

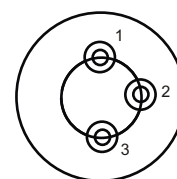
## Singlemode - VCSEL 850 nm (VCSEL = Vertical Cavity Surface Emitting Laser)



### Features of Diode

- Designed for drive currents between 1 and 5 mA
- Optimized for low dependence of electrical properties over temperature
- High speed 1GHz
- Two different laser/photodiode polarities
- Attenuating coating also available
- Packaged with a photodetector

### PINOUT



Bottom view

### Absolute maximum ratings

Parameter	Min.	Max.
Storage temperature	-40 °C	85 °C
Operating temperature	0 °C	50 °C
Laser continuous forward current		4 mA
Laser reverse voltage		10 V

Number	Function
1	VCSEL Cathode
2	VCSEL Anode, Monitordiode Cathode
3	Monitordiode Anode

### Electrical-optical characteristics

Parameter VCSEL	Test Condition	Min.	Typ.	Max.
Wavelength	$I_f = 4 \text{ mA}$	835 nm		870 nm
Threshold current				1.5 mA
Laser forward voltage	$I_f = 4 \text{ mA}$		1.9 V	2.5 V
Rise and fall time	Prebias above Threshold, 20%-80%		150 ps	
Parameter Monitordiode	Test Condition	Min.	Typ.	Max.
Monitor current	$P_o = 1 \text{ mW}$		0.035 mA	
Dark current	$P_o = 0 \text{ mW}, V_R = 3 \text{ V}$			20 nA
PD reverse voltage	$P_o = 0 \text{ mW}, I_R = 10 \text{ }\mu\text{A}$	30 V	115 V	
PD capacitance	$V_R = 3 \text{ V}, f = 1 \text{ MHz}$		40 pF	55 pF
Parameter Receptacle		Min.	Typ.	Max.
Optical output power (type A)	Singlemode 5/125 $\mu\text{m}$ fiber	200 $\mu\text{W}$	300 $\mu\text{W}$	
	Multimode 50/125 $\mu\text{m}$ fiber	500 $\mu\text{W}$	700 $\mu\text{W}$	
Possible receptacle (type A)	ST1, ST2, ST4, P2, LC, SC, FC1, FC2, Fiberdip, SMA1 <sup>1)</sup> , SMA2 <sup>1)</sup>			

Compliant with RoHS-requirements (2002/95/EG vom 27.01.2003)