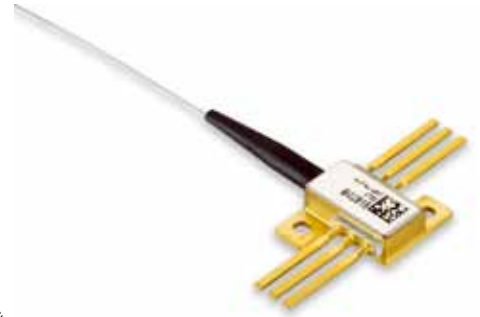




## 808 nm Wavelength-Stabilized Lasers

Alfalight's "generation B" 808 nm pump lasers offer low threshold, high slope efficiency, and excellent stability over temperature. The fiber-coupled devices offer either 2 W in a 105  $\mu\text{m}$ , 0.15 NA fiber or 5.0 watts in a 200  $\mu\text{m}$ , 0.22 NA fiber. Both devices are housed in high-reliability uncooled GR-468 compliant packages.

Alfalight's Wavelength Stabilization Technology (WST) enables narrow spectral width and minimizes wavelength shift over temperature. These lasers do not require temperature control to maintain wavelength, reducing their energy consumption by up to three times over a thermally controlled pump laser. Pump absorption in a microlaser configuration is enhanced by more than 80%.



- On-chip integrated semiconductor grating
- Fully hermetic 6-pin uncooled package
- Narrow linewidth (0.5 nm)
- Nd:YAG and Nd:YVO<sub>4</sub> microlasers
- Wide locking range
- Alkali pumping

### Device Characteristics\*

Electro-Optical	Symbol	2 watt 6-pin device AM6-808BW-10-201			5 watt 6-pin device XM6-808BW-30-501			Units	
		Min	Typ	Max	Min	Typ	Max		
Center wavelength	$\lambda_c$	808 $\pm$ 1.5			808 $\pm$ 1.5			nm	
Output power, CW	$P_o$	2.0			5.0			W	
Operating current	$I_o$		2.7		6.5			A	
Forward voltage	$V_f$		1.74	1.9	1.73			1.80	V
Threshold current	$I_{th}$		0.55		1.35			A	
Spectral width (FWHM)	$\Delta\lambda$		0.5	0.9	0.5			0.9	nm
Power conversion efficiency	PCE		43%		45%				
Spectral shift over temperature	$d\lambda/dT$		0.07		0.07				nm/ $^{\circ}\text{C}$
Spectral shift over power	$d\lambda/dP$		0.4		0.2				nm/W
Locking range over temperature**	$T_c$	15		45	15		45	$^{\circ}\text{C}$	
Locking range over power	$P_o$	0.2		2.0	0.9		5.0	W	

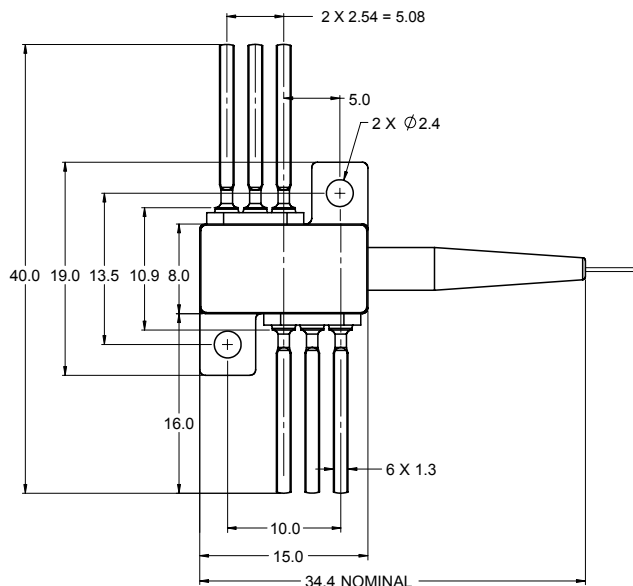
### Mechanical

Case operating temperature	$T_c$	0		50	0		50	$^{\circ}\text{C}$
Case storage temperature	$T_c$	-40		85	-40		85	$^{\circ}\text{C}$
Fiber core diameter			105		200			$\mu\text{m}$
Fiber NA	NA		0.15		0.22			
Fiber length			1.5		1.5			m

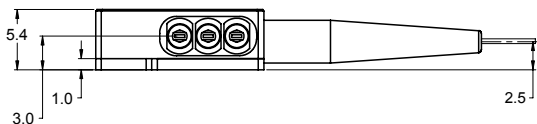
\* All conditions are at 25 $^{\circ}\text{C}$  case temperature unless otherwise noted.

\*\* Power outside of 804-812 nm range is less than 10% of the total power.

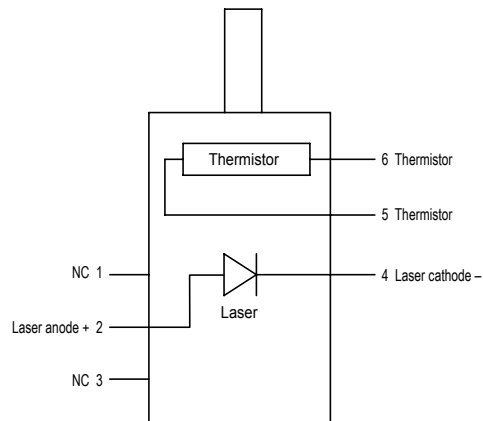
### 6-pin Package Dimensions



All units in mm



### Package Pinout



### Spectrum (typical)

