

**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.

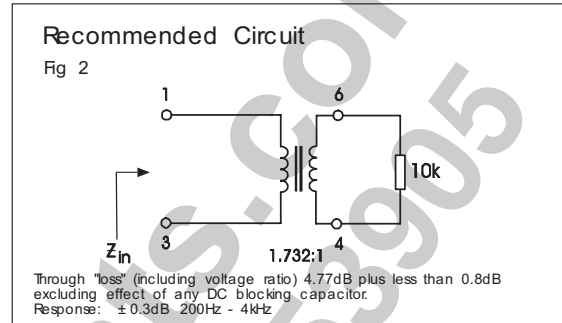
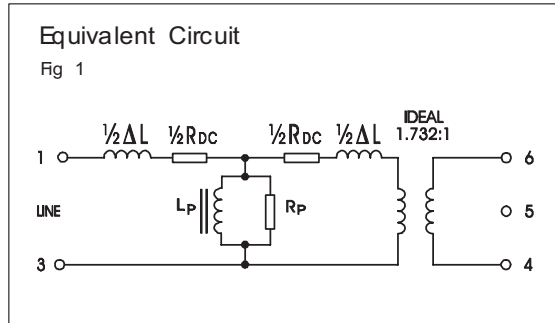
Parameter	Conditions	Min	Typ	Max	Units
Voltage isolation <sup>(1)</sup>	50Hz	3.88	-	-	kVrms
	DC	5.5	-	-	kV
Balance	DC - 5kHz Method TG25	50	-	-	dB
Input impedance	200Hz – 4kHz, Fig 2	20	-	-	kΩ
Operating range:	Ambient temperature				
Functional		-10	-	+70	°C
Storage		-40	-	+125	°C
Humidity		-	-	95	%R.H.

Lumped equivalent circuit parameters as Fig. 1

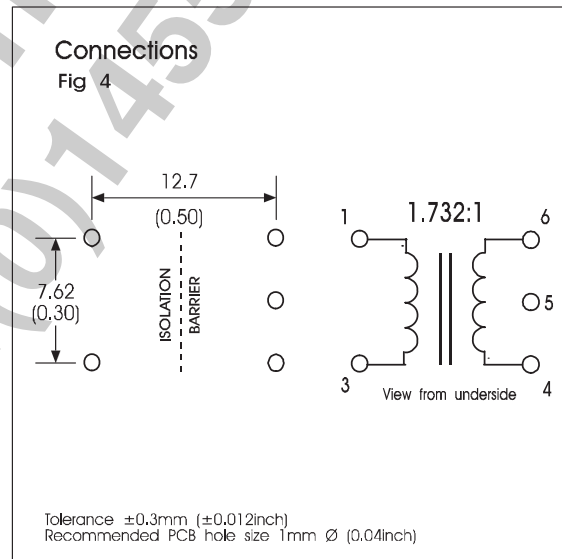
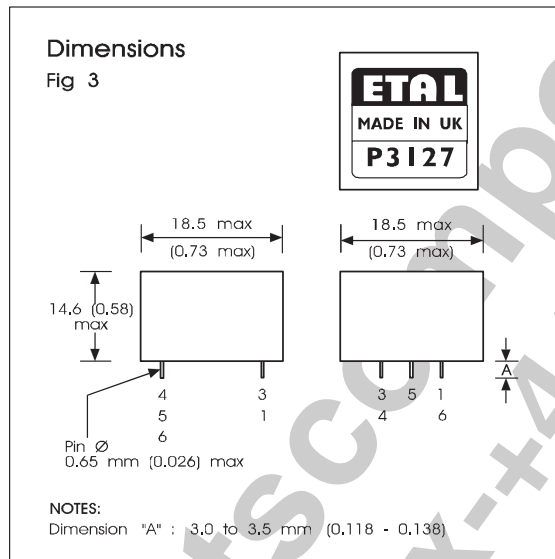
DC resistance, R <sub>DC</sub> <sup>(2)</sup>	Sum of windings (Corrected for ratio)	-	-	1860	Ω
Leakage inductance ΔL	Referred to pins 1-3	-	170	-	mH
Shunt inductance L <sub>p</sub>	-43dBm 200Hz	3.8	-	67	H
Shunt loss R <sub>p</sub>	-43dBm 200Hz	70	-	-	kΩ

### 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	100 $\mu$ A
Storage temperature	-40°C to +125°C
Lead temperature, 10s	260°C

## COPYRIGHT

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