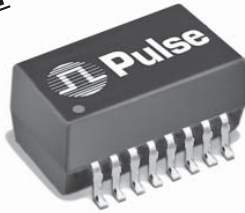


T1/CEPT/ISDN-PRI TRANSFORMERS

Dual Surface Mount, 1500 Vrms, Small Package



- RoHS peak reflow temperature rating 245°C
- Single port T1/E1 solution
- Configurable for TP and Coax cable termination
- Transfer-molded, IC-grade packaging
- UL1950 approved to basic isolation

Electrical Specifications @ 25°C

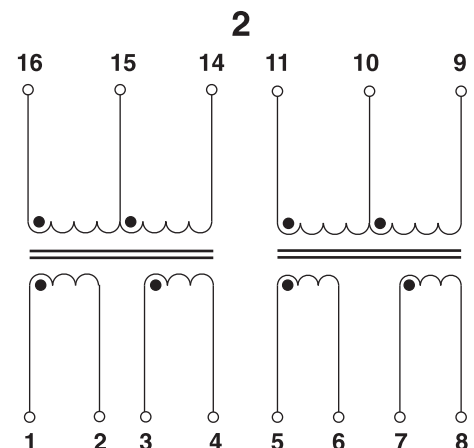
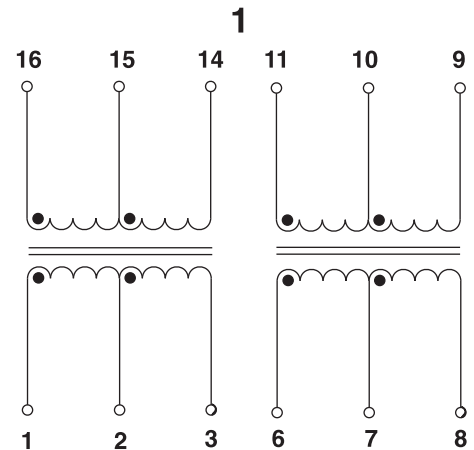
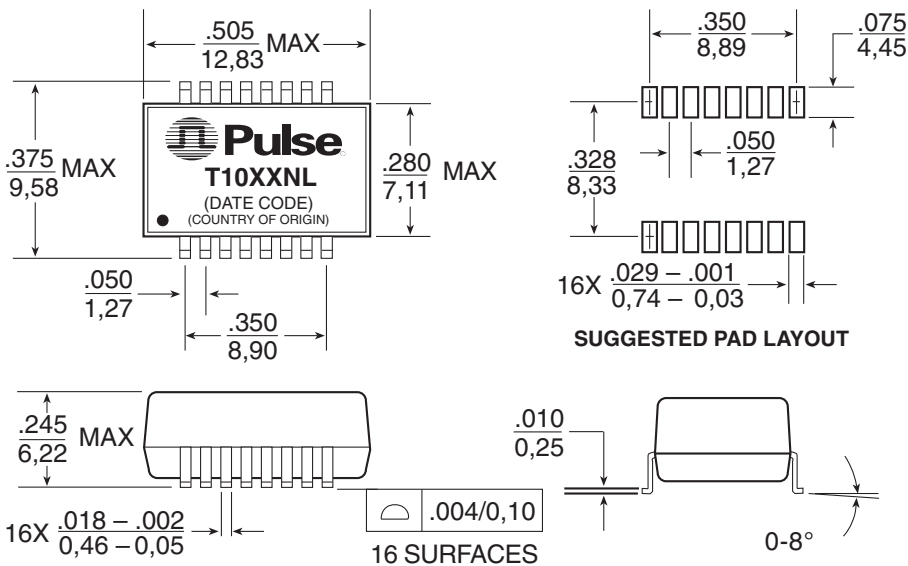
RoHS-6 Compliant Part Number	Turns Ratio ¹ (Pri:Sec ± 2%)	OCL (mH MIN)	L (μH MAX)	Cw/w (pF MAX)	DCR Pri (W MAX)	DCR Sec (W MAX)	Package/ Schematic	Primary Pins
T1021NL	2CT : 1/1.26 & 2CT : 1/1.26	1.5 & 1.5	0.50 & 0.50	40 & 40	0.70 & 0.70	1.00 & 1.00	BH/1	1-3, 11-9
T1075NL	2CS : 1.57/2 & 2CS : 1.57/2	1.5 & 1.5	0.50 & 0.50	40 & 40	0.70 & 0.70	1.00 & 1.00	BH/2	1-2, 5-6

NOTE: Optional Tape & Reel packaging can be ordered by adding a "T" suffix to the part number (such as T1021NLT)

Mechanical

Schematics

BH



Weight 1.0 grams
 Tape & Reel 600/reel
 Tube40/tube

Dimensions: $\frac{\text{Inches}}{\text{mm}}$
 Unless otherwise specified, all tolerances are $\pm \frac{.010}{0,25}$

T1/CEPT/ISDN-PRI TRANSFORMERS

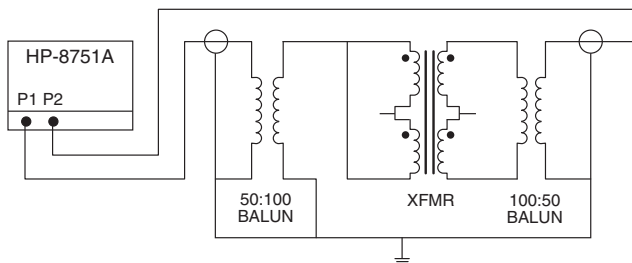
Dual Surface Mount, 1500 Vrms, Small Package



IC Mfr.	IC Part Number	Comments	Standard Temp. TX / RX
Brooktree	UGA 510-1 R8069, R8069A, R8069B	—	T1021NL
VLS	VP14Q575 VP14Q575	E1 75 E1 120	T1021NL
Siemens	PEB 2235, PEB 2235A1, PEB 2235B1 PEB 2235, PEB 2235A1, PEB 2235B1 PEB 2235, PEB 2235A1, PEB 2235B1	T1 CEPT 75 CEPT 120	T1075NL

1. Turns Ratio – The turns ratio of these devices have been designed, in conjunction with semiconductor vendor recommendations, to allow connections to various terminations (e.g. 75 or 120 Ω with the same transformer). For example T1075NL can be used with the Siemens PEB 2235 to achieve connection to the 75 or 120 Ω cable. For 75 Ω termination, the PEB 2235 requires the following turns ratio: 1:1.57 (Tx) and 1:1.26 (Rx) which can be achieved using pins (1-2):(15-16) for Tx and (10-11):(5-8) for Rx. Similarly, for 120 Ω, the following turns ratio are required: 1:2 (Tx) and 1:1 (Rx), which are pins (1-2):(16-14) for Tx and (5-8):(11-9) for Rx on the T1075NL.

2. Return Loss – ITU-T G.703 and European national regulatory documents specify minimum return loss levels. The transformers will allow these limits to be complied within the situations where they are applicable.



3. Frequency	50-100 KHz	100 KHz-2 MHz	2-3 MHz
Return Loss			
Transmit	9 dB	15 dB	11 dB
Receive	12 dB	18 dB	14 dB

4. Surge Voltage Capability – All transformers and chokes meet surge voltage tests according to the most stringent regulatory documents:

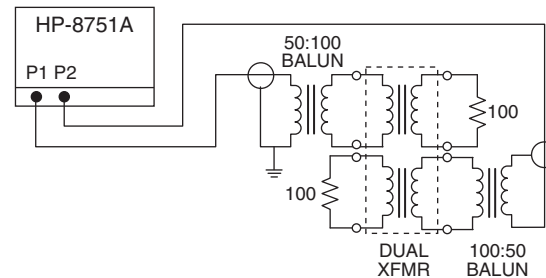
Metallic Voltage: 800 V peak, 10/560 μsec
Longitudinal Voltage: 2,400 V peak, 10/700 μsec

5. Flammability – Materials used in the products are recognized as UL94-VO approved. Products meet the requirements of IEC 695-2-2 (Needle Flame Test).

6. Safety Agency Recognition – These parts are recognized to meet Underwriter Laboratories, UL 1950 to basic, per file E133523 (S).

7. Common Mode Re dB at 1 MHz. A typical test circuit is shown below.

8. Crosstalk Attenuation – In the dual packages, which contain transmit and receive transformers side by side, sufficient crosstalk attenuation is achieved by the inherent characteristics of the toroid cores as well as by their proper positioning. The crosstalk attenuation is typically 50 dB or better from 100 KHz to 10 MHz. This result was established with the test circuit shown below.



High Frequency Common Mode Chokes for Telecom Applications (4-Lines)

Electrical Specifications @ 25°C – Operating Temperature 0°C to 70°C

Pulse Part Number	Turns Ratio (±5%)	OCL (μH MIN)	C _{w/w} (pFH MAX)	L _L (μH MAX)	DCR (Ω MAX)	Isolation (Vrms MIN)	Package
PE-6554NL	1 : 1 : 1 : 1	24.0	15	0.20	0.30	500	Through Hole
PE-6555NL	1 : 1 : 1 : 1	8.0	10	0.20	0.25	500	Through Hole
PE-6584NL	1 : 1 : 1 : 1	47.0	16	0.20	0.30	500	Surface Mount
PE-6587NL	1 : 1 : 1 : 1	24.0	15	0.23	0.30	500	Surface Mount

NOTE: Additional common mode chokes to improve EMI performance are available. See data sheet **G002** for mechanicals and schematics of common mode chokes.

For More Information:

Pulse Worldwide Headquarters
 12220 World Trade Dr.
 San Diego, CA 92128
 U.S.A.

Pulse Europe
 Einsteinstrasse 1
 D-71083 Herrenberg
 Germany

Pulse China Headquarters
 B402, Shenzhen Academy of
 Aerospace Technology Bldg.
 10th Kejinan Rd.
 High-Tech Zone
 Nanshan District
 Shenzhen, PR China 518057
 Tel: 86 755 33966678
 Fax: 86 755 33966700

Pulse North China
 Room 2704/2705
 Super Ocean Finance Ctr.
 2067 Yan An Rd. West
 Shanghai 200336
 China
 Tel: 86 21 62787060
 Fax: 86 2162786973

Pulse South Asia
 135 Joo Seng Rd.
 #03-02
 PM Industrial Bldg.
 Singapore 368363
 Tel: 65 6287 8998
 Fax: 65 6287 8998

Pulse North Asia
 3F, No. 198
 Zhongyuan Rd.
 Zhongli City
 Taoyuan County 320
 Taiwan R. O. C.
 Tel: 886 3 4356768
 Fax: FRE 886 3 43568 20
 Pulse: 886 3 4356823

www.pulseeng.com
 Tel: 858 674 8100
 Fax: 858 674 8262

Tel: 49 7032 7806 0
 Fax: 49 7032 7806 135

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