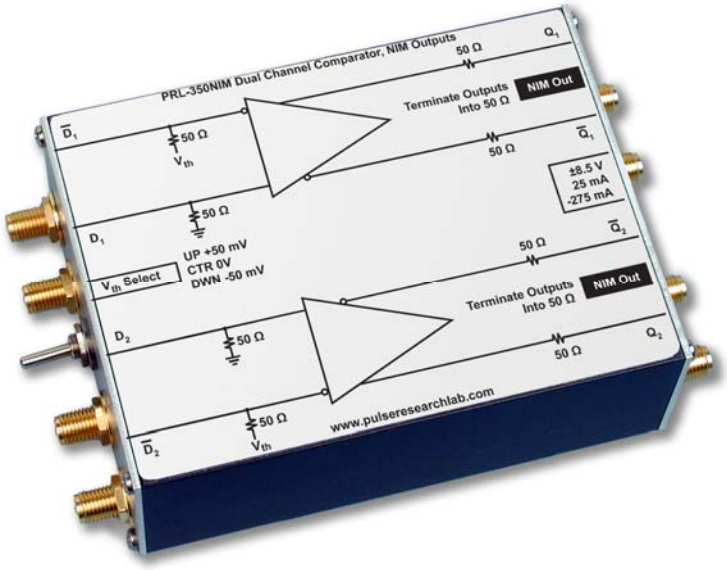
PRL-350NIM DUAL CHANNEL COMPARATOR, NIM OUTPUT

APPLICATIONS

- Window Comparators
- Zero crossing Detectors
- Line Receivers
- Threshold Detectors
- Peak Detectors
- Sine Wave to Square Wave Converters

FEATURES

- f_{MAX} >300 MHz
- 450ps Typical t_r /t_f
- ±50 mV or 0 V Preset Input Threshold Voltage
- 0V to -800mV complementary outputs into 50Ω
- -2V to +3 V Input Common Mode Range
- 10 mV_{P-P} Minimum Input @ 150 MHz
- DC Coupled 50 Ω Inputs
- SMA I/O Connectors
- Self-contained 1.3 x 2.9 x 3.9-in. modules include AC/DC Adapters



PRL-350NIM
Dual Channel Comparator, NIM-Outputs

DESCRIPTION

The PRL-350NIM is a high-speed dual-channel comparator modules with complementary 0V to -800mV NIM outputs. The PRL-350NIM is designed for driving 50 Ω transmission lines terminated to 50 Ω. All outputs of the PRL-350NIM are 50Ω back terminated and must be terminated into 50Ω for optimum performance.

All I/O's are 50 Ω DC coupled. Input threshold voltage can be selected either from a set of preset values of +50 mV, 0 V or –50 mV using a common three-position switch, or varied independently in each channel by applying a DC voltage to one of the two inputs. Input Common Mode Range is –2.0 V to +3 V. Models with -NIM suffix, such as PRL-350LP-NIM, have ±400mV or 0V preset input threshold voltage. The -400mV threshold setting is intended for NIM input signals. The 0V threshold setting is intended for signals with zero crossings, such as a sine wave or AC coupled square wave, etc.

These high-speed comparators are **B**asic **L**aboratory **T**ools that can be used as peak detectors, threshold detectors, sine wave-to-square wave converters, window comparators or differential line receivers, NIM to LVPECL/PECL converters, etc. Typical minimum input voltage required up to 150 MHz is 10 mV_{P-P} into 50 Ω.

Each unit is supplied with a ±8.5 V AC/DC Adapter and housed in a 1.3 x 2.9 x 3.9-in. extruded aluminum enclosure.

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SPECIFICATIONS (0^0 C ≤ T_A ≤ 35^0 C)

Unless otherwise specified, dynamic measurements are made with all outputs terminated into 50 Ω.

SYMBOL	PARAMETER	Min	Typ	Max	UNIT
R_{in}	Input Resistance	49.5	50	50.5	Ω
R_{out}	Output Resistance	49.5	50	50.5	Ω
V_{TH}	Preset positive threshold voltage	49.5	50	50.5	mV
V_{TH-}	Preset negative threshold voltage	-50.5	-50	-49.5	mV
V_{TH0}	Preset zero threshold voltage	-10	0	10	mV
V_{OL}	Output Low Level	-875	-800	-775	mV
V_{OH}	Output High Level	-50	0	50	mV
I_{DC}	DC Input Current		25 -265	30 -275	mA
V_{DC}	DC Input Voltage	±7.5	±8.5	±12	V
V_{AC}	AC/DC Adapter Input Voltage	103	115	127	V
t_{PLH}	Propagation Delay to output ↑		1.5		ns
t_{PHL}	Propagation Delay to output ↓		1.5		ns
t_r/t_f	Rise/Fall Times,10%-90%		450	550	ps
t_{SKEW}	Skew between any 2 outputs		450	650	ps
V_{IN} I*	Minimum Input Voltage @ 150MHz	20	10		mV p-p
V_{IN} II*	Minimum Input Voltage @ 250MHz	40	20		mV p-p
V_{CM}	Input Common Mode Range		+3 /-2		V
f_{MAX}	Max Clock Frequency	300	330		MHz
	Size		1.3 x 2.9 x 3.9		in.
	Weight		7		Oz

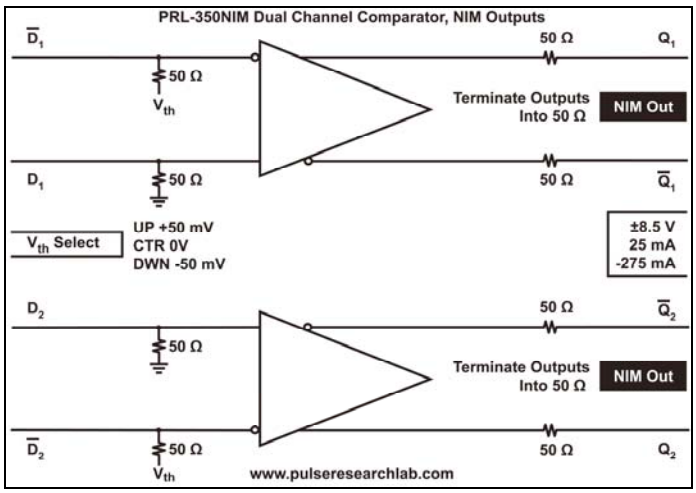

Fig. 1 PRL-350NIM Block Diagram

*In order to reduce jitter near f_{MAX}, terminate the non-driven input into an AC coupled 50 Ω termination, such as the PRL-ACT-50, Dual channel AC coupled 50 Ω Termination module, when the input voltage is less than 20 mV_{P-P}.

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