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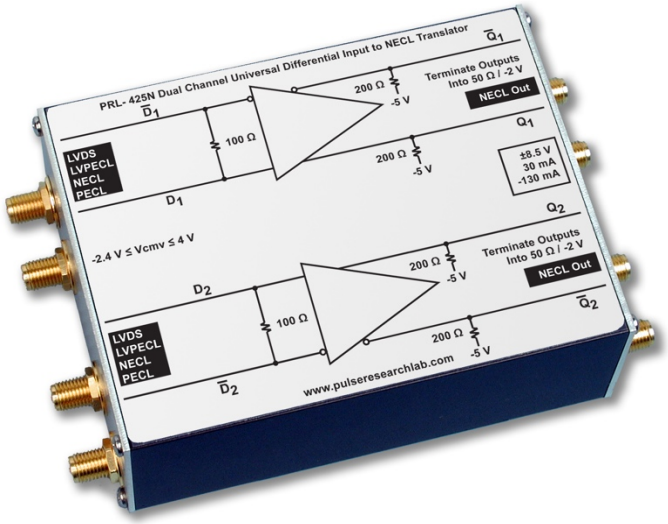
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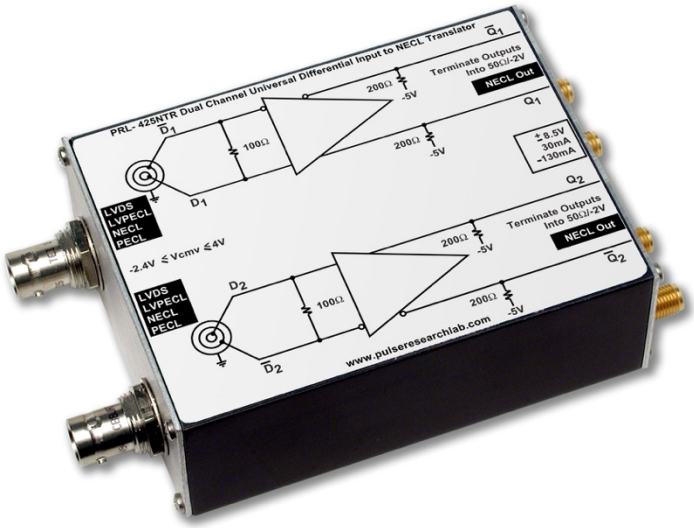
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PRL-425N/PRL-425NTR DUAL CHANNEL UNIVERSAL DIFFERENTIAL RECEIVERS, NECL OUTPUTS



PRL-425N, Universal Differential Receiver (SMA), NECL Outputs



PRL-425NTR, Universal Differential Receiver (Triax), NECL Outputs

APPLICATIONS

- Differential LVDS, RS422, LVPECL, PECL or TTL to NECL Logic Level Translation
- Conversion of Differential Signals to Ground-Referenced Signals
- Mini-Modular Instrument for interfacing with High Speed Data Communications Equipment

FEATURES

- 1.5 GHz maximum Clock Rate
- Floating 100 Ω Universal Differential Inputs Accept LVDS, RS422, LVPECL, PECL or TTL Inputs
- Complementary 50 Ω NECL Outputs
- Ready-to-Use 1.3 x 2.9 x 3.9-in. Modules include a ±8.5V/1.4A AC/DC Adapter

DESCRIPTION

The PRL-425N and PRL-425NTR are dual channel, universal input differential receivers with NECL outputs. The floating 100 Ω inputs are designed for interfacing with differential signals within the common mode range of -2.4V to +4V. Therefore, they are compatible with LVDS, RS422, LVPECL, LVTTL/CMOS, or PECL differential input signals. The PRL-425N has dual SMA inputs per channel; the PRL-425NTR has a Triax input per channel.

Both models complementary NECL outputs for driving 50 Ω loads terminated to -2 V, floating 100 Ω loads or AC-coupled 50 Ω loads. They are also long line drivers, designed specifically for use with high speed data communications applications. Functional block diagrams of these devices are shown in Fig. 1 and Fig. 2.

Each unit is supplied with a ±8.5 V/1.4 A AC/DC Adapter and housed in a 1.3 x 2.9 x 3.9-in. extruded aluminum enclosure. Available accessories include voltage distribution modules and brackets for mounting multiple units.

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*SPECIFICATIONS (0^0 C ≤ T_A ≤ 35^0C)

SYMBOL	PARAMETER	Min	Typ	Max	UNIT
R_{inD}	Differential Input Resistance	95	100	105	Ω
R_{inC}	Common Mode Input Resistance		5k		Ω
I_{DC1}	DC Input Current, +8.5 V		30	40	mA
I_{DC2}	DC Input Current, -8.5 V		-130	-150	mA
V_{DC}	DC Input Voltage	±7.5	±8.5	±12	V
V_{AC}	AC/DC Adapter Input Voltage	103	115	127	V
V_{OHNL}	Output Hi Level, No Load		-0.85		V
V_{OHFL}	Output Hi Level, Full load	-1.05	-0.95	-0.75	V
V_{OLNL}	Output Lo Level, No Load		-1.65		V
V_{OLFL}	Output Lo Level, Full Load	-1.95	-1.75	-1.6	V
t_{PLH}	Propagation Delay to output ↑		1500		ps
t_{PHL}	Propagation Delay to output ↓		1500		ps
t_r/t_f	Rise/Fall Times[1]		500	850	ps
fmax I	Max Clock Frequency, SMA[2]	1500	1800		MHz
fmax II	Max Clock Frequency, Triax[3]	500	625		MHz
t_{SKEW1}	Skew between outputs		50	200	ps
t_{SKEW2}	Skew from unit to unit		100	400	ps
V_{CMV}	Input Common Mode Voltage	-2.4		+4	V
	Size		1.3 x 2.9 x 3.9		in.
	Weight		7		Oz
	Shipping Weight w/AC adapter		4		lb

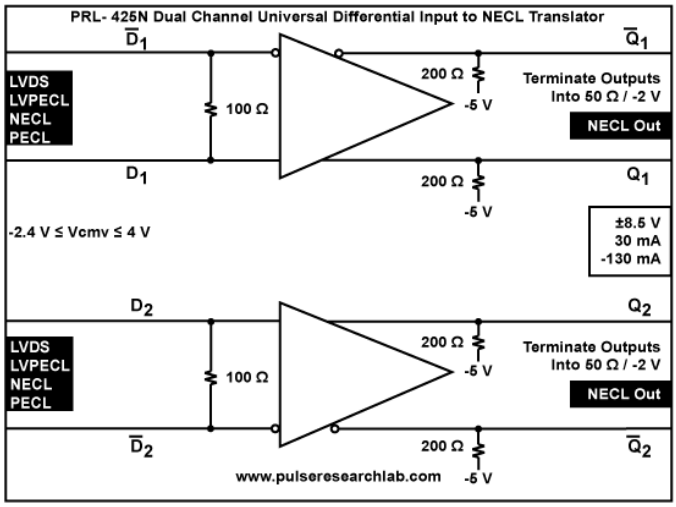


Fig. 1 PRL-425N Block Diagram

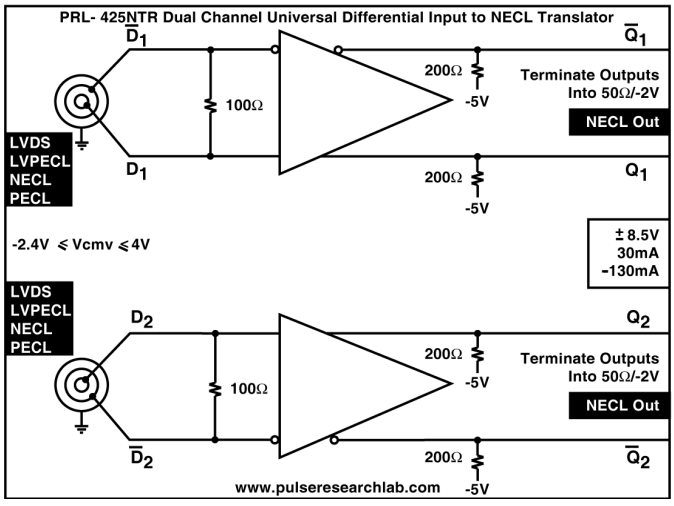


Fig. 1 PRL-425NTR Block Diagram

Notes: (1). The NECL 50 Ω output rise and fall times (20%-80%) are measured with both the Q and $\overline{Q}$ outputs terminated into 50 Ω/-2 V. If one output is not terminated, both the rise and fall times will increase by approximately 15%, and output waveform degradation will occur.
(2). f_{MAX} for PRL-425N is measured by dividing the outputs by four, using the PRL-255, ÷2 and ÷4 frequency divider module, and then measured using the PRL-550NQ4X, four channel ECL Terminators, connected to a sampling 'scope.
(3). Units with the Trompeter CBBJR79 Triax input connectors are tested using the PRL-433N, complementary NECL input to Differential NECL output translator, and the Trompeter PCGOW10PCG-36 shielded twisted pair cables.

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