










**THE DATASHEET OF
TX9023NL**



T1/CEPT/ISDN-PRI TRANSFORMERS

Quad Port SMT Transformer Modules with IC Side Protection



-  Eight transformers in a low profile surface mount package
-  Includes IC Side Protection Circuit on each channel to suppress low voltage transients
-  Compatible with PMC-Sierra's PM 4318 OCTLIU
-  Patented "Interlock Base" construction for high reliability
-  Minimum Isolation voltage: 1500 Vrms
-  Extended temperature range
-  UL recognized

Electrical Specifications @ 25°C

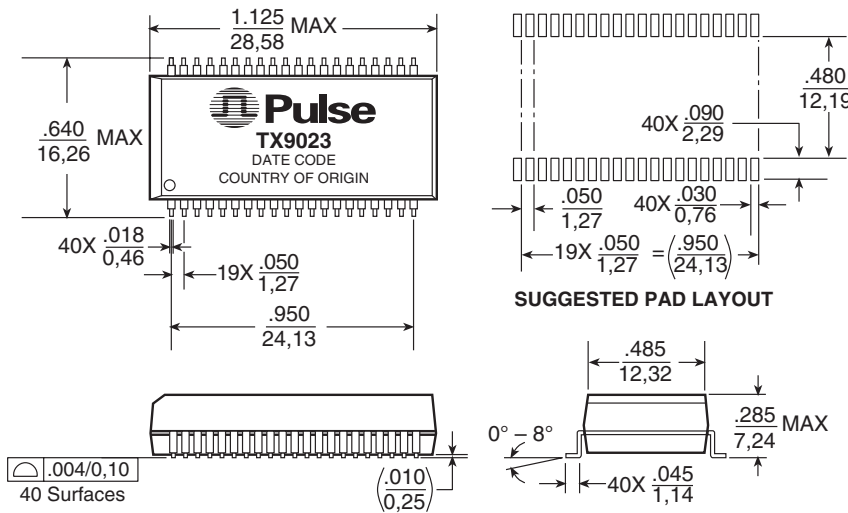
Part Number	Turns Ratio (Pri:Sec ±2%)		OCL Line Side (mH MIN)	Cw/w (pF MAX)	LL (µH MAX)	Package/ Schematic
	TX	RX				
EXTENDED TEMPERATURE RANGE MODEL – OPERATING TEMPERATURE -40°C TO +85°C						
TX9023	1:2	1:2	1.2	30	.5	QTERA

NOTE: The crosstalk attenuation is typically 50 dB or better.

Mechanical

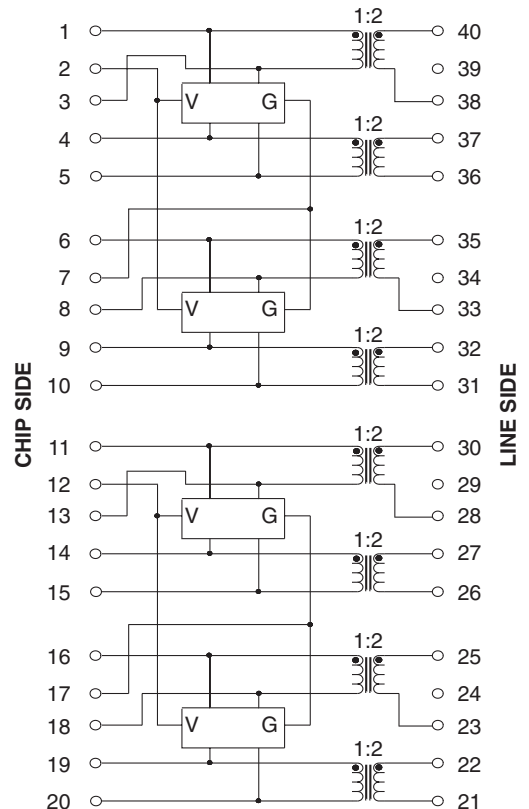
Schematic

QTERA



Weight5.0 grams
Tape & Reel.....250/reel
Tube15/tube

Dimensions: $\frac{\text{Inches}}{\text{mm}}$
Unless otherwise specified, all tolerances are $\pm \frac{.010}{0.25}$



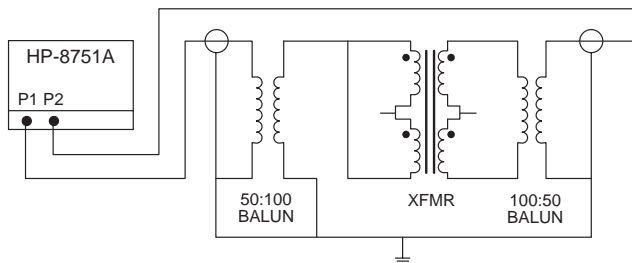
T1/CEPT/ISDN-PRI TRANSFORMER

Quad Port SMT Transformer Module with IC Side Protection

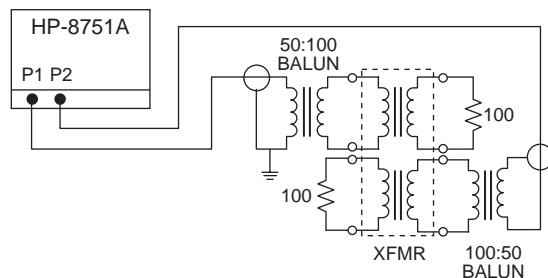


Application Notes

- ET Product** — All coils have an ET product of 10 V- μ sec minimum.
- Flammability** — Materials used in the products are recognized as UL94-V0 approved. Products meet the requirements of IEC 695-2-2 (Needle Flame Test).
- Balance Characteristics** — The transformers meet the requirements for longitudinal balance of FCC part 68.
- Common Mode Rejection Ratio** — the CMRR for all transformers is better than 50 dB at 1 MHz. A typical test circuit is shown below.



- 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.



- 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.

Frequency	50-100 kHz	100 kHz-2 MHz	2-3 MHz
Return Loss			
XMIT	9 dB	15 dB	11 dB
REC	12 dB	18 dB	14 dB

- Surge Voltage Capability** — All transformers and chokes meet surge voltage tests according to the most stringent regulatory documents when system designs include the proper voltage and current suppression devices:

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

- Isolation Voltage** — 100% of transformers are tested during production to the specified isolation voltage level.
- General Information** — The **TX9023** is specifically designed for use in 1.544 Mbps (T1), 2.048 Mbps (CEPT) and ISDN Primary rate (PRI) interface applications. Use of the proper transformer 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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