FBVD-850-003-TO46
SM VCSEL Diode 850nm 2.7mW

Features

- **Bit Data Rate More Than 6Gbps**
- **High SNR**
- **Low Wavelength drift**
- **Oxide Isolation Technology**
- **Low Threshold Current**
- **High Reliability**

Applications

- **Datacom**
- **Optical USB**
- **Active Optical Cable (AOC)**
- **HDMI**
- **Sensing**
- **6Gbps Data Transmission**

Absolute Maximum Ratings

Operating Parameters	Symbol	Value	Unit
Operating Temperature (Case)	T_C	-40 ~ +85	°C
Storage Temperature	T_{St}	-40 ~ +105	°C
Reflow Soldering Temp. (≤10s)	T_{Sol}	260	°C
Reverse Voltage	V_R	5	V
Maximum Forward Current	I_{max}	10	mA
ESD Exposure (Human Body)	ESD	1K	V

Note:

1. Stresses greater than those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or other conditions above those indicated in the operations section for extended periods of time may affect reliability.
2. In its maximum rating diode laser operation could damage its performance or cause potential safety hazard such as equipment failure.
3. Electrostatic discharge is the main reason for the laser fault of the diode. Take effective precautions against ESD. When dealing with laser diodes, use the wrist strap, grounding work surface and strict antistatic technology.

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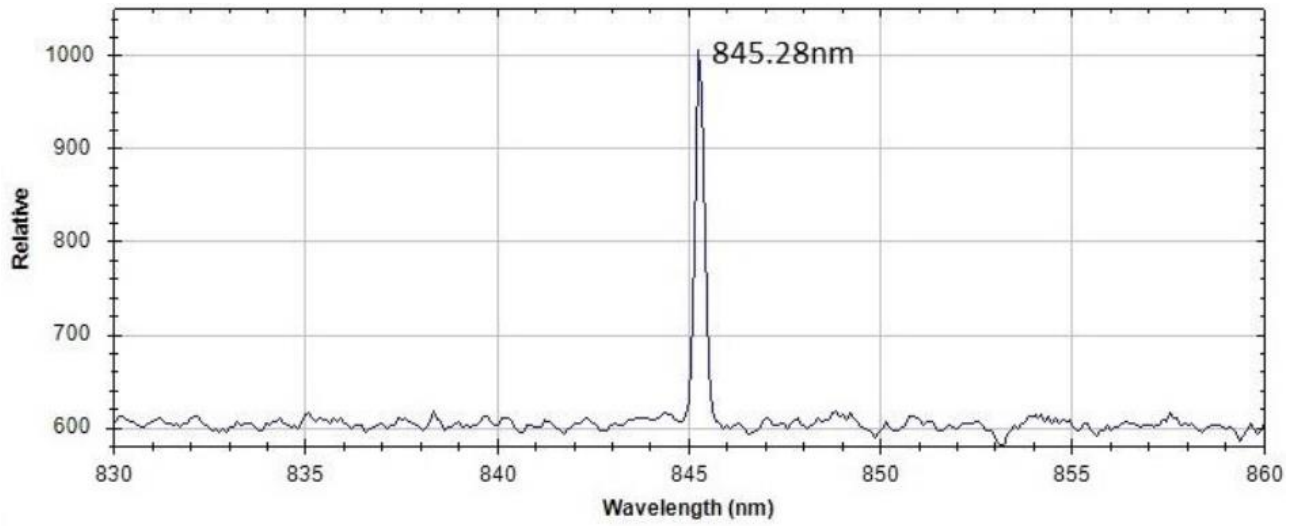
Specifications (T_C = 25°C)

Operating Parameters	Symbo	Min	Typ	Max	Unit
Wavelength (P_O=2mW)	λ	840	850	860	nm
Optical Power (I_F=3.7mA)	P_o	-	2.7	-	mW
Threshold Current	I_{th}	-	0.4	-	mA
Forward Current	I_F	-	5	-	mA
Slope Efficiency		-	0.58	-	mW/mA
Fall Time (20~80%)		-	133	136	ps
Rise Time (20~80%)		-	126	127	ps
Laser Forward Voltage (I_F=3.7mA)	V_F	-	2.1	-	V
Series Resistance (I_F=3.7mA)	Ω	-	87.5	-	Ohm
Beam Angle (FW1/e^2) (I_F=3.7mA)	Θ	-	25	-	deg.
Wavelength Temp. Drift (I_F=3.7mA)		-	0.07	-	nm/°C
Modulation Bandwidth		4	-	-	GHz
Substrate	AIN				

Note：Electro-Optical Characteristic with a package or diffuser would require further evaluation. Values are based on limited sample size and estimated values.

Typical Performance - Spectral Width



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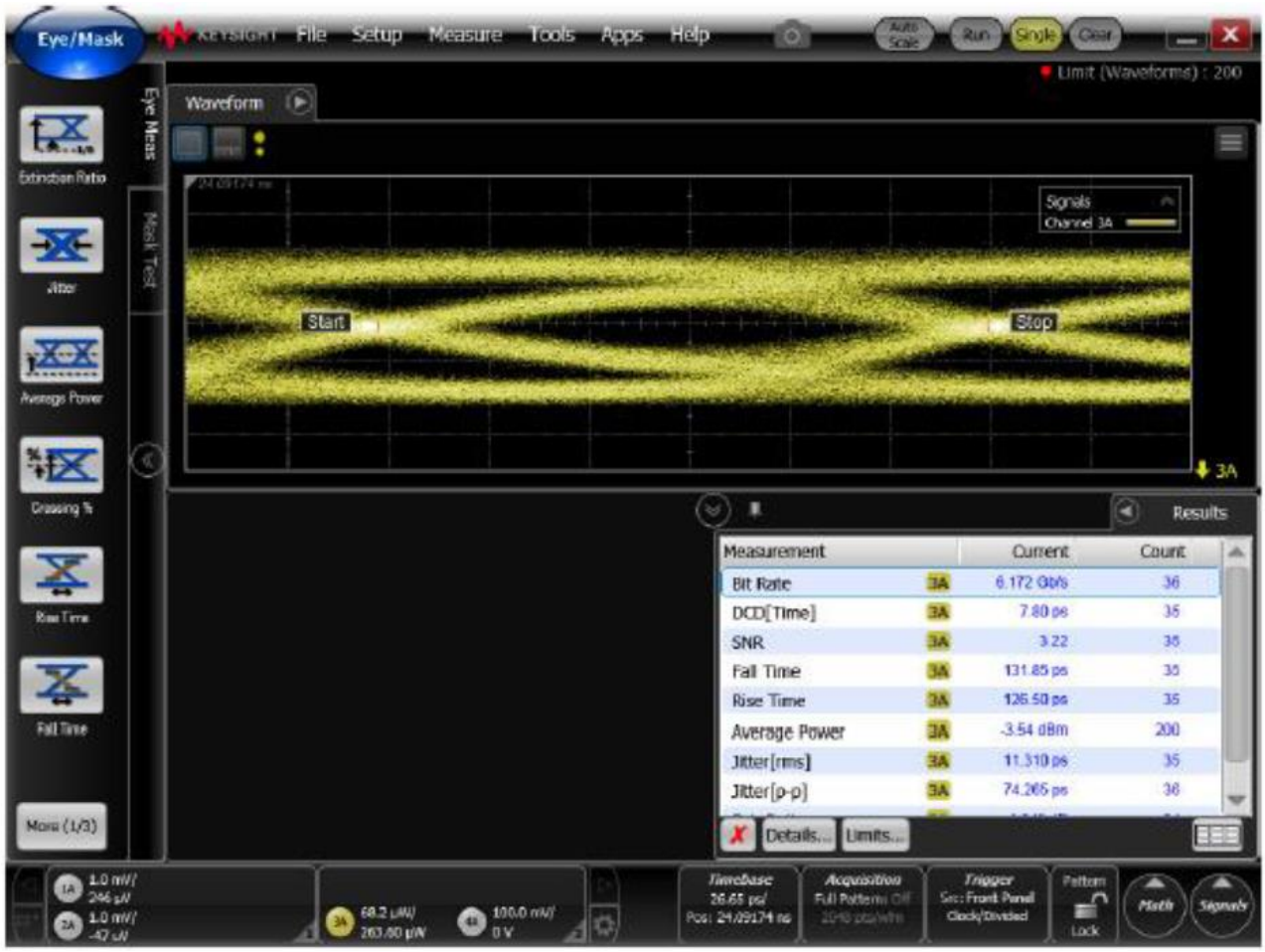
Eye Diagram at 6.25Gbps



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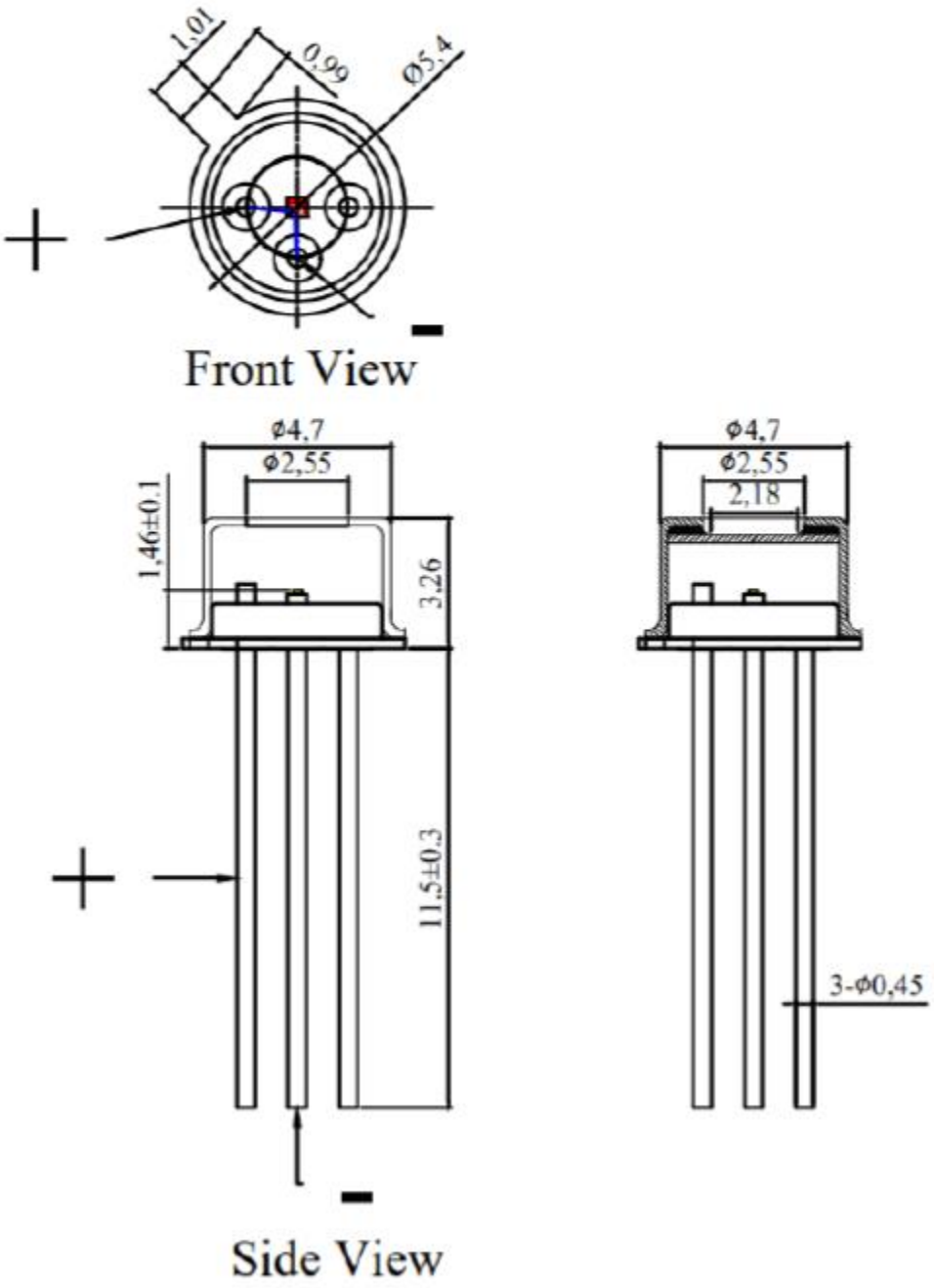
Mechanical Schematics (TO46)



Note：There may be some changes between sample and drawing, thus the actual spec please refer to the sample that you received. And if any question please contact us.

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