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DL-7146-101S

- *Violet Laser Diode*
- *405 nm, 80 mW*
- *Multi transverse mode*
- *TO18 package with PD*

Description

DL-7146-101S is a **GaN** based, multi transverse mode, 405 nm violet laser diode in TO18 package **with photodiode**. It is an efficient radiation source for many applications featuring **low threshold current** and high operating temperatures up to 75°C

Maximum Ratings

Parameter	Symbol	Values		Unit
		Min.	Max.	
Optical Output Power	$P_O(CW)$		85	mW
Reverse Voltage	V_R		2	V
Operating Temperature	T_{CASE}	0	+ 75	°C
Storage Temperature	T_{STG}	- 40	+ 85	°C
Soldering Temperature	T_{SOLDER}		260	°C

Laser Characteristics (T_{CASE} = 25°C, P_O = 80 mW)

Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Emission Wavelength	λ_{peak}	395	405	415	nm
Threshold Current	I_{th}		45	60	mA
Operating Current	I_F		110	140	mA
Operating Voltage	V_F		5.4	6.0	V
Beam Divergence (FWHM)	$\Theta_{\parallel} \times \Theta_{\perp}$	6x16	8x19	12x23	deg
Off Axis Angle	$\lambda\Theta_{\parallel}, \lambda\Theta_{\perp}$	-3, -3		3, 3	deg
Differential Efficiency	SE	0.8	1.2		mW/mA

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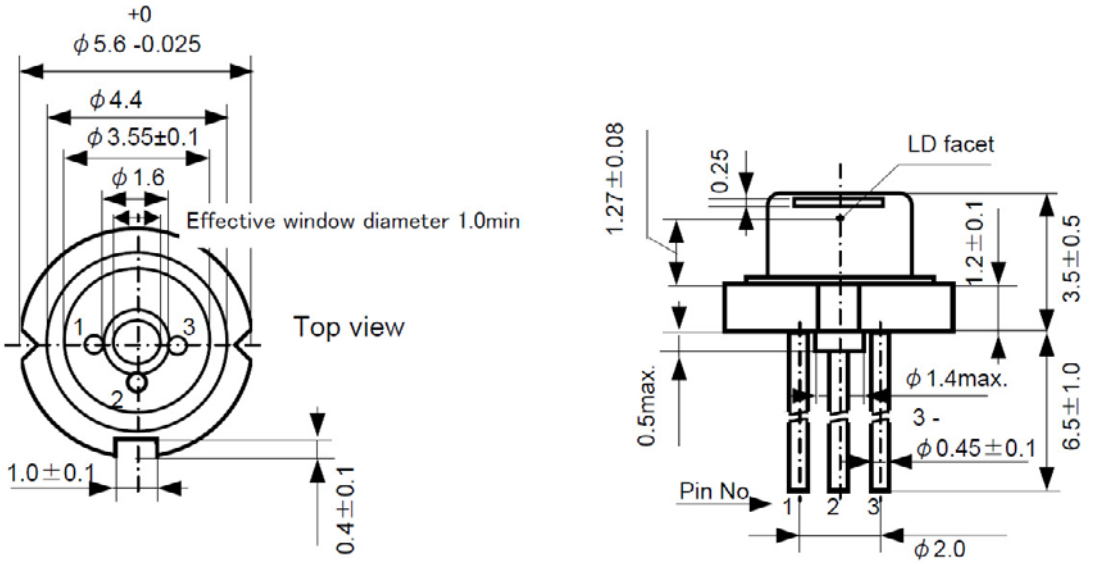
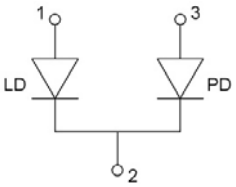
Drawing



Dimensions in mm (Tolerance ±0.2)

Electrical Connection

Lead	Description
Pin 1	LD Anode
Pin 2	LD Cathode, PD Cathode, Case
Pin 3	PD Anode



Mounting Instruction

In order to maintain lifetime and stability of the laser diode it is essential to provide efficient heat management. Heat dissipation is possible through the base plate only. For long time stable operation proper contact between laser diode base plate and heat sink is mandatory

Safety Advice

This laser diode emits highly concentrated visible light which can be **hazardous to the human eye**. This diode is classified as **Class 3B laser product** according to **IEC 60825-1**. Actual laser light emitted and precautions necessary strongly depend on mode of operation.