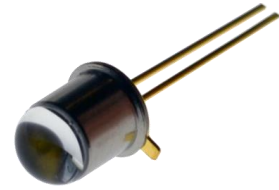


## VC850M-Z-TO46GL

- IR VCSEL
- 850 nm, 10 mW
- Multi-Mode
- TO-46 with glass lens



### Description

**VC850M-Z-TO46GL** is an infrared **multi-mode high power VCSEL**, emitting at typically 850 nm with rated output power of 10 mW, featuring a TO-46 package with glass lens and **integrated Zener diode**. **VC850M-Z-TO46GL** is e.g. used for high speed data communications, free space optics (FSO), encoding and position sensing.

### Maximum Rating

Parameter	Symbol	Values		Unit
		Min.	Max.	
Continuous Forward Current	$I_F$		30	mA
Continuous Reverse Voltage (@ 10 $\mu$ A)	$V_R$		5	V
Operating Temperature	$T_{OPR}$	0	+ 70	$^{\circ}$ C
Storage Temperature	$T_{STG}$	- 40	+ 100	$^{\circ}$ C
Soldering Temperature (max. 3 s)	$T_{SOL}$		+ 260	$^{\circ}$ C

### Electro-Optical Characteristics ( $T_{CASE} = 25^{\circ}$ C)

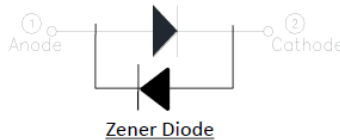
Parameter	Symbol	Values			Unit
		Min.	Typ.	Max.	
Peak Wavelength	$\lambda$	840	850	860	nm
Spectral Width	$\Delta\lambda$		0.85		nm
Temperature Coefficient (0-70 $^{\circ}$ C)	$\Delta\lambda/\Delta T$		0.06		nm/ $^{\circ}$ C
Optical Output Power	$P_O$		10		mW
Beam Divergence (FWHM)	$\theta$		8		$^{\circ}$
Forward Voltage	$V_F$	1.6	1.9	2.2	V
Breakdown voltage	$V_B$		-10		V
Threshold Current	$I_{th}$		5		mA
Forward Current	$I_F$		20		mA
Slope Efficiency	$\eta$	0.2	0.4		W/A
Dynamic Resistance	$R_d$		25	40	$\Omega$





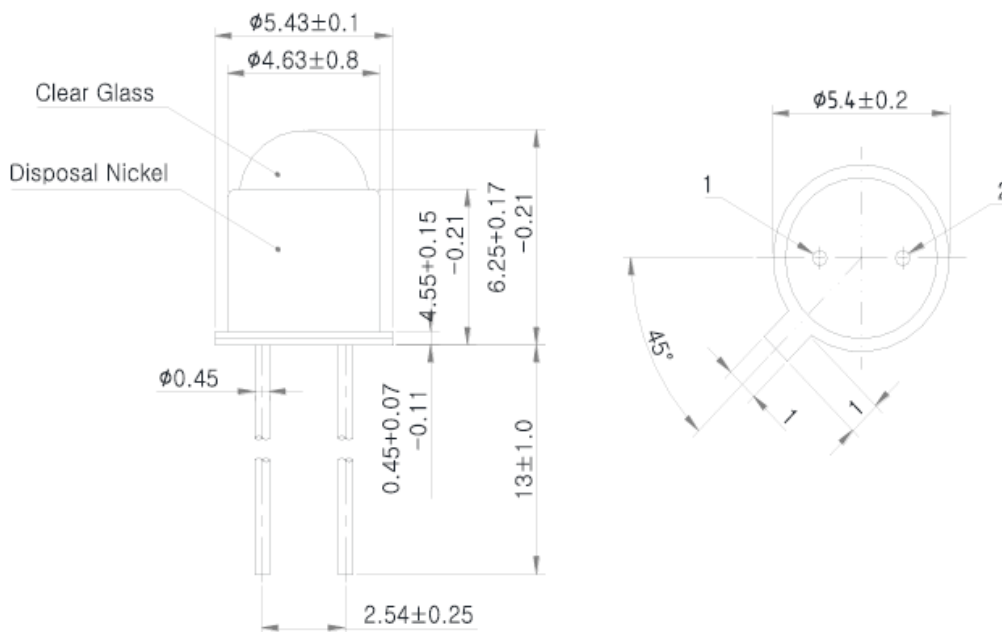
## Electrical Connection

Pin #	Function
Pin 1	Anode
Pin 2	Cathode



\* subject to change

## Outline Dimension



All dimensions in mm

## Precautions

### Safety

Laser light emitted from any laser diode may be harmful to the human eye. **Avoid looking directly into the laser diode's aperture.** The use of optical lenses will increase eye hazard



### ESD Caution

Always do handle laser diodes with care to **prevent electrostatic discharge.** We advise to **wearing wrist straps, and grounding all applicable work surfaces,** when handling laser diodes

### Operating Considerations

**Usage of current regulated drive circuits is mandatory** We advise to operate this laser diode with a current source and heat sink, and to never exceed the maximum specifications as outlined in this datasheet.

