PRODUCT DATA SHEET

LOW PROFILE LINE MATCHING TRANSFORMER

9003

Features

- Low Insertion Loss
- Lead-free (Pb-free)
- RoHS compliant
- Low Profile (11mm)
- IEC 60950 and UL 60950 certified
- UL Recognized Component

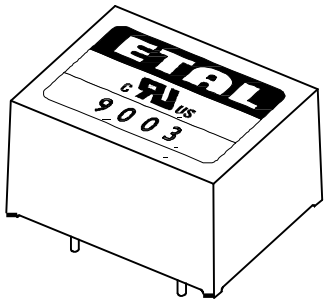
Applications

- V.34
- Line matching

DESCRIPTION

9003 is intended for data communications to V.34 (33.6kbps) data rates.

9003 is certified to IEC 60950 and UL 60950. 9003 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.



RoHS COMPLIANT

E203175

SPECIFICATIONS

Electrical

At T = 25℃ and 600Ω source and load unless otherwise stated.

Parameter	Conditions	Min	Typ	Max	Units
Insertion Loss	f = 200Hz - 4kHz	-	-	1.1	dB
Frequency Response	200Hz - 4kHz	-	-	±0.3	dB
Return Loss	300Hz - 4kHz, circuit figure 2	21	-	-	dB
Distortion (1)	-3dBm in line, 3rd Harmonic f = 200Hz	-	-73	-64	dBm
Voltage isolation(2)	50Hz DC	3.88 5.5	- -	- -	kVrms kV
Operating range: Functional Storage Humidity	Ambient temperature	 -25 -40 -	 - - -	 +85 +125 95	 ℃ ℃ %R.H.

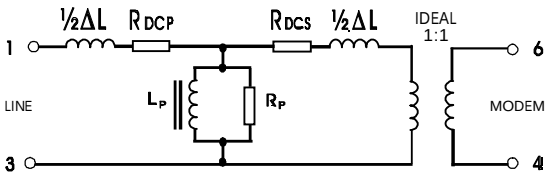
Lumped equivalent circuit parameters as Fig. 1

DC resistance(3)	Primary resistance R_{DCP} Secondary resistance R_{DCS}	38 38	45 45	52 52	Ω Ω
Leakage inductance ΔL		-	5.6	6.0	mH
Shunt inductance Lp	250mV 200Hz	2.0	6.5	-	H
Shunt loss Rp	250mV 200Hz	2	11	-	kΩ

Notes

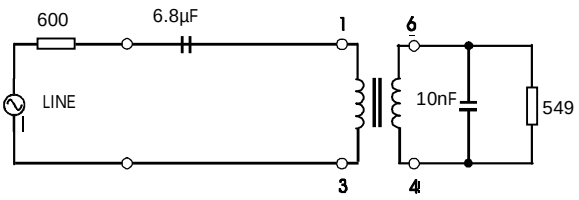
1. Third harmonic typically exceeds other harmonics by 10dB.
2. Components are 100% tested at 6.5kV DC.
3. Caution: do not pass DC through windings. Telephone line current, etc. must be diverted using semiconductor line hold circuit.

Equivalent Circuit
Fig 1



REFERENCE CIRCUIT

Fig 2



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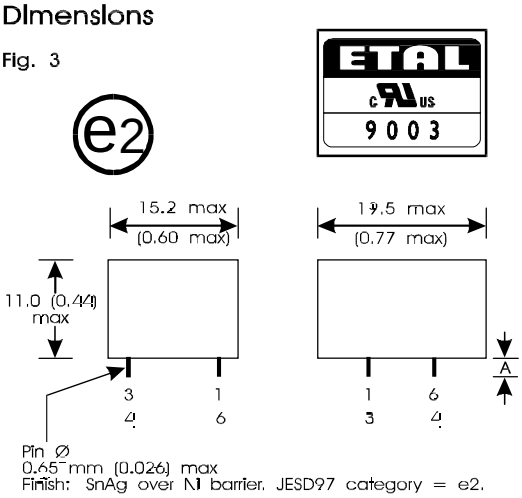
CONSTRUCTION

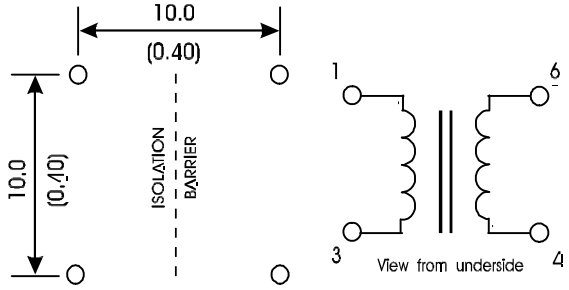
Dimensions

Fig. 3



Connections

Fig 4



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

SAFETY

Constructed in accordance with IEC 60950-1:2005, Second Edition, reinforced insulation, 250Vrms maximum working voltage, flammability class V-0. Distances through solid insulation 0.4mm minimum.

CERTIFICATION

Certified under the IEC CB Scheme (Certificate DK-15467) to IEC 60950-1:2005 sub-clauses 1.5, 1.7, 2.9, 2.10, 4.7 and 5.2 (Denmark, Finland, Germany, Norway, Ireland, Korea, Spain, Sweden, Switzerland, USA, Canada and UK national deviations) for a maximum working voltage of 250Vrms, nominal mains supply voltage not exceeding 250Vrms and a maximum operating temperature of 70℃ in Pollution Degree 2 environments.

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

UL File number E203175.

Additionally, ETAL 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 (2s)	4.6kVrms, 6.5kVDC
DC current	100µA
Storage temperature	-40℃ to +125℃
Operating temperature	-25℃ to +85℃
Lead temperature, 10s	260℃

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E203175

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