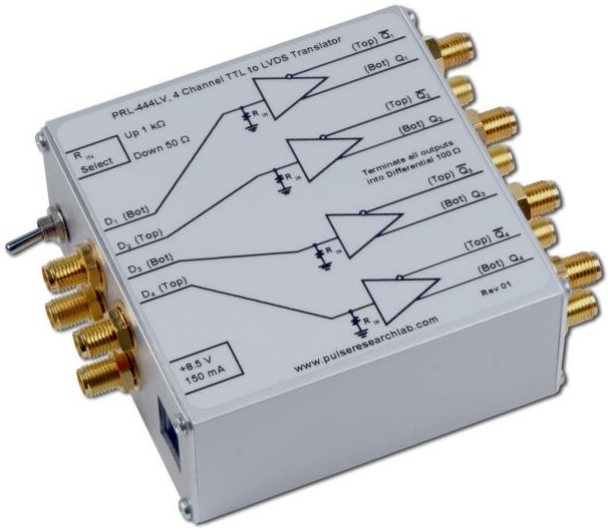
PRL-444LV, FOUR CHANNEL TTL TO LVDS TRANSLATOR



PRL-444LV-SMA, 4-Channel TTL to LVDS Translator



PRL-444LV-RJRJ, 4-Channel TTL to LVDS Translator

APPLICATIONS

- Converting TTL Inputs to LVDS Outputs
- Conversion of Single-Ended TTL Signals to Differential Signals for Driving Long Lines
- High Speed Digital Communications Systems Testing
- Satellite Telemetry/Ground Station System Integration

FEATURES

- 250 MHz Typical Maximum Clock Rate
- 4 Single Ended Inputs with Selectable 50 Ω or 1 kΩ Termination
- 4 LVDS Outputs for Driving 50 Ohm or Cat7 Cables into 100 Ω Floating Loads
- 300 ps Channel to Channel skew, typical
- SMA or RJ45 I/O Connectors
- Operates from single +8 to +12 VDC power supply with only 150mA max.
- Ready-to-Use 1.3 x 2.9 x 2.9-in. Module includes a ±8.5 V/1.4 A, Auto-switching AC/DC Adapter

DESCRIPTION

The PRL-444LV is a 4 Channel TTL to LVDS translator module. The input resistance of the inputs can be selected to be either 50 Ω or 1 kΩ by a common toggle switch. The 1 kΩ inputs are desirable when interfacing with low power circuits. The four pairs of complementary outputs are designed for driving floating 100 Ω loads, normally the configuration used in LVDS input circuits. The output swing is typically 300 mV with a common mode voltage of 1.0 V.

All I/Os are DC coupled and have SMA or RJ45 connectors, as part numbers PRL-444LV-SMA and PRL-444LV-RJRJ, respectively. A block diagram showing the equivalent input and output circuits are shown in Figs. 1 and 2. Cat7 or better cabling is recommended for RJ45 models, as the double shielding improves the impedance control. See our case studies on single-ended impedance and differential impedance of standard, off-the-shelf network cabling.

The modules are housed in a 1.3 x 2.9 x 2.9-in. extruded aluminum enclosure and supplied with a ±8.5 V/±1.4 A, auto-switching AC/DC Adapter. Either model may also be ordered without the power supply by appending "-OEM" to the part number, e.g. PRL-444LV-SMA-OEM. A maximum of four units can share one PRL-760D-120/220 AC/DC adapter, using additional units of cable #88000102-4. If mounting is desired, a pair of the #35001420 mounting brackets can accommodate any two PRL modules of the same length. Please refer to the Accessories section of www.pulseresearchlab.com for more detail.

A complementary product, the PRL-425QLT, performs the opposite conversion of 4 LVDS signals to 4 TTL signals, and the PRL-RJ45-SMA adapter can be used to adapt Cat7 network cabling to SMA or the reverse.

22301 S. Western Ave. #107, Torrance, CA 90501
Tel: +1-310-515-5330
Email: sales@pulseresearchlab.com
www.pulseresearchlab.com

* SPECIFICATIONS (0° C ≤ T_A ≤ 35° C)

Unless otherwise specified, dynamic measurements are made with all outputs terminated into floating 100 Ω, with the signals measured via the PRL-860D-SMA Inline Signal Monitor.

SYMBOL	PARAMETER	Min	Typ	Max	UNIT	Comment
R_{IN1}	Input Resistance (50 Ω)	49.5	50.0	50.5	Ω	
R_{IN2}	Input Resistance (1 kΩ)	990	1000	1010	Ω	
V_{IL}	TTL input Low Level	-0.5	0.0	0.5	V	
V_{IH}	TTL input High Level	2.0	2.4	5.0	V	
V_{DC}	DC Input Voltage	7.5	8.5	12.0	V	
V_{AC1}	AC/DC Adapter Input Voltage (120 VAC)	103	115	127	V	
V_{AC2}	AC/DC Adapter Input Voltage (220 VAC)	206	230	254	V	
I_{DC1}	DC Input Current @ 50 MHz		65	85	mA	
I_{DC2}	DC Input Current @ 250 MHz			125	mA	
V_{OPP}	Output Differential Voltage, peak-to-peak	250	300	450	mV	
V_{CMO}	Output Common mode voltage[1]		1.0	1.2	V	
t_{PLH}	Propagation Delay to output↑		2	3	ns	
t_{PHL}	Propagation Delay to output ↓		2	3	ns	
t_r/t_f	Rise/Fall Times (10%-90%)		1.0	1.8	ns	Note 1
f_{max}	Max Clock Frequency	200	250		MHz	Note 1
t_{SKEW}	Skew between any two outputs		300	750	ps	
DTY	Duty Cycle @ 50 MHz		45/55		%	
	Size		1.3 x 2.9 x 2.9		in.	
	Weight w/o AC Adapter		5		Oz	
	Shipping Weight		3		lb	

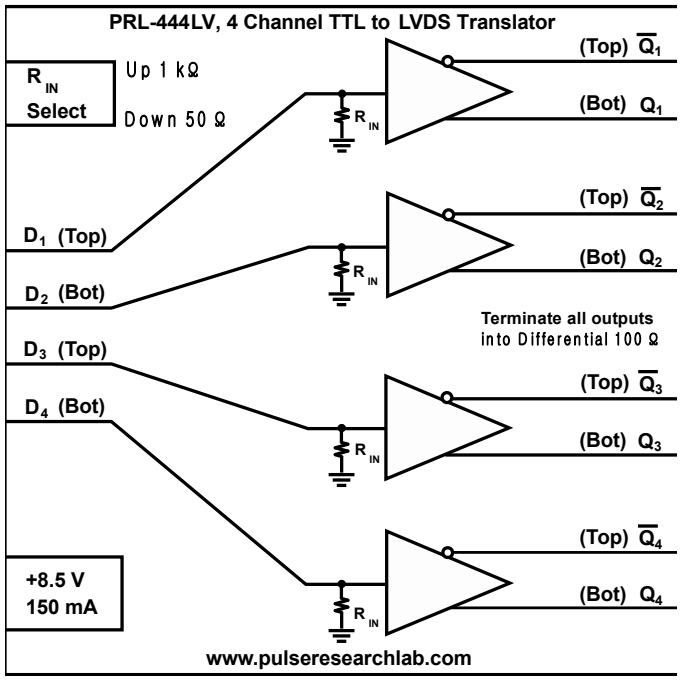


Fig. 1: PRL-444LV-SMA Block Diagram

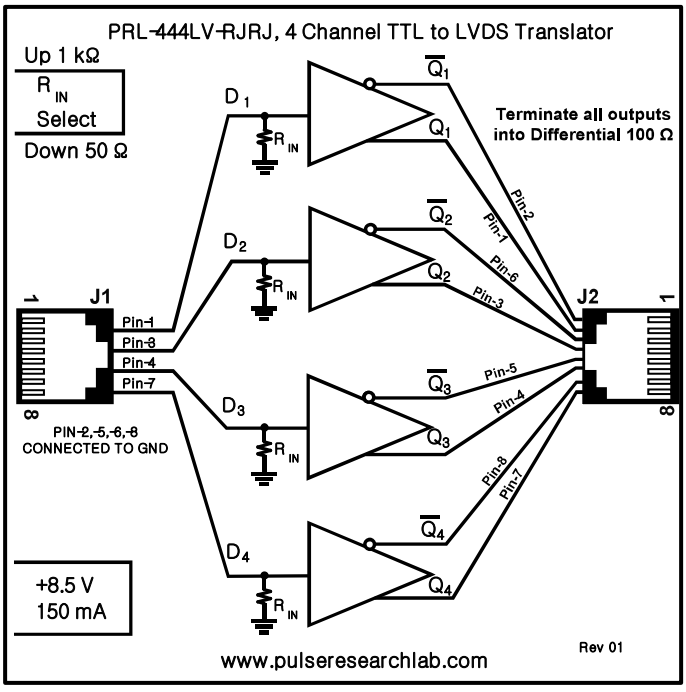


Fig. 2: PRL-444LV-RJRJ Block Diagram

1. -SMA model only. f_{max} and t_r/t_f for RJ45 models are pending.

22301 S. Western Ave. #107, Torrance, CA 90501
Tel: +1-310-515-5330
Email: sales@pulseresearchlab.com
www.pulseresearchlab.com