HIGHLAND TECHNOLOGY

Features

- Edge-triggered pulse, user adjustable width

- Optical pulse widths from 100 picoseconds to 850 nanoseconds

- Laser pulse current up to 400 mA, 700 mA with heat sinking

- Pin socket connection to Type-1 butterfly-packaged laser diodes with floating anode, solder connect optional; compatible with other diode packages

- Highly stable constant-current laser drive

- Laser current, bias, and pulse widths are settable with onboard trimpots or by external analog inputs

- Accepts LVTTL or LVCMOS trigger levels

- Powered by standard 10 Watt, 5-volt micro-USB power supply or through ribbon cable interface connector

- 2" x 2" PCB for embedded application

T165 actual size

95 ps FWHM OPTICAL PULSE

The T165 Laser Pulser incorporates an edge triggered pulse generator with fast rise and fall times into a butterfly or TO-packaged laser. The 2" by 2" design connects directly to standard 0.1" pin-pitch butterfly laser packages, making it ideal for OEM use in laser systems.

The T165 offers easily adjustable current, bias, and pulse width settings. It is compatible with several Highland Technology digital delay and pulse generators, including:

- P400 benchtop digital delay and pulse generator
- T560 compact digital delay and pulse generator

For a laser driver without a built-in pulse generator, see the T160 Laser Driver.

Specifications : T165 picosecond to nanosecond laser diode pulser

FUNCTION	Embedded pulse generator and laser diode driver

TRIGGER INPUT	LVTTL/LVCMOS input
	Triggers on input rising-edge, max input: +2.5 volts
	min trigger width:
	    2.5 ns (-2 version)
	    250 ns + width program setting (-12, -14 versions)
	Trigger rate:
	    0 to 200 MHz (-2 version)
	    0 to 2 MHz (-12 and -14 versions)

PROPAGATION DELAY	4 ns nominal (-2 and -9 versions) 250 ns nominal (-12 and -14 versions)
LASER OUTPUT	Pulsed laser current adjustable 0 to 700 mA, + 2.5 volt compliance Heat sinking required above 400 mA Average laser current 50 mA max Width adjustable from: < 300 ps to 2 ns, nominal (-2 version) < 5 ns to 850 ns, nominal (-12 version) < 5 ns to 850 ns, nominal (-14 version)
RISE/FALL TIMES	150 ps to 1 ns nominal (-2 and -12 versions) 2.5 ns nominal (-14 version) Actual rise/fall times depend on laser electrical parasitics
JITTER	< 12 ps RMS (-2 version) < 120 ps RMS (-12 and -14 versions)
CONTROL	Three trimpots or external analog inputs set laser ON current, laser OFF bias voltage, pulse width External inputs are 0 to +3 volts, > 10 KΩ load
BIAS RANGE	-1.2 V to +1.2 V, nominal, laser cathode relative to anode, ground referenced
POWER	+5 volts ± 5% at PCB via USB connector or ribbon header Current 300 mA plus laser current Highland model J6 USB power supply available for use up to 700 mA laser current
CONNECTORS	LVTTL input: SMB connector Control and power: 10-pin 50-mil 2x5 ribbon header MONITOR output: SMB connector Micro-B USB alternate power connector 3-pin header provides access to laser TEC pins
LED INDICATORS	Orange POWER
PACKAGING	2" x 2" printed circuit board