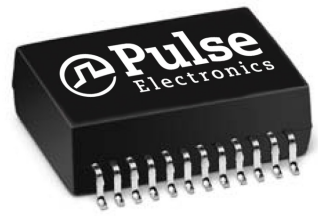
T1/E1/CEPT/ISDN-PRI INTERFACE MODULES

Four Transformer Modules for Dual SMT
T1/E1 Ports, Extended Temperature Range



- *RoHS peak reflow temperature rating 245˚C*
- *Optimized for enhanced EMC performance*
- *SMT Dual Port package contains transformers with optional common mode chokes on both transmit and receive channels*
- *Models matched to leading transceiver ICs*
- *Patented Interlock Base construction for high-reliability*
- *Recognized to UL 1950*
- *Isolation Voltage: 1500 Vrms*

Electrical Specifications @ 25°C

RoHS Compliant Part Number		Turns Ratio (Pri: Sec ± 2%)		Secondary OCL @ 25˚C (mH MIN)	Cw/w (pF MAX)	DCR Pri (Ω MAX)	Package/ Schematic	Primary Pins	
w/CMC	wo/CMC	Transmit	Receive					Transmit	Receive
EXTENDED TEMPERATURE RANGE MODELS - OPERATING TEMPERATURES **-40˚C TO +85˚C**									
T1176NL	-	1CT:2.4CT	1CT:1CT	1.20	35	.80	WAT/2	1-3 & 10-12	21-19 & 18-16
TX1192NL	-	1CT:2.42CT	1CT:2.42CT	1.20	25	.80	WAT/1	4-6 & 10-12	1-3 & 7-9
TX1193NL	**TX1323NL**	1CT:2CT	1CT:1CT	1.20	35	.80	WAT/1	4-6 & 10-12	24-22 & 18-16

Notes:

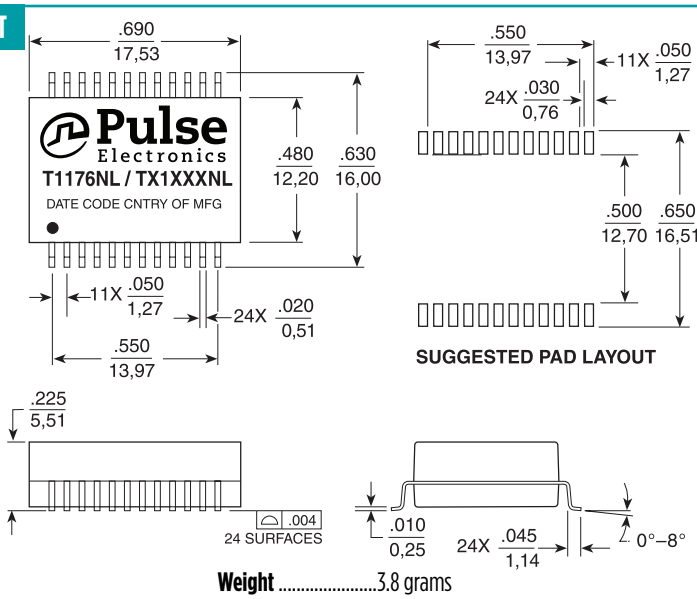
1. Extended Temperature Range Models - For extended temperature range transformers (-40˚C to +85˚C operating temperature range), OCL (Open Circuit Inductance) is specified at both -40˚C and +25˚C. At -40˚C, OCL is 600 µH minimum. All other parameters are specified at +25˚C only.

2. Turns ratio is specified primary: secondary (CT = Center Tap).

3. Standard packaging for the surface mount package is anti-static tubes. Optional Tape & Reel can be ordered by adding a "**T**" suffix to the part number, (i.e T1176NL**T**).

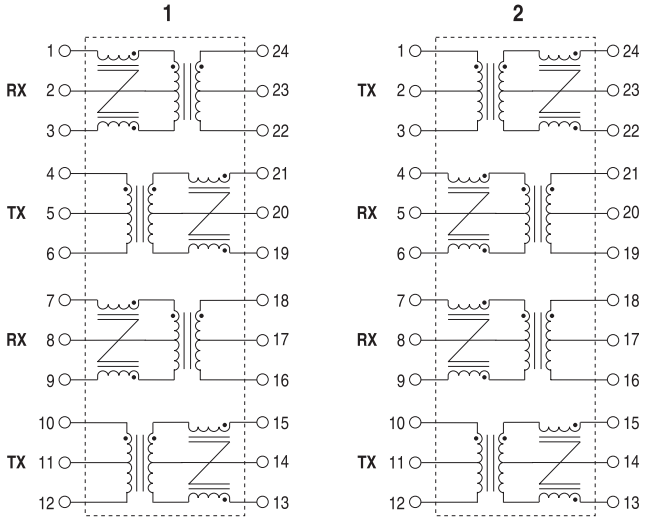
Mechanical

WAT



Weight .....3.8 grams
Tape & Reel 175/reel
Tray 105/tray

Schematics



Dimensions: Inches / mm Unless otherwise specified, all tolerances are ± .010 / 0,25

USA 858 674 8100 Germany 49 7032 7806 0 Singapore 65 6287 8998 Shanghai 86 21 62787060 China 86 755 33966678 Taiwan 886 3 4356768

T1/E1/CEPT/ISDN-PRI INTERFACE MODULES

Four Transformer Modules for Dual SMT T1/E1 Ports, Extended Temperature Range

Application Notes

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

2. **Balance Characteristics** - The transformers meet the requirements for longitudinal balance of FCC part 68.

3. **Common Mode Rejection Ratio** - the CMRR for all transformers is better than 50 dB at 1 MHz.

4. **Crosstalk Attenuation** - In the packages which contain transmit and receive transformers side by side, sufficient crosstalk attenuation is achieved by the inherent charact -eristics of the toroid cores as well as by their proper pos -itioning. The crosstalk attenuation is typically 65 dB or better.

5. **Return Loss** - ITU-T G703 and the 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.

Frequency	**50-100 KHz**	**100KHz-2 MHz**	**2-3 MHz**
Return Loss			
XMIT	9 dB	15 dB	11 dB
RCV	12 dB	18 dB	14 dB

6. **General information** - The transformers are specifically designed for use in 1.544 Mbps (T1), 2.048 Mbps (CEPT) and ISDN Primary Rate Interface (PRI) applications. They are matched to the majority of the line interface transceiver ICs currently available. Use of the proper trans -former allows the interface circuit to comply with ITU-T G.703 and other standards regarding pulse waveform, return loss, and balance.

For More Information

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

Tel: 858 674 8100
Fax: 858 674 8262

Pulse Europe
Einsteinstrasse 1
D-71083 Herrenberg
Germany

Tel: 49 7032 78060
Fax: 49 7032 7806 135

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

Pulse North China
Room 2704/2705
Super Ocean Finance Ctr.
2067 Yan An Road West
Shanghai 200336
China

Tel: 86 21 62787060
Fax: 86 2162786973

Pulse South Asia
135 Joo Seng Road
#03-02
PM Industrial Bldg.
Singapore 368363

Tel: 65 6287 8998
Fax: 65 6287 8998

Pulse North Asia
3F, No. 198
Zhongyuan Road
Zhongli City
Taoyuan County 320
Taiwan R. O. C.
Tel: 886 3 4356768
Fax: 886 3 4356823 (Pulse)
Fax: 886 3 4356820 (FRE)

Performance warranty of products offered on this data sheet is limited to the parameters specified. Data is subject to change without notice. Other brand and product names mentioned herein may be trademarks or registered trademarks of their respective owners. © Copyright, 2012. Pulse Electronics, Inc. All rights reserved.