VCC-113A20H
1135nm 20mW VCSEL Chip

Data Sheet

Features

- 1135nm multi-emitter oxide-confined VCSEL
- Output power: 20mW @ 20us, Duty 50%
- Chip dimensions: 235x235x150 um

Applications

- Moving sensor/Gesture
- Optical encoders
- 3D sensing
- Health or medical products
- Mobile and consumer

Electro-Optical Characteristics (T_A=25ºC unless otherwise noted, Pulse Width: 20us, Duty: 50%)

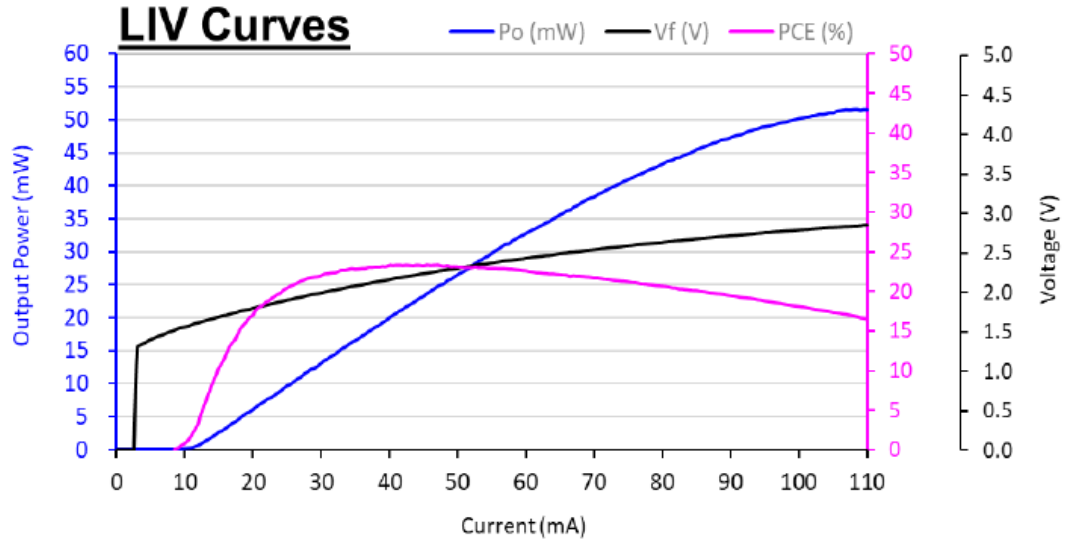
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}	4	8	12	mA	
Slope Efficiency	η	0.45	0.60	0.75	W/A	I_f=40mA
Optical Output Power	P_o	18	20	-	mW	I_f=40mA
Center Wavelength	λ_c	1125	1135	1145	nm	I_f=40mA
Power Conversion Efficiency	PCE	24	-	-	%	I_f=40mA
Wavelength Shift	$\Delta\lambda_P/\Delta T$	-	0.07	-	nm/°C	I_f=40mA
Beam Divergence	Θ	18	22	26	°	Full width $1/e^2$
Forward Voltage	V_f	1.7	1.9	2.1	V	I_f=40mA

Notes:

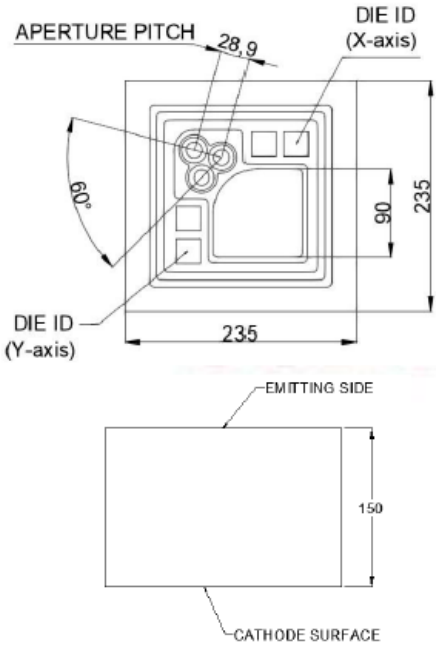
1. Forward Voltage (V_f) measurement allowance is ±0.1V.
2. Center Wavelength (λ_c) measurement allowance is ±2.0nm.
3. Others measurement allowance is ±10%.
4. Wafer on probe system test and chip mounted on Cu star board, and measured with operating bias current (I_f) @ 40mA @ Pulse width: 20us, Duty Cycle: 50%.

Typical Characteristic Curves

T_a=25°C



Outline Dimensions



- Chip length: 235±15 um
- Chip width: 235±15 um
- Chip thickness: 150±15 um
- Bond pad width: 90 um

Additional Notes

- The inherent design of this component causes it to be sensitive to electrostatic discharge (ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product.
- Specifications are subject to change without notice.