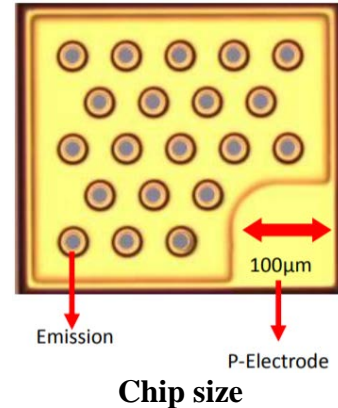


## Model No. VCC-94A120H

### Features:

- 940nm VCSEL chip
- Typical 120mW at 200mA
- Emitter number: 20
- -20 to 85 °C operating temperature
- Chip size: 336 x 307 ± 15 μm
- Electrode Side:  
Gold alloy on both anode P (emission side) and cathode N (backside)



### Applications:

- Sensing light source
- Consumer electronics
- Security camera light source

### Absolute Maximum Ratings (TA = 25°C unless otherwise noted)

Parameter	Symbol	Rating
Storage Temperature	Tstg	-40 to 85 °C
Operating Temperature	Top	-20 to 85 °C
Continuous Forward Current	I <sub>f</sub>	200mA

Note: The maximum CW laser current in the Absolute Maximum Ratings is valid for the operating temperature noted at the table above. Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device.

### Electro-Optics Characteristics (Ta=25°C unless otherwise noted)

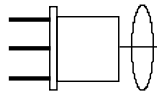
Parameters	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Threshold Current	I <sub>th</sub>	-	28	-	mA	CW
Slope Efficiency	η	-	0.55	-	W/A	I <sub>f</sub> = 200mA
Optical Output Power	P <sub>o</sub>	100	120	145	mW	I <sub>f</sub> = 200mA
Center Wavelength	λ <sub>c</sub>	930	940	950	nm	I <sub>f</sub> = 200mA
Beam Divergence	Θ		36	39	degree	I <sub>f</sub> = 200mA
Operating Voltage	V <sub>f</sub>	2.1	2.4	2.6	V	I <sub>f</sub> = 200mA
Variation in Output Power	Δ P <sub>o</sub>	-	-0.4	-	%/°C	Ta= -20 ~ 85 °C
ESD	V <sub>ESD</sub>	-	3,000	-	V	Human Body Mode
Reverse Current	I <sub>r</sub>	-	-	0.5	μA	V <sub>r</sub> =5V

Note 1: Forward Voltage (V<sub>f</sub>) measurement resolution is ±0.1V.

Note 2: Center Wavelength (λ<sub>c</sub>) measurement resolution is ±1.5nm.

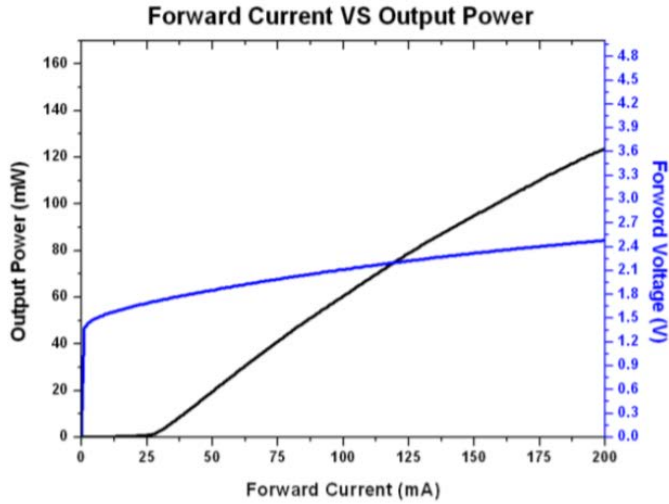
Note 3: Output power measurement resolution is ±5%.

**Note:** The specifications are subject to change without notice.

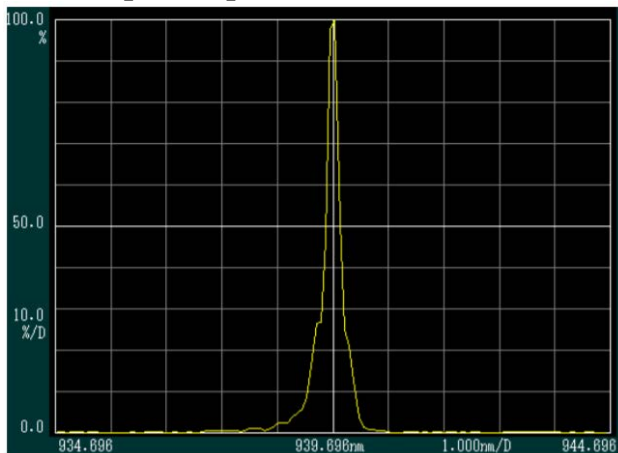


### Typical Performance Graph:

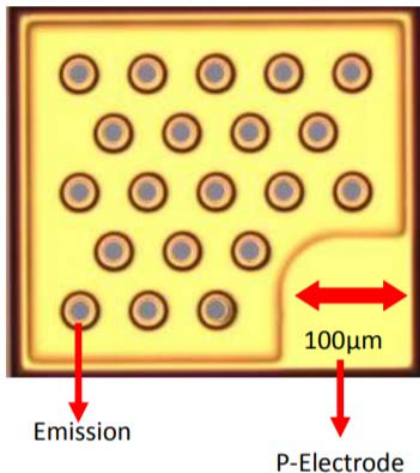
#### 1. LIV Graph at 25 °C



#### 2. Optical Spectrum $T_a = 25^\circ\text{C}$ ; $I_f = 200\text{mA}$



### Dimensions (unit: $\mu\text{m}$ ):



Specification	Min	Typ	Max
Chip width	292	307	322
Chip length	321	336	351
Chip thickness	135	150	165
Bond pad width	-	100	-

Unit:  $\mu\text{m}$

Note: The specifications are subject to change without notice.