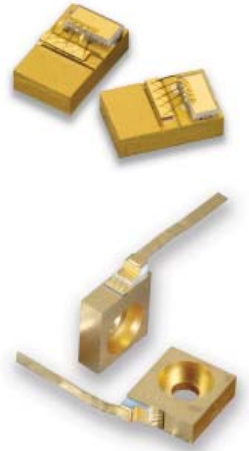




## 808 nm Chip On Carrier Wavelength-Stabilized Lasers

Alfalight diode lasers with Wavelength Stabilization Technology (WST) have a monolithic grating integrated directly onto the semiconductor chip itself. The grating-defined wavelength is stable relative to changes in temperature and drive current while maintaining a narrow spectral width. These lasers do not require any cooling or external components 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 up to 87%.



- On-chip integrated semiconductor grating
- Narrow linewidth (0.5 nm)
- Wide locking range
- C-mount and Q-mount packages
- Nd:YAG and Nd:YVO<sub>4</sub> microlasers
- Alkali pumping

### Device Characteristics\*

Q-mount, C-mount  
AMC-808BW-02-251  
AMQ-808BW-02-251

Electro-Optical	Symbol	Min	Typ	Max	Units
Center wavelength (T = 35°C)	$\lambda_c$		808 ± 1.5		nm
Output power, CW	P <sub>o</sub>		2.5		W
Operating current	I <sub>o</sub>		3.1		A
Forward voltage	V <sub>f</sub>		1.7	1.9	V
Threshold current	I <sub>th</sub>		0.6	0.75	A
Spectral width (FWHM)	$\Delta\lambda$		0.5		nm
Power conversion efficiency	PCE		48%		
Spectral shift over temperature	d $\lambda$ /dT		0.07		nm/°C
Spectral shift over power	d $\lambda$ /dP		0.4		nm/W
Locking range over temperature**	T <sub>c</sub>	15		45	°C
Locking range over power	P <sub>o</sub>	0.2		2.5	W

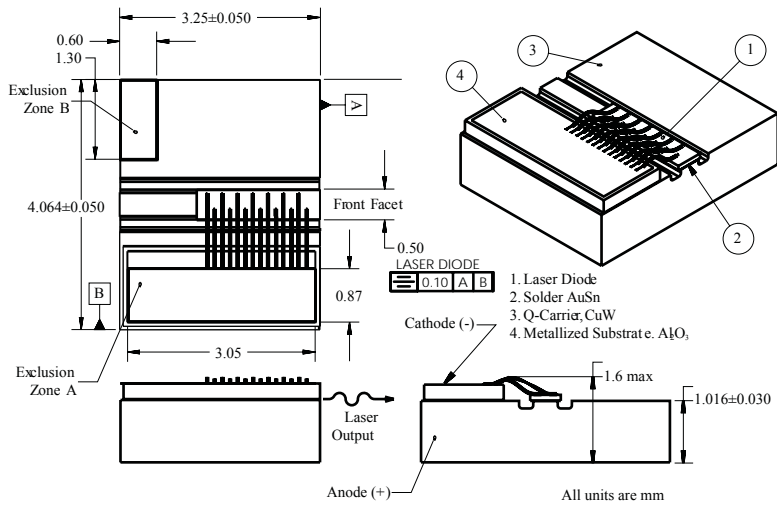
### Mechanical

Case operating temperature	T <sub>c</sub>	0	25	50	°C
Case storage temperature	T <sub>c</sub>	-40		85	°C
Emitter height	h <sub>e</sub>		1		μm
Emitter stripe width	w <sub>e</sub>		94		μm
Cavity length	CL		2.0		mm
Beam divergence			8° × 37°		

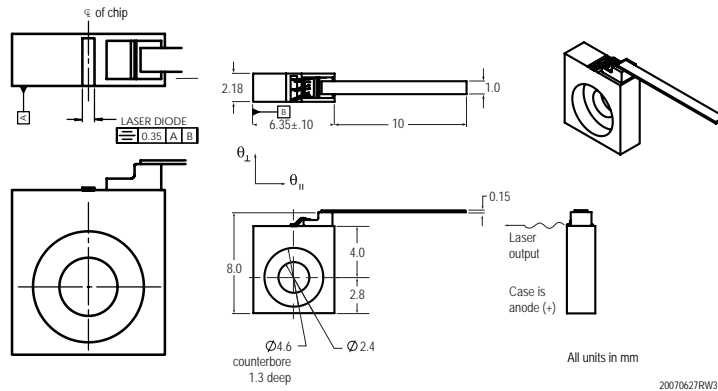
\*All conditions are at 25°C case temperature unless otherwise noted.

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

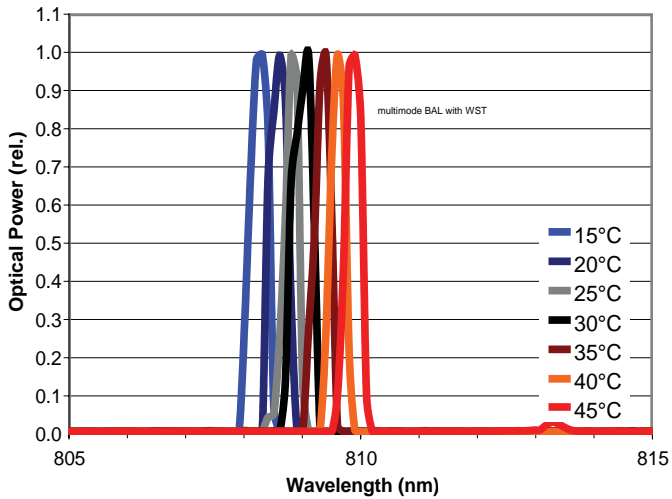
### Q-mount Package Dimensions



### C-mount Package Dimensions



### Spectrum



### Locking Range

