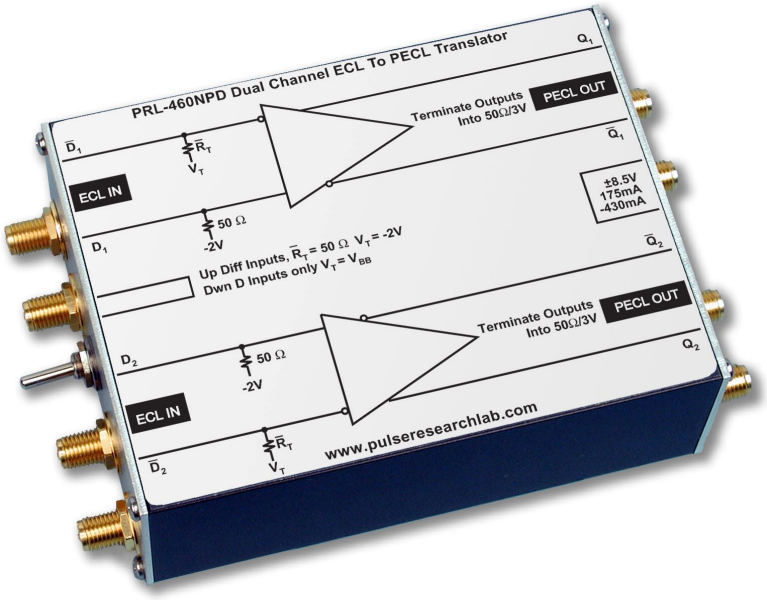
PRL-460NPD DUAL CHANNEL NECL TO PECL TRANSLATOR
PRL-460PND DUAL CHANNEL PECL TO NECL TRANSLATOR

APPLICATIONS

- **Converting Single Ended or Differential ECL/PECL Signals to PECL/ECL Signals**
- **High Speed Digital Communications systems**
- **Testing**
- **High Speed SONET Clock Level Translation**

FEATURES

- **f_{max} > 1000/300 MHz for PRL-460PND/ PRL-460NPD**
- **750ps/1.1ns Typical t_r for PRL-460PND/ PRL-460NPD**
- **50Ω/-2V Inputs for PRL-460NPD**
- **50Ω/3V for PRL-460PND**
- **Single Ended or Differential Inputs**
- **Complementary ECL/PECL Outputs**
- **SMA I/O Connectors**
- **Self-contained 1.3 x 2.9 x 3.9-in. units including AC/DC Adapters**



PRL-460NPD

DESCRIPTION

The PRL-460NPD and PRL-460PND are, respectively, dual channel ECL to PECL and PECL to ECL Logic Level Translators. Each unit can receive either single ended or differential input signals, selected by a switch. The outputs of the PRL-460NPD translators are designed for driving 50Ω loads terminated to 3V and those of PRL-460PND to 50Ω loads terminated to -2V. These high speed translators facilitate testing and integration of high speed digital communications circuits and systems, where conversion of signals between the ECL to PECL logic families is often required.

The PRL-460NPD input is designed to interface with ECL circuits operating with a -5.2V or -4.5V supply, and The PRL-460PND input is designed to interface with PECL circuits operating with a + 5V supply. In the differential input mode, both inputs D and $\overline{D}$ of the PRL-460NPD are terminated into 50Ω/-2V, and those of the PRL-460PND into 50Ω/3V. In this mode, either one or both inputs can accept AC coupled signals as well. In the single input mode, signals should be connected to the D inputs only. Inputs $\overline{D}$ are switched internally to V_{BB}, nominally -1.3V for the PRL-460NPD and 3.7V for the PRL-460PND, and termination resistors $\overline{R}_T$'s for the $\overline{D}$ input channels are changed to 62Ω.

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

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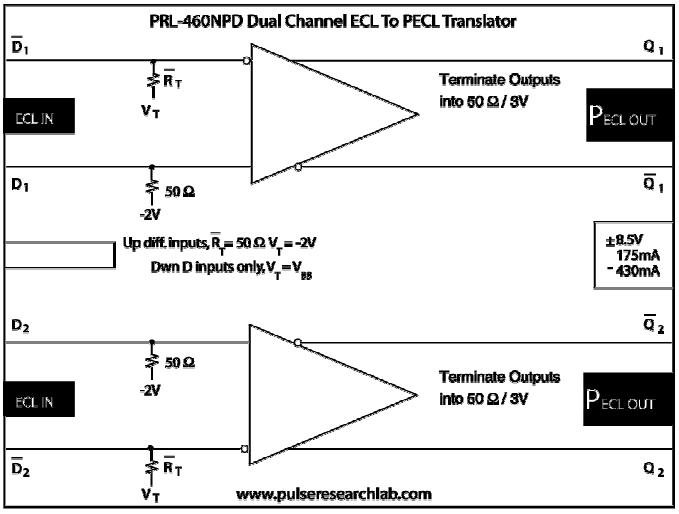
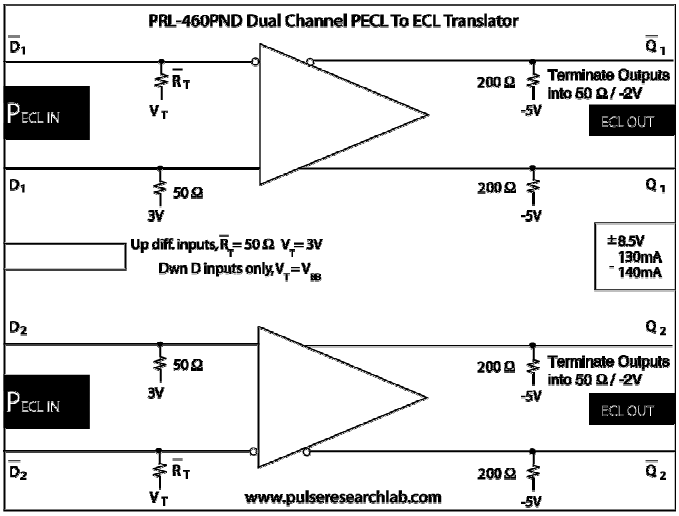
SPECIFICATIONS (0^{o} C ≤ T_A ≤ 35^{o}C)

Unless otherwise specified, dynamic measurements are made with all outputs terminated into 50Ω /V_{TT}, where V_{TT} =+3V for PECL outputs and –2V for ECL outputs.

		PRL-460NPD			PRL-460PND			
SYMBOL	PARAMETER	Min	Typ	Max	Min	Typ	Max	UNIT
R_{in}	Input Resistance	49.5	50	50.5	49.5	50	50.5	Ω
R_{out}	Output Resistance	49.5	50	50.5	NPN emitter			Ω
V_{TT}	D Input Termination Voltage (fixed)	-2.2	-2	-1.8	2.7	3	3.3	V
V_T	$\overline{D}$ Input Termination Voltage (variable)	-1.17/ -2.2	-1.3/-2	-1.43/ -1.8	3.33/ 2.7	3.7/3	4.07/ 3.3	V
V_{OL}	Output Low Level	3.2	3.4	3.5	-1.8	-1.6	-1.5	V
V_{OH}	Output High Level	4	4.2	4.3	-1.0	-0.8	-0.7	V
I_{DC}	DC Input Current		170 -430	185 -450		125 -130	135 -145	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 ↑		2			1.5		ns
t_{PHL}	Propagation Delay to output ↓		2			1.5		ns
$t_{r/tf}$	Rise/Fall Times*		1100	1250		750	850	ps
t_{SKEW}	Skew between any 2 outputs		200	500		200	500	ps
f_{max}	Max Clock Frequency	300	500		1000	2000		MHz
	Size	1.3 x 2.9 x 3.9			1.3 x 2.9 x 3.9			in.
	Weight	7			7			Oz



PRL-460NPD Dual Channel NECL to PECL Translator



PRL-460PND Dual Channel PECL to NECL Translator

*For the PRL-460PND, an unused complementary 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-550NQ5X four channel ECL Terminator for the 50Ω/-2V termination and for connection of ECL signals to 50Ω input oscilloscopes. For the PRL-460NPD, 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.

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