

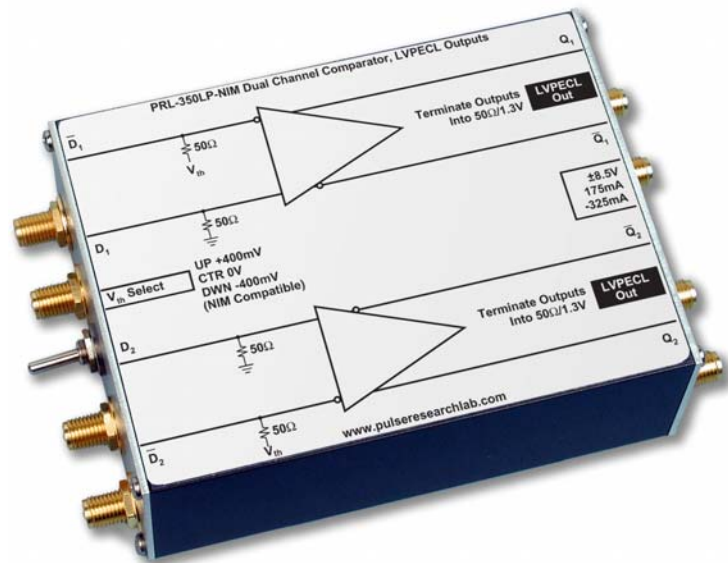
PRL-350LP DUAL CHANNEL COMPARATOR, LVPECL OUTPUT PRL-350P DUAL CHANNEL COMPARATOR, PECL OUTPUT

APPLICATIONS

- Window Comparators
- Zero crossing Detectors
- Line Receivers
- Threshold Detectors
- Peak Detectors
- Sine Wave to Square Wave Converters
- NIM input to LVECL/PECL Converters

FEATURES

- $f_{MAX} > 300$ MHz
- 1.1 ns Typical t_r
- ± 50 mV or 0 V Preset Input Threshold Voltage
- ± 400 mV or 0V Preset Input Threshold Voltage for models with -NIM suffix
- -2.0 V to +3.0 V Input Common Mode Range
- 10 mV_{p-p} Minimum Input @ 150 MHz
- DC Coupled 50 Ω Inputs
- Complementary LVPECL/PECL Outputs
- SMA I/O Connectors
- Self-contained 1.3 x 2.9 x 3.9-in. modules include AC/DC Adapters



PRL-350LP-NIM
Dual Channel Comparator, NIM-Compatible Inputs

DESCRIPTION

The PRL-350LP and PRL-350P are, respectively, high-speed dual-channel comparator modules with complementary LVPECL and PECL outputs. The PRL-350LP is designed for driving 50 Ω transmission lines terminated to 50 Ω /1.3 V, and the PRL-350P to 50 Ω /3 V. The outputs of both models are 50 Ω back terminated and can drive unterminated lines, AC coupled or floating 50 Ω loads.

Both models have DC coupled 50 Ω inputs and outputs. 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 +3.0 V. Models with -NIM suffix, such as PRL-350LP-NIM, have ± 400 mV or 0V preset input threshold voltage. The -400 mV threshold setting is intended for NIM input signals. The 0 V threshold setting is intended for signals with zero crossings, such as a sinewave or AC-coupled square wave, etc.

These high-speed comparators are Mini Modular Instruments™ 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.

SPECIFICATIONS (0° C ≤ T_A ≤ 35° C)

Unless otherwise specified, dynamic measurements are made with all outputs terminated into 50 Ω/V_{TT}, where V_{TT} = 1.3V V for LVPECL outputs and 3V for PECL outputs.

SYMBOL	PARAMETER	PRL-350LP			PRL-350P			UNIT
		Min	Typ	Max	Min	Typ	Max	
R _{In}	Input Resistance	49.5	50	50.5	49.5	50	50.5	Ω
R _{Out}	Output Resistance	49.5	50	50.5	49.5	50	50.5	Ω
V _{TH} -NIM ₊	Preset positive threshold voltage	49.5 396	50 400	50.5 404	49.5 396	50 400	50.5 404	mV
V _{TH} -NIM ₋	Preset negative threshold voltage	-50.5 -404	-50 -400	-49.5 -396	-50.5 -404	-50 -400	-49.5 -396	mV
V _{TH0}	Preset zero threshold voltage	-10	0	10	-10	0	10	mV
V _{OL}	Output Low Level	1.5	1.7	1.8	3.2	3.4	3.5	V
V _{OH}	Output High Level	2.3	2.5	2.7	3.9	4.1	4.3	V
I _{DC}	DC Input Current		175 -325	200 -350		175 -325	200 -350	mA
V _{DC}	DC Input Voltage	±7.5	±8.5	±12	±7.5	±8.5	±12	V
V _{AC}	AC/DC Adapter Input Voltage	103	115	127	103	115	127	V
t _{PLH}	Propagation Delay to output ↑		1.8			1.8		ns
t _{PHL}	Propagation Delay to output ↓		1.8			1.8		ns
t _r /t _f	Rise/Fall Times 10%-90% for TTL outputs		1100	1250		1100	1250	ps
t _{SKEW}	Skew between any 2 outputs		750	1000		750	1000	ps
V _{IN I*}	Minimum Input Voltage @ 150MHz	20	10		20	10		mV p-p
V _{IN II*}	Minimum Input Voltage @ 250MHz	40	20		40	20		mV p-p
V _{CM}	Input Common Mode Range		-2.0/+3.0			-2.0/+3.0		V
f _{MAX}	Max Clock Frequency	300	330		300	330		MHz
	Size	1.3 x 2.9 x 3.9			1.3 x 2.9 x 3.9			in.
	Weight	7			7			Oz

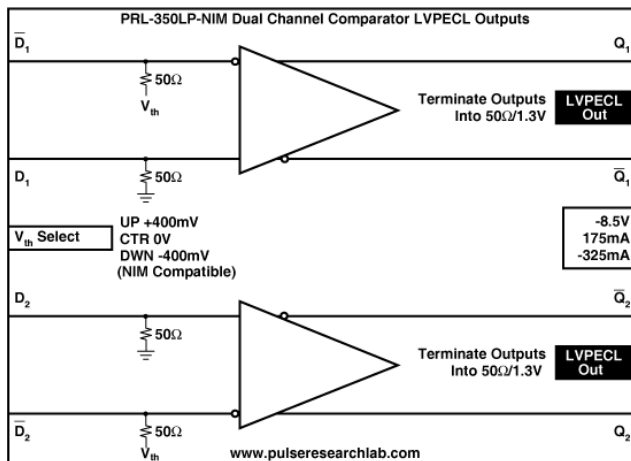


Fig. 1A PRL-350LP-NIM Block Diagram

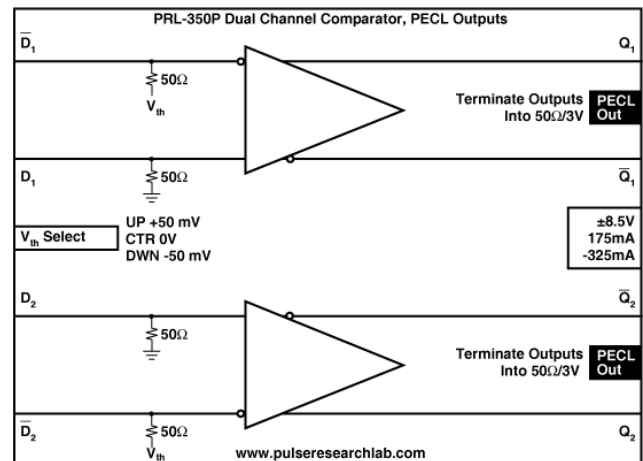


Fig. 1B PRL-350P Block Diagram

*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}.