

KVHZ-4685TBAAN**Description**

The **KVHZ-4685TBAAN** consist of a high power VCSEL and zener diode in TO-46 package.
The VCSEL has a high output power, low operating current and provides high optical performance.
It emits parallel infrared lights.

Features

- 1mW High power VCSEL
- 850nm Wavelength Range
- High Reliability
- Low Current and Voltage
- Other Configurations Available on Request
- Consist of a Zener Diode for ESD

Applications

- Free Space Optics
- Sensor
- Hight limit of resolution encoder

Absolute Maximum Ratings

[Ta = 25°C]

Parameter	Symbol	Ratings	Unit
Continuous Forward Current	I_F	12	mA
Continuous Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-30 ~ +100	°C
Storage Temperature	$T_{stg.}$	-40 ~ +125	°C
Soldering Temperature *1	$T_{sol.}$	260	°C

*1 : Soldering Time ≤ 10 seconds (At a distance of 1 mm from the package).

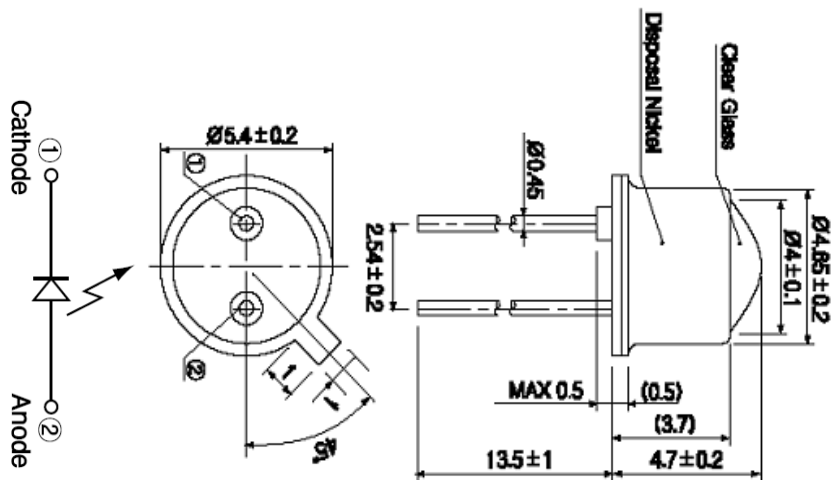
Electro-Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Threshold Current	I_{th}		1.5	3.0	mA	CW
Slope Efficiency	η	0.2	0.4		mW/mA	IF=7mA
Optical Output Power	P_o	1.0	1.2		mW	IF=7mA
Peak Wavelength	λ_p	840	850	860	nm	IF=7mA
Ith Temperature Variation	ΔI_{th}		2.5		mA	Ta=-30 to 85°C
η Temperature Coefficient	$\Delta \eta / \Delta T$		-0.5		%/°C	Ta=-30 to 100°C at 7mA
λ_p Temperature Coefficient	$\Delta \lambda_p / \Delta T$		0.06		nm/°C	Ta=-30 to 100°C at 7mA
Spectral Bandwidth	$\Delta \lambda$			0.9	nm	IF=7mA
Forward Voltage	V_f	1.6	1.8	2.2	V	IF=7mA
Breakdown Voltage	V_b	-5			V	$I_R=1\mu A$
Dynamic Resistance	R_d		25	40	Ω	IF=7mA
Beam Divergence	Θ		2		deg	IF=7mA, FWHM

* These specifications are subject to change without notice.

KVHZ-4685TBAAN

Outline Drawing



UNIT: mm

Ordering information

KVH	PKG type	Wavelength	Data Rate	Output Power	PKG Method	Beam Divergence	Pin Config.
KODENSHI VCSEL High power Zener diode	46:TO46	65:650nm	A:155Mbps	A: 0.3 mW	F:CAN with Flat Window	A: ±2	A:Cathode Common
	56:TO56	78:780nm	B:622Mbps	B: 1mW	B:CAN with Ball lens	C: ±5	B:Anode Common
	18:TO18	85:850nm	C:1.25Gbps	C: 3mW	T: Tilted Window	D: ±10	C:CASE GND
	01:ϕ1	98:980nm	D:2.5Gbps	D: 10mW	A: Aspherical lens	E: ±15	D:CASE Anode
	02:ϕ2	31:1310nm		E: 20mW	D: Dome lens		N: Normal
	03:ϕ3	55:1550nm	T:Space Optic		R: CAN With Receptacle		
	05:ϕ5		R: 50Mbps		C: Resin Port with Ceramic		
			S:100Mbps		M :Resin Port with Metal		
					TM: Transfer Mold PKG		
				CM : Casting Mold PKG			