

PRL-435N DIFFERENTIAL NECL INPUT AND GATE

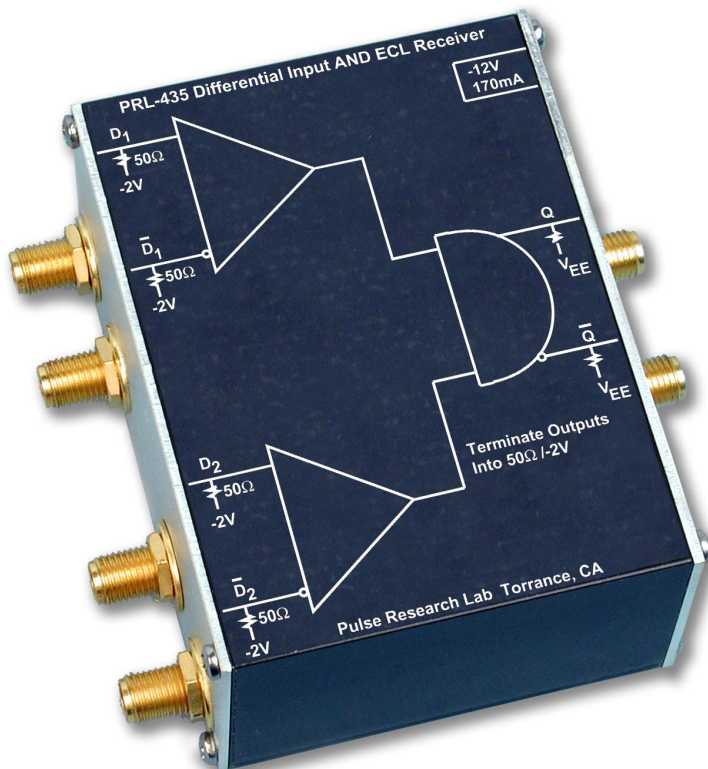
PRL-435P DIFFERENTIAL PECL INPUT AND GATE

APPLICATIONS

- GHz AND Logic Functions
- Differential Receiver
- Sub-nanosecond Pulse Width Generation
- An Essential Lab Tool for Working with ECL Circuits

FEATURES

- 2.5GHz f_{MAX}
- Differential Inputs
- Internal 50 Ω /-2V Input Terminations also accept AC coupled PECL or Sine wave signals
- Complementary Outputs drive 50 Ω loads terminated to -2V or AC coupled 50 Ω loads
- DC Coupled I/O's Compatible with ECLinPS or 100KH Devices
- SMA I/O Connectors
- Ready-to-Use 1.3 x 2.9 x 2.2-in. Module includes a -12V AC/DC Adapter



PRL-435N Differential NECL Input AND Gate

DESCRIPTION

The PRL-435 is a high-speed Differential Input AND Gate module intended for applications in the GHz frequency range. It can be used for generating narrow pulses by applying two differential signals with small different delays to its inputs. As an example, a pulse as narrow as 600ps can be generated when the PRL-435 is driven by the outputs of the PRL-480, dual channel ECL programmable Delay Module. Using AC coupling, the PRL-435 can also receive GHz sine wave or PECL signals.

Complementary outputs of the PRL-435, with internal pull down resistors, can drive either 50 Ω loads terminated into -2V, or AC coupled 50 Ω loads.

The PRL-435 is housed in a 1.3 x 2.9 x 2.2-in. extruded aluminum enclosure and is supplied with a -12V/500mA AC/DC adapter.

***SPECIFICATIONS (0° C ≤ T_A ≤ 35°C)**

SYMBOL	PARAMETER	Min	Typ	Max	UNIT	Comments
R _{in}	Input Resistance	49.5	50	50.5	Ω	
V _{TT}	Input Termination Voltage	-2.2	-2	-1.8	V	D input
I _{DC}	DC Input Current		-230	-250	MA	
V _{DC}	DC Input Voltage	-11.7	-12	-14	V	
V _{AC}	AC/DC Adaptor Input Voltage	103	115	127	V	
T _{PLH}	Propagation Delay to output ↑		1300	1500	Ps	
T _{PHL}	Propagation Delay to output ↓		1300	1500	Ps	
t _r /t _f	Rise/Fall Times(20%-80%)		400	600	Ps	Note (1)
T _{SKEW}	Skew between any 2 outputs		60	120	Ps	
F _{MAX}	Max clock frequency	2	2.5		GHz	Note (2)
V _{CMR}	Common Mode Range	-2.7V		-0.4V	V	Note (3)
	Size		1.3x2.9x2.2		in.	
	Weight		5		Oz	

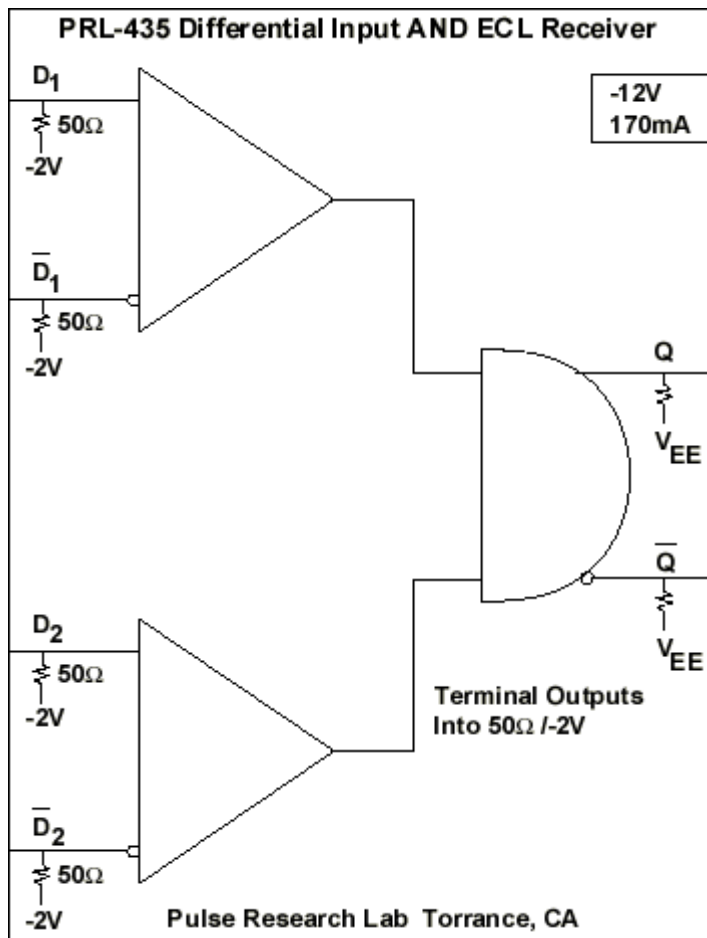


Fig. 1 PRL-435 Block Diagram

*All dynamic measurements are made with outputs terminated into 50Ω/-2V, using the PRL-550NQ5X, four channel ECL Terminators, connected to a 50Ω input sampling oscilloscope.

Notes:

(1). The output rise and fall times are measured with its complementary output terminated into 50Ω/-2V. An unused complementary 50Ω output must be either terminated into 50Ω/-2V or AC coupled into a 50Ω load; otherwise, output waveform distortion and rise time degradation will occur. Use the PRL-504 or PRL-508, four and eight channel ECL Termination modules, respectively, for the 50Ω/-2V termination. Use the PRL-550ND4X and PRL-550NQ5X, two and four channel ECL Terminators, respectively, for the 50Ω/-2V termination and for connection of ECL signals to 50Ω input oscilloscopes.

(2). f_{MAX} is measured using differential inputs only. The outputs are first divided by four, using the PRL-255, and then measured using the PRL-550NQ5X, four channel ECL Terminators, connected to a sampling 'scope.

(3). When the unit is driven by an AC coupled Sine wave signal in the differential input mode, the signal swing is symmetrical with respect to -2V. The peak-to-peak swing of the input signal should not exceed these Common Mode limits.