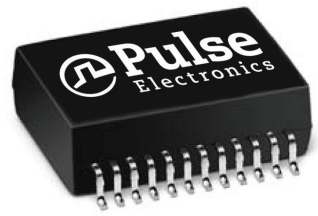
T1/E1/CEPT/ISDN-PRI INTERFACE MODULES

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:

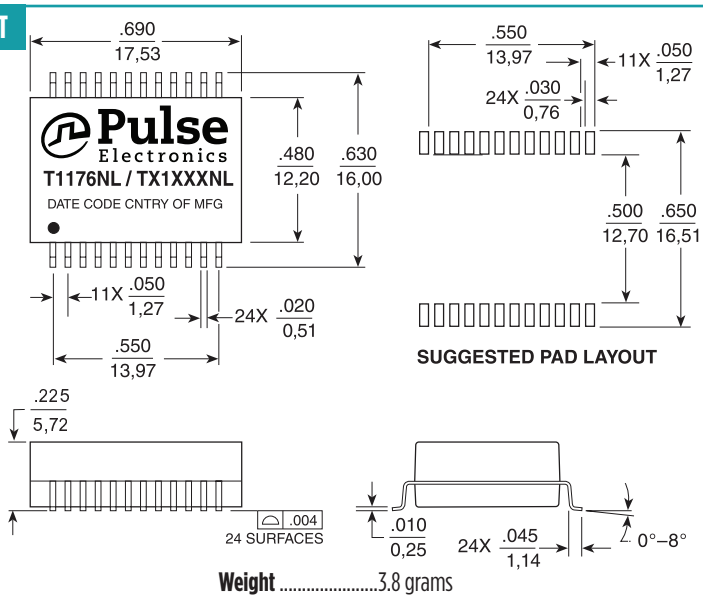
1. Extended Temperature Range Models - For extended temperature range transformers (-40˚C to +85˚C operating temperature range), OCL (Open Circuit Inductance) is specified at both -40˚C and +25˚C. At -40˚C, OCL is 600 µH minimum. All other parameters are specified at +25˚C only.

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**).

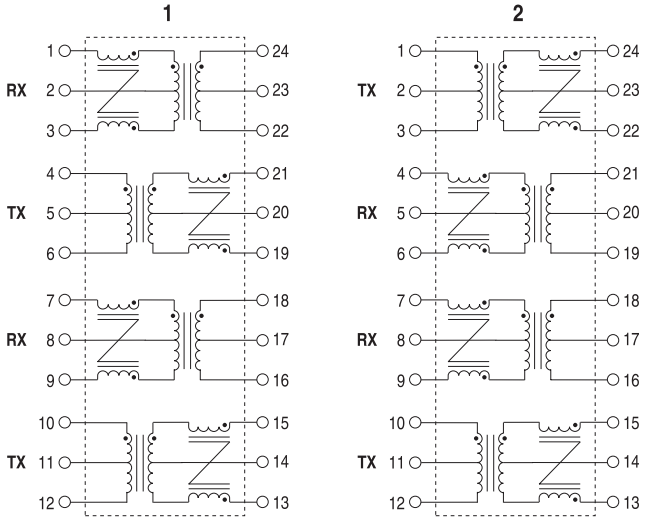
Mechanical

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

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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.

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