

TO-46

# FLIR VCSEL LASER DIODES

TO packaged VCSELS up to 1 W CW Power

FLIR offers its high-power Vertical-Cavity, Surface-Emitting Laser (VCSEL) array technology in a TO package, ideal for laser illumination applications, producing unmatched low-speckle and uniform-illumination quality. FLIR offers high-power VCSEL arrays producing over 750 mW of continuous wave output power in standard TO-46 or TO-39 packages. Currently offered at 860 nm and 1060 nm, custom wavelengths and powers are also available.

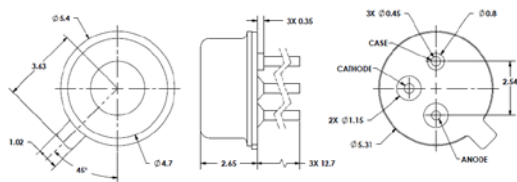
## KEY FEATURES

- Microlensed arrays available for higher brightness and narrower divergences
- Improved eye-safety from VCSELS over conventional laser diodes
- Very low speckle illumination quality
- Circular beam for easy coupling
- High reliability

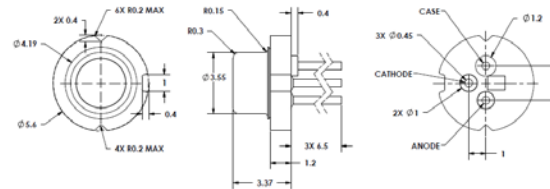
## Specifications

Model: CWV-HP-TO-Px-Wy-[Option]		100 mW	400 mW	750 mW	Narrow Divergence [-ND]		
Parameters	Conditions	Typical Value				Units	
(x) CW Output Power, P <sub>op</sub>	20°C, P <sub>op</sub>	100	400	750	750	750	mW
(y) Available Wavelengths	20°C, P <sub>op</sub>	<b>850</b>	<b>860</b>	<b>860 1060</b>	<b>860 1060</b>	<b>860 1060</b>	nm
Conversion Efficiency	20°C, P <sub>op</sub>	35	35	30 30	30 30	30 30	%
Threshold Current	20°C	20	175	400 300	400 300	400 300	mA
Operating Current	20°C, P <sub>op</sub>	135	550	1150 1250	1150 1250	1150 1250	mA
Operating Voltage	20°C, P <sub>op</sub>	2.1	2.2	2.2 2.0	2.2 2.0	2.2 2.0	V
Slope Efficiency	20°C	0.9	1.1	1.1 0.9	1.1 0.9	1.1 0.9	W/A
FWHM Divergence	20°C, P <sub>op</sub>	21	25	30 12	7.0 4.5	7.0 4.5	°
FWHM Spectral Width	20°C, P <sub>op</sub>	1	1	1	1	1	nm
Wavelength Shift		0.075	0.075	0.075	0.075	0.075	nm/°C
Emission Diameter (circular array)		0.15	0.44	0.79 0.75	0.79 0.75	0.79 0.75	mm
Package		TO-46 or TO-56	TO-46 or TO-39	TO-39	TO-39	TO-39	

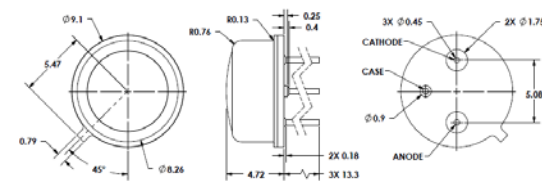
### TO-46



### TO-56



### TO-39



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