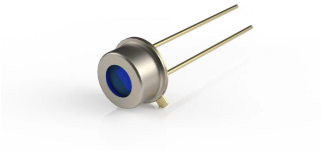
NO:XL-TO46IR850-M5
TO46 850nm 5mW VCSEL

Specification for Approval

● Feature

- water clear type
- To46 flat window metal can package
- superior weather-resistance
- high radiant intensity
- Single transverse mode and single longitudinal mode
- High reliability
- Cost effective

◆ Appearance



● Applications

- Safety sensor
- Engine management system
- Laser printer
- Laser mouse
- Consumer electronics

● Description

XL-TO46IR850-M5 is a multimode infrared VCSEL emitting at typically 850 nm with rated output power of 100mW , mounted into a TO46 metal can package and sealed with quartz glass lens. The VCSEL works under low forward current and voltage.

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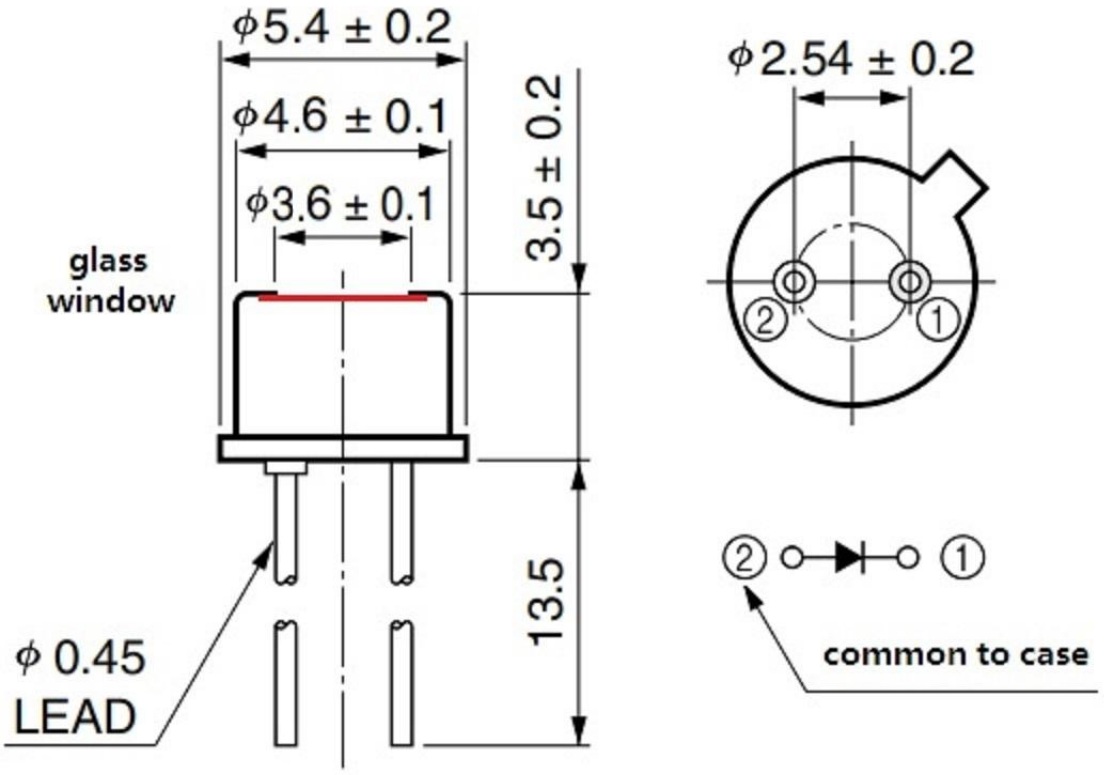
Package Dimensions：



Note: The tolerances unless mentioned is ±0.1mm ;Unit = mm

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Absolute Maximum Ratings (Ta=25℃)				
Parameters	Min.	Max.	Unit	Conditions
Storage Temperature	-40	85	C	
Operating Temperature	-10	70	C	
Lead Solder Temperature		260	C	5 seconds
Continuous Forward Current		7	mA	
Continuous Reverse Voltage		5	V	10uA

*Plus with Max 10ms,duty ratio max1/10

Electrical Optical Characteristics

Parameter	Symbol	Unit	Min.	Typ.	Max	Note
Threshold Current	Ith	mA	0.7	1.3	2	
Forward Voltage	VF	V	1.8	2.0	2.2	IF=7mA
Differential Resistance	Rs	Ohms	--	75	--	
Slop Efficiency	SE	W/A	0.9	1	--	
Output Power	Lop	mW	5	6	--	IF=7mA
Power Conversion Efficiency	PCE	%	39	41	--	IF=7mA
Wavelength	λop	nm	840	850	860	
Divergence Angle($1/e^2$)		deg	17	20	23	IF=7mA

Thermal Characteristics						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
I_{th} Temperature Variation	ΔI_{th}		7		mA	T_a=-10 to 70°C
η Temperature Coefficient	$\Delta\eta/\Delta T$		-0.5		%/°C	T_a=-10 to 70°C, I_f=140mA
λ Temperature Coefficient	$\Delta\lambda/\Delta T$		0.06		nm/°C	T_a=-10 to 70°C, I_f=140mA

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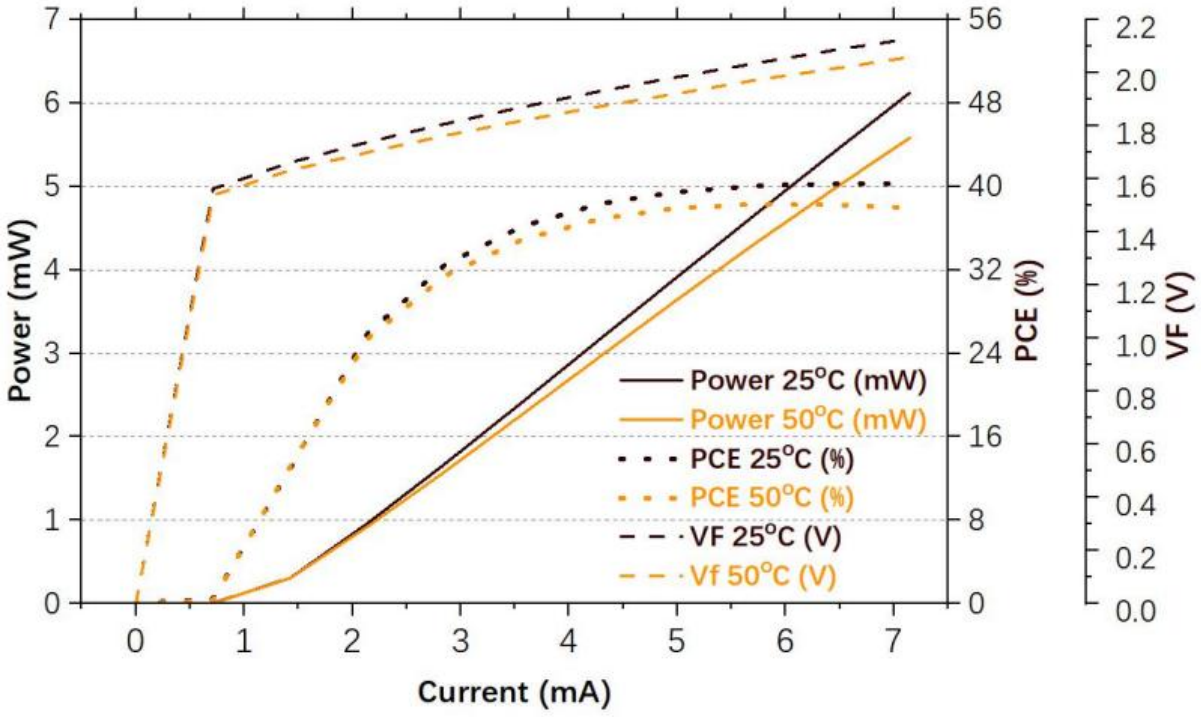
Electro-Optical Characteristics Curve



Far Field profile