

# Low Profile Line Matching Transformer

# P1312

## Features

- Low Profile (11mm)
- Low distortion
- Vacuum encapsulated
- Compliant with IEC 60950-1
- Tested to 6.5kV DC isolation

## Application

- Telecommunications
- Modems to V.34
- Line matching
- Instrumentation
- Fax/modems
- Portable computers

## Description

P1312 is the transformer of choice in medium-speed applications where high performance coupled with high isolation is required at a most competitive price. At only 11mm high, P1312 is suited to the latest high density packaging applications and meets the highest international safety standards, being vacuum encapsulated and 100% tested to withstand 6.5kV DC (4.60kV rms). P1312 is ideal for voice communications applications and data communications to V.32 bis (14,400 bps) data rates. With careful circuit design, P1312 may be used for V.34

applications to 28,800 bps. P1312 is specifically designed to be easily matched to both 600Ω and complex impedance telephone lines, using a minimum of external components. P1312 is compliant with IEC 60950-1. Equipment incorporating P1312 is capable of approval worldwide. P1312 is supported by recommended matching circuit components to meet the requirements of most National Telephone System Operators. P1312 has a centre tap for use as a return path in DC signaling between like transformers.

## Specifications

Parameter	Conditions	Min	Typical	Max	Units	
Insertion loss	f=2kHz R <sub>L</sub> =560Ω			1.5	dB	
Frequency Response	LF - 3dB cutoff		30		Hz	
	HF - 3dB cutoff		15		kHz	
Return loss	200Hz - 4kHz			±0.2	dB	
Distortion	200Hz - 4kHz	18			dB	
Balance	0dBm in line, 3rd harmonic		f=600 Hz	-76	-72	dBm
			f=450 Hz	-75	-70	dBm
DC Resistance	DC - 5kHz Method TG25	80			dB	
Saturation	Sum of windings	108		132	Ω	
Voltage Isolation	Excitation 50Hz, 250V rms Output Voltage across line			10	V rms	
				65	V peak	
Operating range	50Hz	3.88			kV rms	
		DC	5.5			kV
Functional Storage Humidity	Ambient temperature	-10		+70	°C	
		-40		+125	°C	
				95	%R.H.	

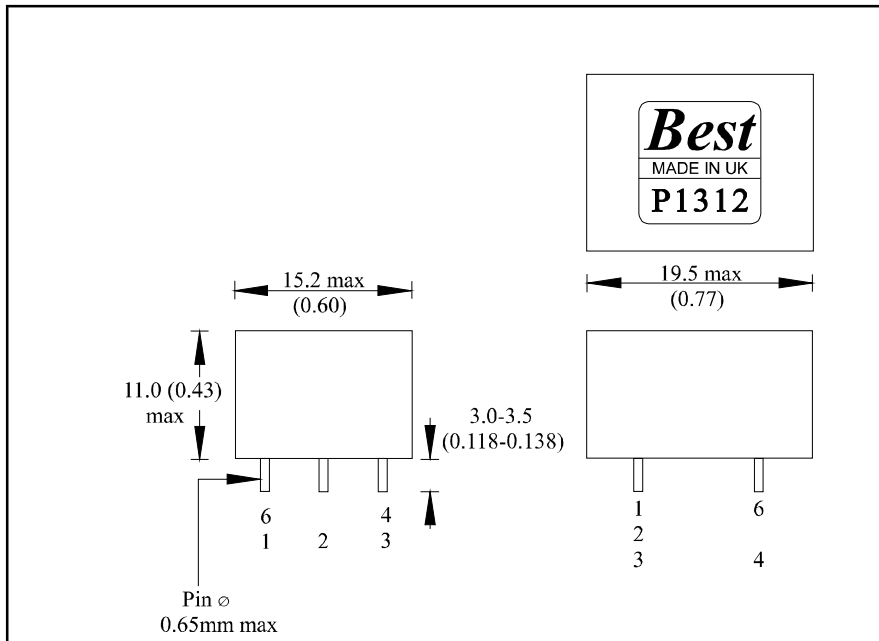
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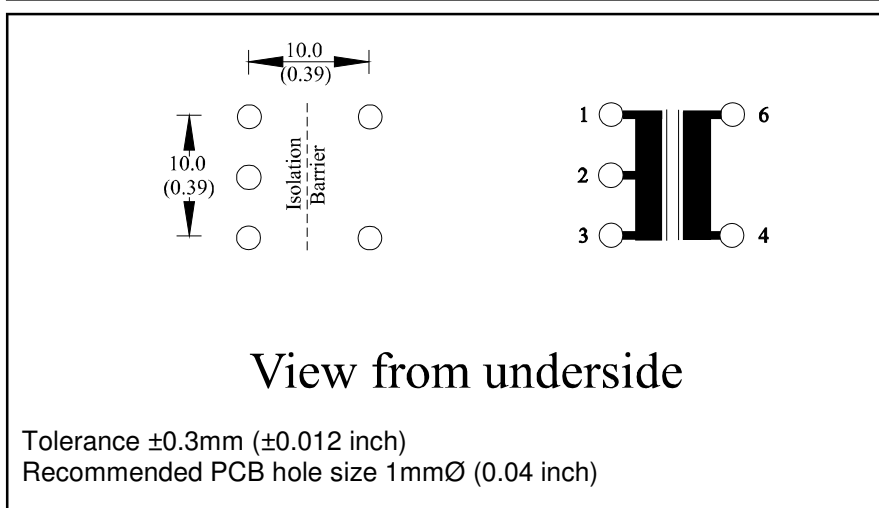
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# P1312

## Dimensions



## Connections



## Information

### Construction

Dimensions are shown in millimetres (inches).  
Geometric centres of outline and pin grid coincide within a tolerance circle of 0.6mm $\varnothing$ .  
Windings may be used interchangeably as primary or secondary.

### Safety

Constructed in accordance with IEC 60950-1, EN60950-1, supplementary insulation, and UL 60950-1, reinforced insulation, 250Vrms maximum working voltage, flammability class V-0. Distances through solid insulation 0.4mm minimum.

### Absolute Maximum Ratings

(Ratings of components independent of circuit)  
Short term isolation voltage (15s)  
4.6kV rms, 6.5kV DC

DC current  
100 $\mu$ A

Storage temperature  
-40 $^{\circ}$ C to +125 $^{\circ}$ C

Lead Temperature, 10s  
260 $^{\circ}$ C