



QL90V8SM-7

- Infrared Pulse Laser Diode
- 905 nm, 21 W
- Short Pulse Operation
- TE mode laser
- 5.6 mm package, Flat Window



Description

QL90V8SM-7 is a MOCVD grown AlGaAs pulse laser diode with quantum well structure, typically emitting at 905 nm, with a nominal pulse power of 21 W at a regime of 1kHz, pulse width of 100 ns, and duty cycle of 0.01%. It features a **wide operating temperature range** of up to 85°C. QL90V8SM-7 comes in 5.6 mm TO-Can package. It is an efficient radiation source for many industrial applications.

Maximum Rating*

Parameter	Symbol	Values		Unit
		Min.	Max.	
Peak Output Power*1	P_{PEAK}		30	W
Reverse Voltage	V_R		3	V
Forward Current	I_F		10	A
Puls Width	t_p		100	ns
Duty Cycle	D_T		0.1	%
Operating Temperature*1	T_{OPR}	- 40	+ 85	°C
Storage Temperature	T_{STG}	- 40	+ 100	°C
Soldering Temperature (max. 3s)	T_{SOL}		+ 260	°C

* operating outside these conditions may damage the device

*1 operating at maximum ratings may influence the life time



Electro-Optical Characteristics (T_{CASE} = 25°C)

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Peak Wavelength	λ_P	895	905	915	nm
Emitting Area			75x10		µm
Optical Output Power	P_O	17	21		W
Operating Voltage	V_F			9	V
Threshold Current	I_{th}			0.6	A
Operating Current	I_F		7		A
Spectral Width (FWHM)	λ_w		7		nm
Temperature Coefficient	$\Delta\lambda/\Delta T$		0.28		Nm/°C
Beam Divergence (FWHM)	parallel	$\Theta_{ }$		10	deg.
	perpendicular	Θ_{\perp}		28	deg.

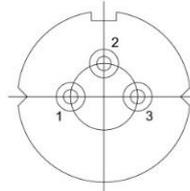
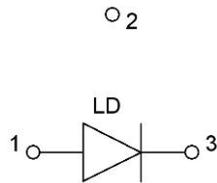


Electrical Connection

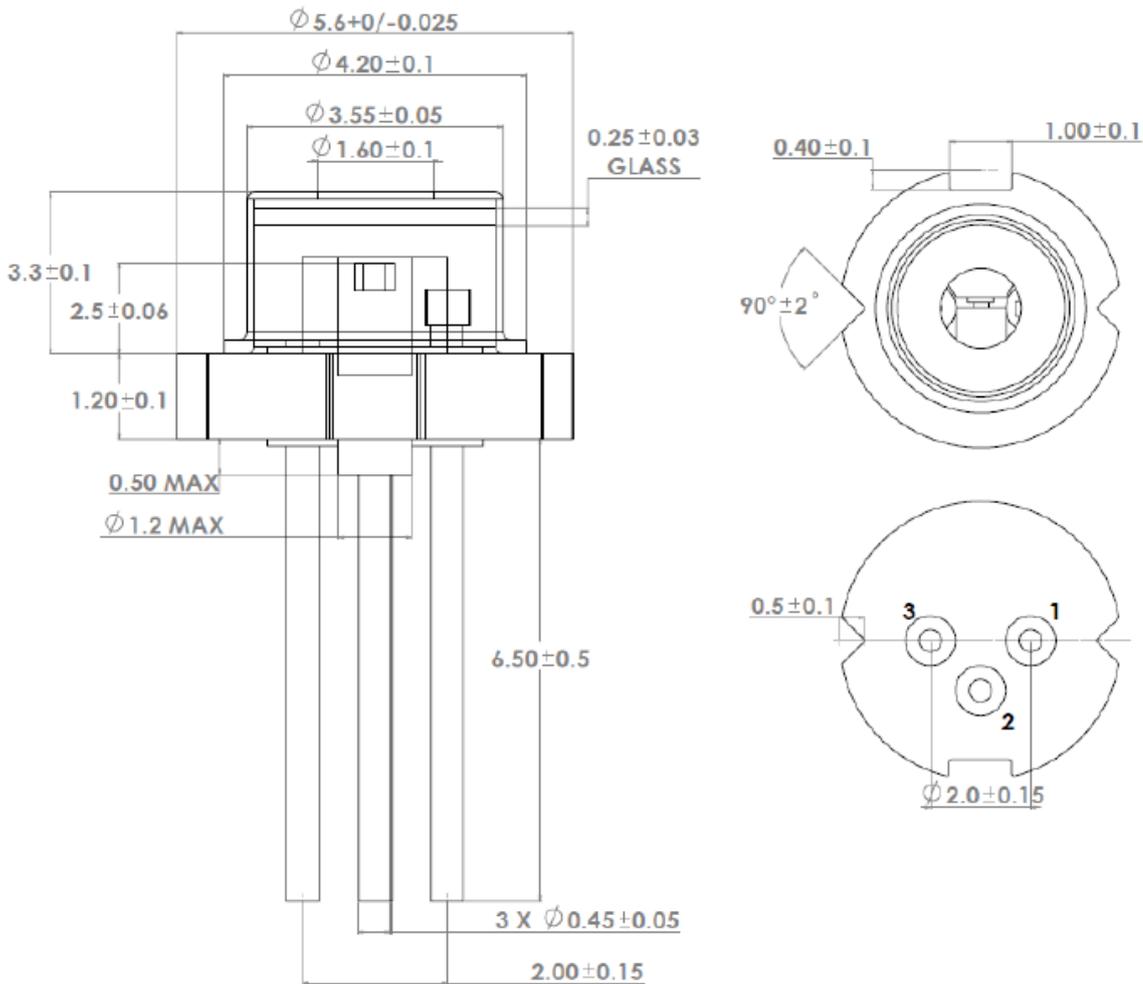
Pin Configuration

Bottom View

Pin #	Function
Pin 1	LD Anode
Pin 2	n.c.
Pin 3	LD Cathode



Outline Dimensions



All dimensions in mm



Precautions

Safety

Caution: Laser light emitted from any laser diode may be **harmful to the human eye**. Avoid looking directly into the laser diode's aperture when the diode is in operation.

Note: The use of optical lenses with this laser diode will increase eye hazard

ESD caution

Always do handle laser diodes with extreme care to **prevent electrostatic discharge**, the primary cause of unexpected diode failure. To prevent ESD related failures, it is strongly advised to always **wearing wrist straps**, and **grounding all applicable work surfaces**, when handling laser diodes

Operating Considerations

It is strongly advised to only operate this laser diode with a current source. The current of a laser diode is an exponential function of the voltage across it. **Usage of current regulated drive circuits is mandatory.** Laser diodes may be damaged by excessive drive currents or switching transients

It is advised, to operate the laser diode at the lowest temperature possible, and to never exceed maximum specifications as outlined in the datasheet. Device degradation will accelerate with increased temperature. **Proper heat sinking will greatly enhance stability and life time of the laser diode**

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The above specifications are for reference purpose only and subjected to change without prior notice.