850nm 10Gbps VCSEL Chip LC0850-G010-0025CT

Product Features

- Bit data rate more than 10Gbps
- Multimode VCSEL
- Low wavelength drift
- Oxide isolation technology
- Low threshold current
- Hight reliability

Applications

- 10Gbps data transmission
- Optical USB
- Active Optical Cable (AOC)
- HDMI
- Sensing applications

PRODUCT IDENTIFY

Part Number	Description
LC0850-G010-0025CT	850nm 10Gbps VCSEL Chip

CODE RULES

e.g. LC0850 – G010 – 0025C T

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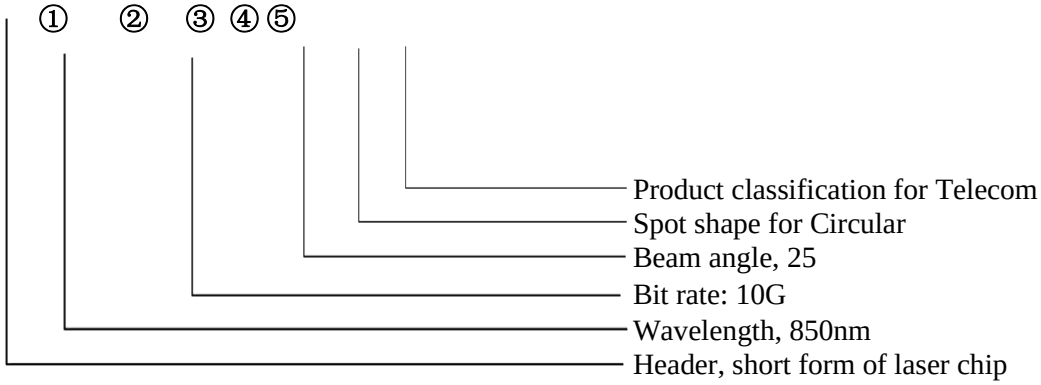


I. Absolute maximum ratings

Parameter	Symbol	Rating	Unit
Case Operating Temp	Top	-40 to 85	℃
Storage Temp	Tsto	-40 to 105	℃
Reflow Soldering Temperature	Tsdr	320℃(<10s)	℃
Reverse Voltage	Vr	5	V
Maximum Continuous Current	Imax	10	mA
ESD exposure (Human body) model	ESD	2K	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.

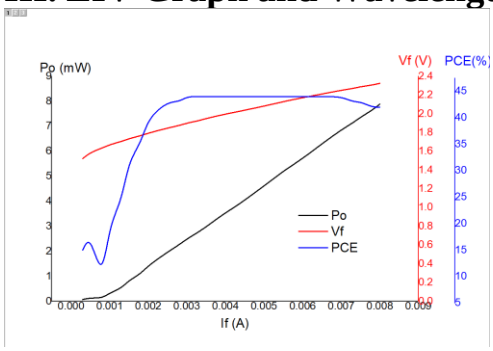
3. Electrostatic discharge is the main reason for the laser fault of the diode. Take effective precautions against ESD. When dealing with laser diodes, use the wrist strap, grounding work surface and strict antistatic technology.

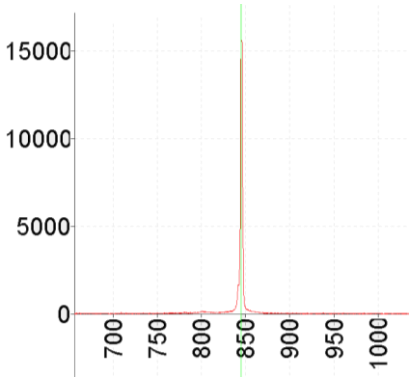
II. Optical-electrical characteristics @25℃

Parameters	Symbol	Conditions	Min.	Typ.	Max.	Unit
Optical Power	P_o	I_F=3 mA	-	2.5	-	mW
Threshold Current	I_{TH}	-	-	0.5	-	mA
Forward Current	-	-	-	3	-	mA
Slope Efficiency	-	-	-	0.98	-	mW/mA
Fall Time (20~80%)	-	-	-	133	136	ps
Rise Time (20~80%)	-	-	-	126	127	ps
Die Size	-	-	-	250×228	-	um
Peak Wavelength	-	P_o=2.7 mW	840	850	860	nm
Laser Forward Voltage	V_F	I_F=3 mA	-	1.89	-	V
Series Resistance	R	I_F=3 mA		84.9	-	Ω
Beam Angle	-	I_F=3mA	-	25	-	Degrees
Wavelength Temp. Drift	-	I_F=3 mA	-	0.07	-	nm/℃
Soldering Temperature	-	-	-	-	260(5s)	℃

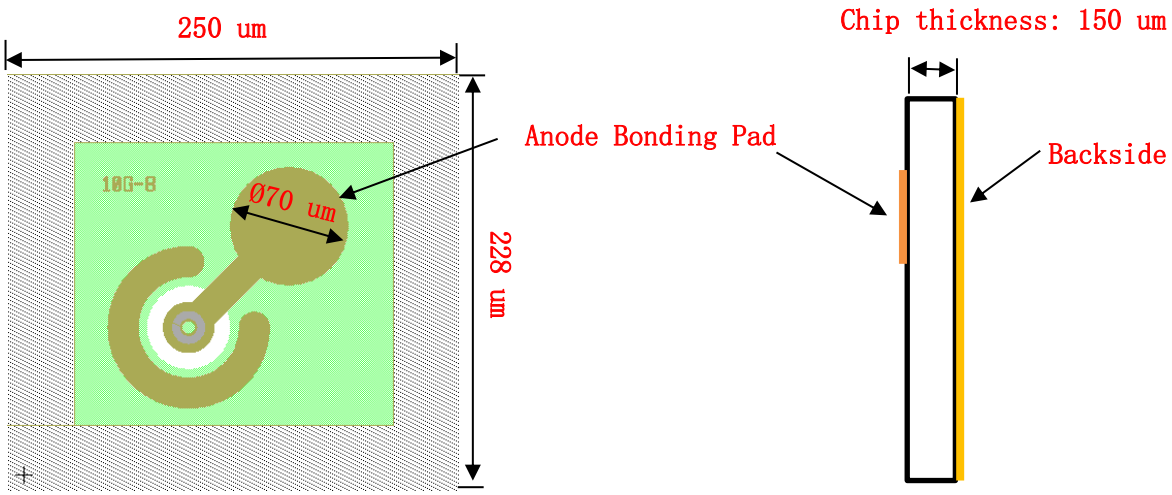
Note： Electro-Optical Characteristic with a package or diffuser would require further evaluation. Values are based on limited sample size and estimated values.

III. LIV Graph and Wavelength





IV. Mechanical Schematics)



Top view **Side view**

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.

V. Treatment and protection measures

Soldering precautions

The operator should examine grounding of machines before die attachment; and operator should wear electrostatic bracelet to prevent die from damaging caused by electrostatic discharging.

Storage precautions

VCSEL bare dies must be stored in Nitrogen gas cabinet with >99% concentration at 20℃, and relative humidity is less than 10%.

VI. Revision history

Revision	Date	Description
V.00	2020/07/24	Preliminary version

**Brightphoton reserves the right to make modification at any time due to improved design from time to time, the merit behind is in order to supply the best product possible.