



VCC-113A2800H

1135nm 2800mW VCSEL Chip

Data Sheet

Features

- 1135nm multi-emitter oxide-confined VCSEL
- Output power: 2800mW @ 10us, Duty 1% @ 5A
- Chip dimensions: 835x835x150 um

Applications

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

Electro-Optical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted, Pulse Width: 10us, Duty: 1%)

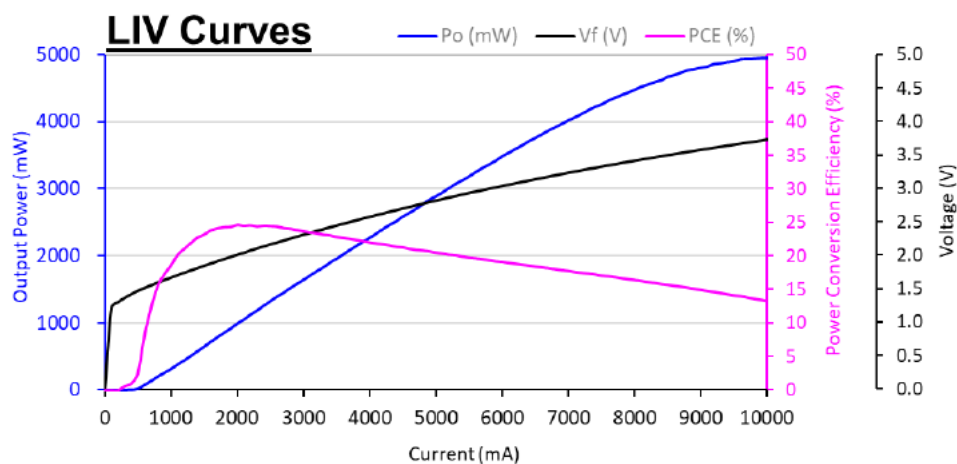
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold Current	I_{th}	300	500	800	mA	$I_f=5\text{mA}$
Slope Efficiency	η	0.60	0.65	0.70	W/A	$I_f=5\text{mA}$
Optical Output Power	P_o	2600	2800	-	mW	$I_f=5\text{mA}$
Center Wavelength	λ_c	1125	1135	1145	nm	$I_f=5\text{mA}$
Power Conversion Efficiency	PCE	20	-	-	%	$I_f=5\text{mA}$
Wavelength Shift	$\Delta\lambda_P/\Delta T$	-	0.07	-	nm/ $^{\circ}\text{C}$	$I_f=5\text{mA}$
Beam Divergence	Θ	18	22	26	$^{\circ}$	Full width $1/e^2$
Forward Voltage	V_f	2.5	2.7	2.9	V	$I_f=5\text{mA}$

Notes:

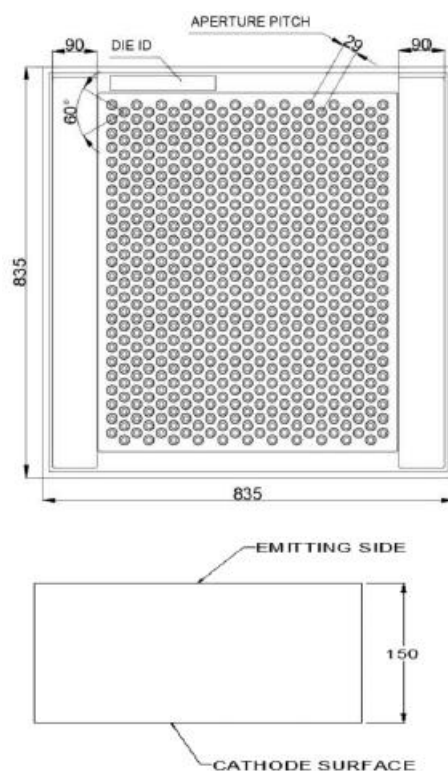
1. Forward Voltage (V_f) measurement allowance is $\pm 0.1\text{V}$.
2. Center Wavelength (λ_c) measurement allowance is $\pm 2.0\text{nm}$.
3. Others measurement allowance is $\pm 10\%$.
4. Wafer on probe system test and chip mounted on Cu star board, and measured with operating bias current (I_f) @ 5A @ Pulse width: 10us, Duty Cycle: 1%.

Typical Characteristic Curves

$T_a=25^{\circ}\text{C}$, pulse width: 10us, Duty1%



Outline Dimensions



- Chip length: $835 \pm 15 \mu\text{m}$
- Chip width: $835 \pm 15 \mu\text{m}$
- Chip thickness: $150 \pm 15 \mu\text{m}$
- Bond pad width: $90 \mu\text{m}$

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.