

Pulsed Laser Diode Module LS-Series

Description

The LS-series of pulsed laser diode modules offer all of the features needed to safely drive pulsed lasers of different powers, in a compact housing. The modules are easy to handle and require only a +12 VDC supply and a trigger signal. External devices, such as trigger interfaces, are not necessary. These modules make the operation of pulsed lasers as straightforward as their cw counterparts.

For most applications it is only necessary to drive the laser with constant power and pulse length. However the following additional options are also offered:

- adjustable pulse power (via control voltage)
- adjustable pulse length (via control voltage)

These options offer the user greater flexibility and allow parameters to be changed while the laser is operating. Such flexibility can mean real cost savings in product development.

A range of housing types is offered, including closed metal housings and low-cost versions. The metal versions are fully nickel-plated, in order to reduce EMI emissions from the module, and to protect the module from any external EMI.

Custom designed modules are available on request.



Features

- Wavelength: 850 nm / 905 nm / 1550 nm
- Optical Peak Power: 1 W - 220 W
- Short rise and fall times
- Compact housing
- Complete unit – no additional equipment needed
- Adjustable pulse power (optional)
- Adjustable pulse length (optional)
- Straightforward interfacing (standard drive voltages, TTL & CMOS trigger)
- Excellent temperature stability

Applications

- Rangefinding
- Surveying equipment
- Weapons simulation
- Laser radar / LIDAR
- Security barrier
- Ceilometer
- Medical
- Illumination
- Optical trigger

Specifications for 850 nm PLD-Modules

Part Number	LS8-10-150-S10-00	Dim.
Wavelength	850	nm
Optical Peak Power (NA>0.5)	10	W
Pulse Length	150	ns
Pulse Energy	1500	nJ
Max. Average Power	10	mW
Trigger Input	TTL ↑	-
Max. PRF @ max. P	25	kHz
Integrated PLD	850D1S06S	
Emitting Area	150 x 1	µm*µm
Package	S 10	-
Operating Voltage	+12	VDC

Part Number	LS8-1/10-30/150-S10-11	Dim.
Wavelength	850	nm
Optical Peak Power (NA>0.5)	1 - 10	W
Pulse Length	30 - 150	ns
Pulse Energy	30 - 1000	nJ
Max. Average Power	10	mW
Trigger Input	TTL ↑	-
Max. PRF @ max. P	5	kHz
Integrated PLD	850D1S06S	
Emitting Area	150 x 1	µm*µm
Package	S 10	-
Operating Voltage	+12	VDC

Note: Power variation in the tolerance of +0%/-10%

Specifications for 905 nm PLD-Modules

Part Number	LS9-25-4-S10-00	LS9-220-8-S10-00	Dim.
Wavelength	905	905	nm
Optical Peak Power (NA>0.5)	25	220	W
Pulse Length	4.0	8.0	ns
Pulse Energy	100	1760	nJ
Max. Average Power	3	33	mW
Trigger Input	TTL ↑	TTL ↑	-
Max. PRF @ max. P	25	25	kHz
Integrated PLD	905D1S3J03S	905D3S3J09S	
Emitting Area	85 x 10	235 x 400	µm*µm
Package	S 10	S 10	-
Operating Voltage	+12	+12	VDC

Part Number	LS9-40/220-30/100-S10-11	Dim.
Wavelength	905	nm
Optical Peak Power (NA>0.5)	40 - 220	W
Pulse Length	30 - 100	ns
Pulse Energy	1200 – 22000	nJ
Max. Average Power	110	mW
Trigger Input	TTL ↑	-
Max. PRF @ max. P	5	kHz
Integrated PLD	905D3S3J09S	
Emitting Area	235 x 400	µm*µm
Package	S 10	-
Operating Voltage	+12	VDC

Note: Power variation in the tolerance of +0%/-10%

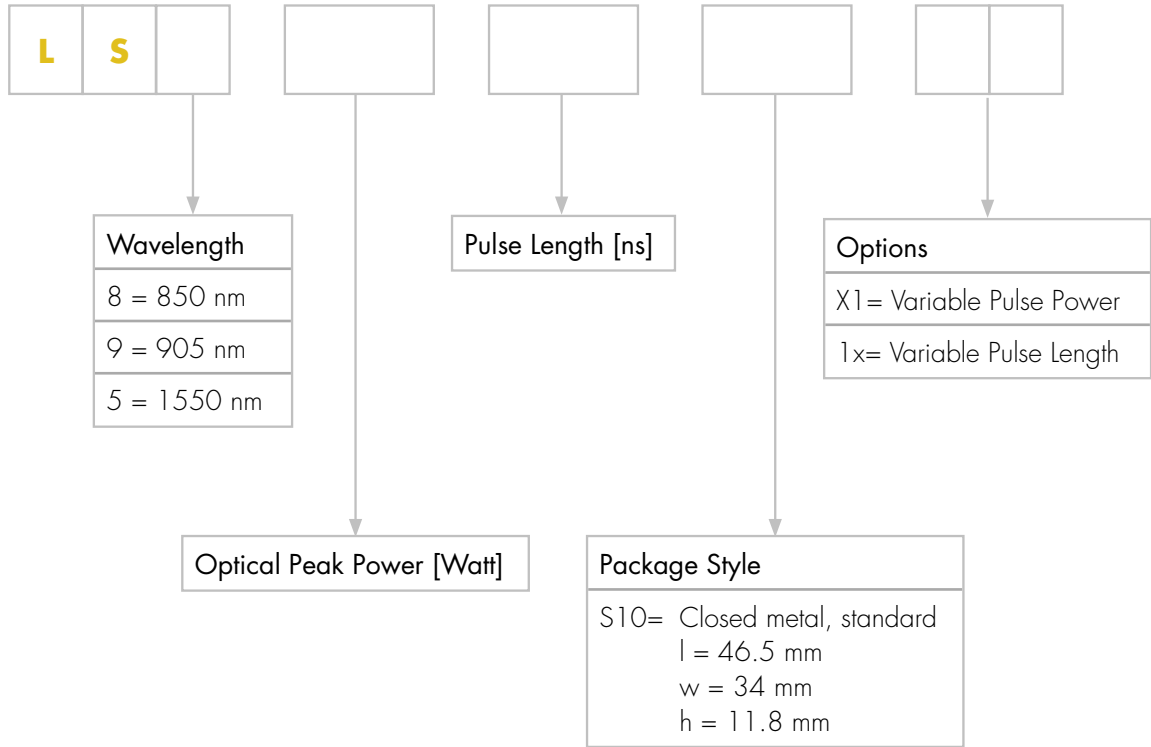
Specifications for 1550 nm PLD-Modules

Part Number	LS5-5-4-S10-00	LS5-40-8-S10-00	Dim.
Wavelength	1550	1550	nm
Optical Peak Power (NA>0.5)	5	40	W
Pulse Length	4.0	8.0	ns
Pulse Energy	20	400	nJ
Max. Average Power	0.7	4.5	mW
Trigger Input	TTL ↑	TTL ↑	-
Max. PRF @ max. P	32	7	kHz
Integrated PLD	155G1S06S	155G4S14S	
Emitting Area	150*1	350*340	µm*µm
Package	S 10	S 10	-
Operating Voltage	+12	+12	VDC

Part Number	LS5-10/40-30/150-S10-11	Dim.
Wavelength	1550	nm
Optical Peak Power (NA>0.5)	10 - 40	W
Pulse Length	30 - 150	ns
Pulse Energy	300 – 6000	nJ
Max. Average Power	22	mW
Trigger Input	TTL ↑	-
Max. PRF @ max. P	3	kHz
Integrated PLD	155G4S14S	
Emitting Area	350*340	µm*µm
Package	S10	-
Operating Voltage	+12	VDC

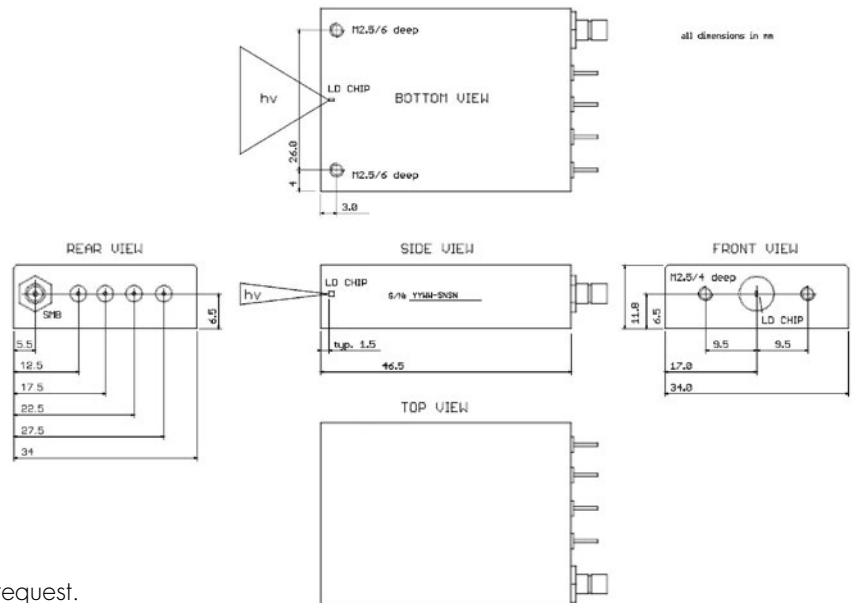
Note: Power variation in the tolerance of +0%/-10%

Product Number Designations



Package Drawings

S10-package



Other packages are available on request.

PIN Configuration

Pin	PLD-module	
	fixed	adjustable
1	$V_{op} = 12\text{ V}$	$V_{op} = 12\text{ V}$
2	GND	VC_TW
3	N.C.	VC_P
4	N.C.	GND
5	TRG	TRG

Product Changes

LASER COMPONENTS reserves the right to make changes to the product(s) or information contained herein without notice. No liability is assumed as a result of their use or application.

Ordering Information

Products can be ordered directly from LASER COMPONENTS or its representatives. For a complete listing of representatives, visit our website at www.lasercomponents.com

Custom designed products are available on request.

Laser Safety

Personal Hazard:

Depending on the mode of operation, these devices emit highly concentrated non visible infrared light which can be hazardous to the human eye. Products which incorporate these devices have to follow the safety precautions given in IEC 60825-1 "Safety of laser products".

Handling Precautions:

Products are subject to the risks normally associated with sensitive electronic devices including static discharge, transients, and overload.

