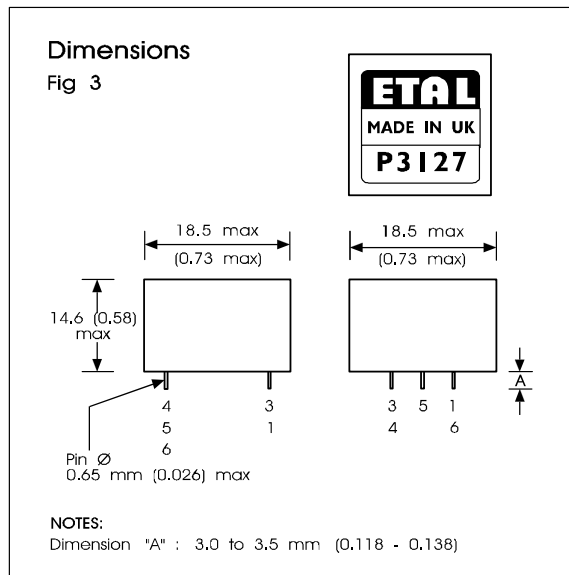
DC resistance, R_{DC} ⁽²⁾	Sum of windings (Corrected for ratio)	-	-	1860	Ω
Leakage inductance ΔL	Referred to pins 1-3	-	170	-	mH
Shunt inductance L_p	-43dBm 200Hz	3.8	-	67	H
Shunt loss R_p	-43dBm 200Hz	70	-	-	kΩ

Notes:

1. Components are 100% tested at 6.5 kVDC.
2. Caution: do not pass DC through windings. Telephone line current, etc must be diverted using choke or semiconductor line hold circuit.



CONSTRUCTION



Dimensions shown are in millimetres (inches).
Geometric centres of outline and pin grid coincide within a tolerance circle of 0.6mmØ.

EN 50020 para 7.1.2 Type 1(a) (side-by-side on separate slots of single piece moulding).

Fully vacuum encapsulated with hard epoxy resin totally enclosing all internal parts.

Critical Distances

- (a) Distance through bobbin dividing fillet. ≥1.0mm
- (b) Distance through bobbin walls to conductive core (Each winding). ≥0.5mm

- (c) Distance between highest point of each winding (including lead-outs) and top of dividing fillet. ≥1.0mm
- (d) Distance between highest point of each winding (including lead-outs) to conductive core through encapsulant. ≥1.0mm
- (e) Distance through potting box to conductive core. ≥0.7mm
- (f) Creepage/clearance (in air). ≥11.0mm

ABSOLUTE MAXIMUM RATINGS

(Ratings of components independent of circuit).

Short term isolation voltage (15s)	4.6kVrms, 6.5 kVDC
DC current	100µA
Storage temperature	-40°C to +125°C
Lead temperature, 10s	260°C

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ETAL Group Oy, Kuormatie 14, FIN-03101, Nummela
Telephone: +358 (0)20 7500 330 Fax: +358 (0)20 7500 333
Website: www.etalgroup.com Email: etalgroup@egruppen.com



ISO 9001
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