

PRL-427LP, 2 CHANNEL LVPECL to NCML LOGIC LEVEL TRANSLATOR

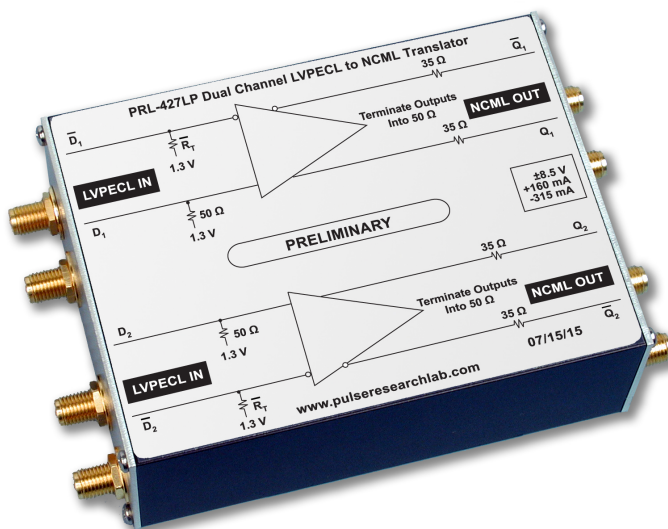
PRELIMINARY DATASHEET

APPLICATIONS

- Converting Differential LVPECL Inputs to Differential NCML Outputs
- Differential LVPECL Inputs also accept Sinewave Signals
- High Speed Digital Communications System Testing
- Satellite/Radar/Telecommunications System Integration

FEATURES

- $f_{\max} > \text{TBD}$
- TBD t_r
- 50 Ω /+1.3 V LVPECL Input Termination
- Complementary NCML Outputs
- DC Coupled SMA I/O Connectors
- Self-contained 1.3H x 2.9W x 3.9D unit includes AC/DC adapter



PRL-427LP

DESCRIPTION

The PRL-427LP is a 2-channel LVPECL to differential NCML Logic Level Translator module. Each channel has a differential LVPECL input and a ground-referenced differential 35 Ω NCML output. The NCML DC output logic Hi/Lo levels are 0 V and -350 mV, respectively, when terminated to ground-referenced 50 Ω loads.

Both inputs D and \bar{D} are terminated internally into 50 Ω/V_{TT} , where V_{TT} is equal to +1.3 V for LVPECL. Either one or both inputs can accept AC coupled signals as well.

These Logic Level Translators are designed specifically for use in testing and interfacing of high speed digital communications circuits, where conversion between LVPECL and NCML logic signals is often required. The PRL-427LP is part of the Mini Modular Instrument (MMI) family that find increasing applications in high speed digital data recording instruments, transient recording instruments and other high speed measurement equipment where LVPECL and NCML signals are often specified.

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

Unless otherwise specified, all logic level and dynamic measurements are made with all outputs terminated into 50 Ω/V_{TT}, where V_{TT} = 0 V for NCML outputs.

SYMBOL	PARAMETER	PRL-427LP			UNIT
		Min	Typ	Max	
R_{IN}	Input Resistance	49.5	50	50.5	Ω
R_{OUT}	Output Resistance		35		Ω
V_{OL}	DC Output Low Level		-0.35		V
V_{OH}	DC Output High Level		0		V
V_{OP-P}	Output Logic Swing from DC-500MHz	300	350		mV
	Output Logic Swing from 500MHz-1GHz	275	300		
	Output Logic Swing from 1GHz -1.5GHz	225	260		
V_{OCM}	Output Common Mode Voltage		-200		mV
I_{DCI}	DC Input Current, +8.5 V		TBD		mA
I_{DCI}	DC Input Current, - 8.5 V		TBD		mA
V_{DC}	DC Input Voltage	±7.5	±8.5	±12.0	V
V_{AC}	AC/DC Adapter Input Voltage	108	120	132	V
t_{PLH}	Propagation Delay to output ↑		TBD		ns
t_{PHL}	Propagation Delay to output ↓		TBD		ns
t_R/t_F	Rise/Fall Times (10-90%)		TBD	TBD	ps
T_{SKW}	Skew between any 2 outputs		TBD	TBD	ps
V_{INI}	Minimum Input Voltage @ 150 MHz	TBD	TBD		mV _{pp}
V_{INII}	Minimum Input Voltage @ 250 MHz	TBD	TBD		mV _{pp}
V_{INIII}	Minimum Input Voltage @ 1 GHz	TBD	TBD		mV _{pp}
f_{MAX}	Max Clock Frequency ⁽⁴⁾	TBD	TBD		MHz
	Size	1.3H x 2.9W x 3.9D			in.
	Weight, excluding AC adapter	7			Oz
	Shipping Weight, including AC adapter	4			lb

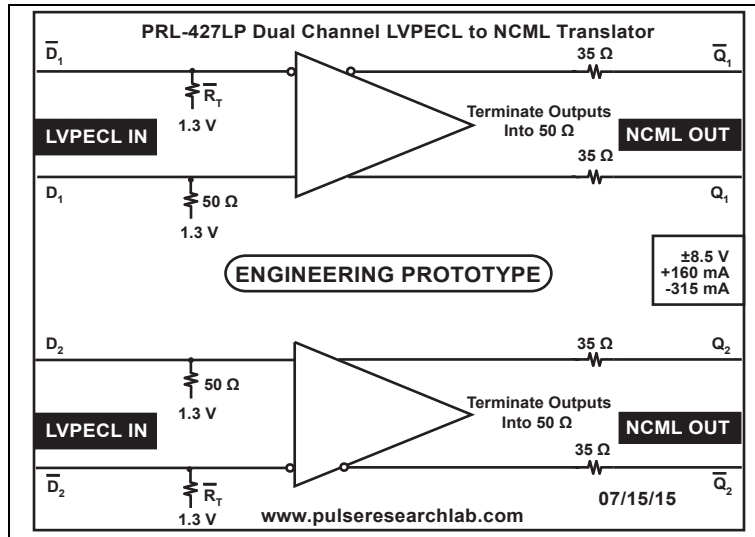


Fig. 1 PRL-427LP Block Diagram

For the PRL-427LP, very slight output waveform distortion and rise time degradation will occur when an unused complementary output is not terminated. For optimum performance, however, all outputs should be terminated.