

## Product Selector Guide

(see [www.vixarinc.com/products](http://www.vixarinc.com/products) for detailed specifications)

Wavelength	Output Power <sup>(1)</sup>	Part Number <sup>(2)</sup>	Notes
<b>Single Mode VCSELs (single aperture)</b>			
670-690 nm	0.7 mW	680S-0000-x0y1	Line Width $\leq$ 0.1 nm
670-690 nm	0.7 mW	680Q-0000-x0y1	0.4 nm $\leq$ Line Width $\leq$ 1.2 nm
790-800 nm	0.15 mW	795S-0000-x0y1	Wavelength tolerance: $\pm$ 2.0 nm
795 nm	0.15 mW	795S-0000-x0y2	Wavelength tolerance: $\pm$ 0.5 nm
795 nm	0.15 mW	795S-0000-xCy1	Integrated TEC for wavelength tolerance: $\pm$ 10 pm
<b>Single Mode VCSELs (arrays)</b>			
670-690 nm	0.7 mW <sup>(3)</sup>	680Q-0000-xAy1	1x4 (4 apertures)
<b>Communications Grade VCSELs (single aperture)</b>			
670-690 nm	3.5 mW	680C-0000-x0y1	Up to 3 Gbps
<b>Multi-mode VCSELs (single aperture)</b>			
670-690 nm	6 mW	680M-0000-x0y1	
787-797 nm	3 mW	795M-0000-x0y1	
850 nm	1.3 mW	850M-0000-xCy1	Integrated MPD & Temp. Sensor for constant output power
<b>Multi-mode VCSELs (arrays)</b>			
670-690 nm	2.5 mW <sup>(3)</sup>	680M-0000-xAy1	2x8 (16 apertures)
670-690 nm	30 mW <sup>(4)</sup>	680M-0000-xPy1	4x4 (16 apertures)
<b>Multi-Wavelength VCSEL Assemblies</b>			
680, 795, 850 nm	1 mW	MULTM-0000-x0y1	High efficiency
680, 795, 850 nm	8 mW	MULTM-0000-x0y2	High Power

(1) At 25°C and 75% of Peak Output Power at room temperature.

(2) "x" and "y" denote the character positions of options explained in the respective datasheets.

(3) Output Power of each of the multiple apertures, which are modulated independently.

(4) This product is a "power array" in which all apertures are electrically connected and modulated together.

### Contact Information

Vixar Headquarters  
2950 Xenium Lane  
Plymouth, MN 55441  
Phone 763-746-8045  
Fax 763-746-8048

Wade Campbell, VP Bus. Dev.  
763-746-8045 x 305  
602-330-4653 (mobile)  
wcampbell@vixarinc.com  
www.vixarinc.com

## Red VCSEL Technology Today

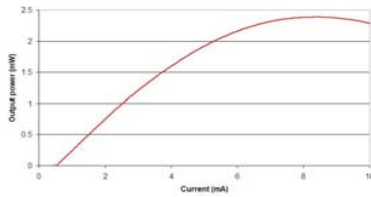
- Visible to near IR
- Extremely Narrow Spectral Bandwidth
- Very Low Power Consumption
- Highly Polarized, Round Beam
- Discrete 1D and 2D Arrays
- TO, Ceramic or Plastic SMT Packages
- Single or Multimode

## Applications

- Medical sensors
- Analytical/diagnostic equipment
- Bar code scanners
- Laser scanning units
- Industrial sensing
- Atomic clocks/sensors
- Polymer Optical Fiber (POF) Communications

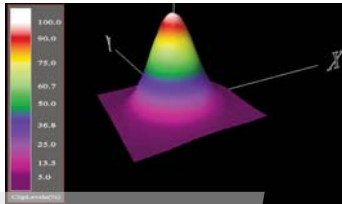
## Features

### Low Power Operation



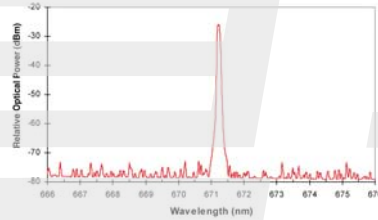
- **Battery powered, handheld devices**

### Narrow Divergence, Gaussian Beams



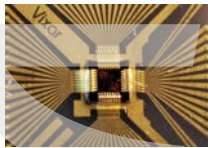
- **High quality printing**
- **Beam shape control for sensors and bar codes**

### Narrow Spectral Width



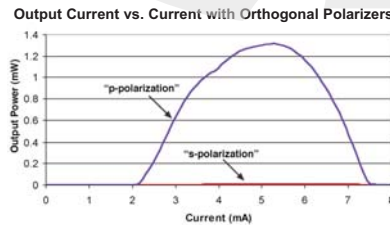
- **Higher resolution interferometry**
- **Fluorescent sensing with better signal to noise ratio**

### Arrays



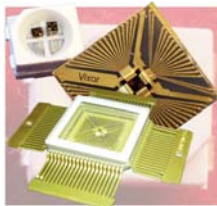
- **Small facet size allows dense array designs for faster printing/copying at higher resolution**

### Linear Polarization



- **Noise elimination in polarization sensitive systems**

### Packaging Flexibility



- **TO Header**
- **Plastic or ceramic surface mount**
- **Chip on board or flex**
- **Multiple wavelengths**

## Applications and Benefits

### Medical sensing



- **Low power for battery driven sensors**
- **Narrow spectrum for fluorescence or absorption based sensors**

### Analytical/diagnostic equipment

- **Narrow wavelength spectrum**
- **Arrays for faster scanning**

### Bar code scanners



- **Low power for battery operated scanners**
- **Packaging flexibility for low cost assembly**
- **Visible beam for ease of use**

### Laser scanning units (laser printers, computed radiography)



- **Beam characteristics for high quality and high speed**
- **Lens, driver, PCB integraton**
- **Custom arrays on special request**

### Industrial sensing



- **Narrow beam divergence for long distance/precise sensing**
- **Short pulse for time of flight sensors**
- **Coherence for interferometric sensors**
- **Symmetrical beam: reduced optics costs**
- **SMT compatible: ease of board assembly**

### Communication over POF (Polymer Optical Fiber)

- **Beam characteristics for high quality and high speed**
- **Lens, driver, PCB integraton**
- **Custom arrays on special request**

### Geared to support customers around the world-

- "In House" design, test, quality, reliability and customer service facilities
- Highly skilled and experienced OEM oriented support staff
- "Best in class" manufacturing with global partners in epi, wafer fab and packaging