PRODUCT DATA SHEET

MICROPROFILE SMD LINE MATCHING TRANSFORMER

300SMD

Features

- Surface Mount
- Lead-free (Pb-free)
- RoHS compliant
- Low Distortion
- 7mm Seated Height
- IEC 60950 and UL 60950 Certified
- UL Recognized Component

Applications

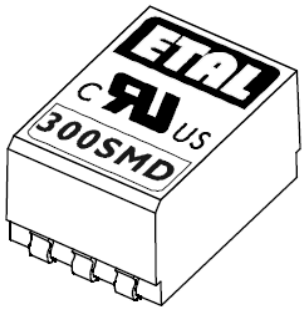
- Telecommunications
- V.34 modems
- Portable computers
- Fax/Modems

DESCRIPTION

300SMD is a microprofile transformer for applications where high performance and safety isolation to international standards are required in an extremely small case size.

Designed specifically as a surface mount device, the 300SMD features a 7mm seated height and is vacuum encapsulated.

300SMD is certified to IEC 60950 and UL 60950, and is a UL Recognized Component. The part is completely lead-free, compliant with RoHS Directive 2002/95/EC, and suitable for lead-free and conventional processing.



RoHS COMPLIANT

c US E203175

SPECIFICATIONS

Electrical

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

Parameter	Conditions	Min	Typ	Max	Units
Insertion Loss	f = 200Hz – 4kHz	-	-	3.0	dB
Frequency Response	200Hz – 4kHz	-	-	±0.3	dB
Return Loss	Circuit figure 2 200Hz – 4kHz	20	-	-	dB
Third Harmonic Distortion[1]	600Hz, -10dBm on primary	-	-	-92	dBc
Voltage Isolation[2]	50Hz/60Hz DC	3.88 5.5	- -	- -	kVrms kV
Operating Range: Functional Storage[5]		 -25 -40	 - -	 +80 +125	 ℃ ℃

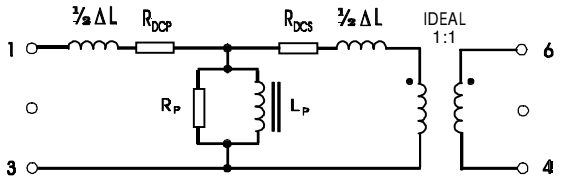
Lumped equivalent circuit parameters as Fig. 1

DC resistance [3]	Primary resistance R_{DCP} Secondary resistance R_{DCS}	159 159	187 187	215 215	Ω Ω
Leakage inductance, ΔL		-	8.4	19	mH
Shunt inductance, Lp[4]	200Hz 250mV	4.0	-	-	H
Shunt loss, Rp[4]	200Hz 250mV	10.0	-	-	kΩ

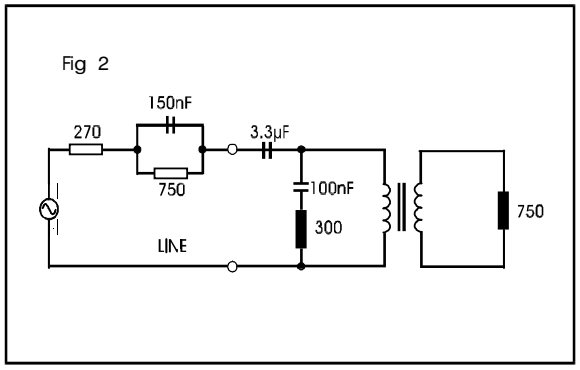
Notes:

1. Third harmonic typically exceeds other harmonics by 20dB.
2. Components 100% tested at 6.5 kVDC.
3. **Caution:** do not pass DC through windings.
4. At signal levels greater than 100mV, Lp will increase and Rp will decrease slightly but the effect is usually favourable
5. Excludes shipping materials. Components are dry-packed and sealed as shipped. Handle in accordance with IPC/JEDEC J-STD-033 procedure for components classified as IPC/JEDEC J-STD-020 Moisture Sensitivity Level 5a.

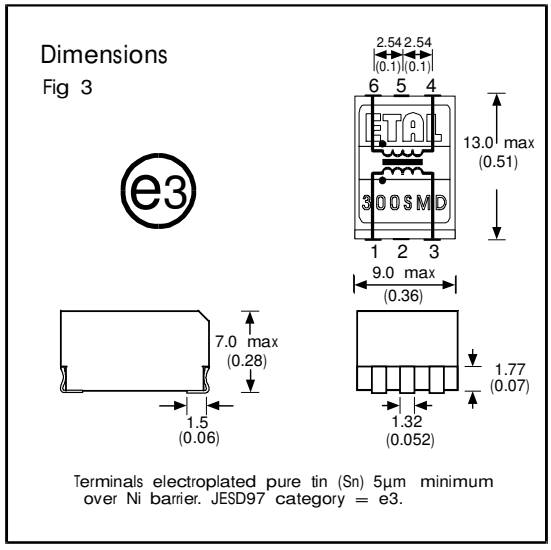
Equivalent Circuit
Fig 1

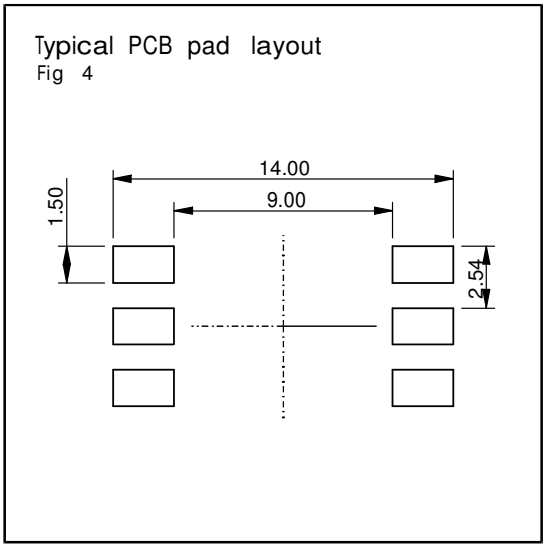


REFERENCE CIRCUIT



CONSTRUCTION





Dimensions shown are in millimetres (inches).
Geometric centres of outline and pin grid coincide within a tolerance circle of 0.3mmØ.
Windings may be used interchangeably as primary or secondary.

ABSOLUTE MAXIMUM RATINGS

(Ratings of components independent of circuit).

Short term isolation voltage (2s)	4.6kVrms, 6.5kVDC
DC current (avoiding distortion impairment)	100µA
Storage temperature	-40 ℃ to +125 ℃
Soldering temperature Profile peak	260 ℃ 10s

Recommended peak body temperature 245 ℃ in accordance with IPC/JEDEC J-STD-020.

SAFETY

Manufactured from materials conforming to flammability requirements of UL94V-0.
Distance through reinforced insulation 0.4mm minimum.
Construction complies with IEC 60950-1, Second Edition, reinforced insulation, 250Vrms maximum working voltage.

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 +80 ℃ in Pollution Degree 2 environment, reinforced insulation.

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.

ORDERING CODE

300SMD□□

TR = Tape and Reel
(Blank) = Bulk in tubes.

Carrier tape width 24mm,
500 parts per 13” reel.

COPYRIGHT

E203175

ETAL Group AB, Box 39, SE-162 11 Vällingby, Sweden
Telephone: +46(0)87593500 Fax: +46(0)87593540
Website: www.etalgroup.com Email: info.se@etalgroup.com