



793 nm Wavelength-Stabilized Lasers

Alfalight's 793 nm pump lasers offer low threshold, high slope efficiency, and excellent stability over temperature. The fiber-coupled devices offer 5.0 watts ex-fiber in high-reliability uncooled GR-468 compliant packages with high-brightness 200 μm , 0.15 NA fiber. Alfalight's Wavelength Stabilization Technology (WST) enables narrow spectral width and minimizes wavelength shift over temperature when pumping high-performance thulium-doped fiber lasers. 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.



- Wavelength Stabilized
- Integrated semiconductor grating
- Narrow linewidth (0.5 nm)
- Wide locking range ($\Delta T > 30^\circ\text{C}$)
- Fiber-coupled 200 μm / 0.15 NA

Device Characteristics*

XM6-793CW-60-501

Electro-Optical	Symbol	Min	Typ	Max	Units
Center wavelength	λ_c	790.0	791.5	793.0	nm
Output power	P_o		5.0		W
Operating current	I_o		6.6		A
Forward voltage	V_o		1.77		V
Threshold current	I_{th}		1.28		A
Spectral width (FWHM)	$\Delta\lambda$		0.5		nm
Power conversion efficiency	PCE		43		%
Spectral shift over temperature	$d\lambda/dT$		0.07		nm/ $^\circ\text{C}$
Spectral shift over power	$d\lambda/dP$		0.2		nm/W
Locking range over temperature**	T	15		45	$^\circ\text{C}$
Locking range over power	P_o	1.0		5.0	W

Temperature

Thermistor value at 25 $^\circ\text{C}$	R_{th}	9.5	10	10.5	k Ω
Thermistor constant, 0 - 50 $^\circ\text{C}$	β		3892		K

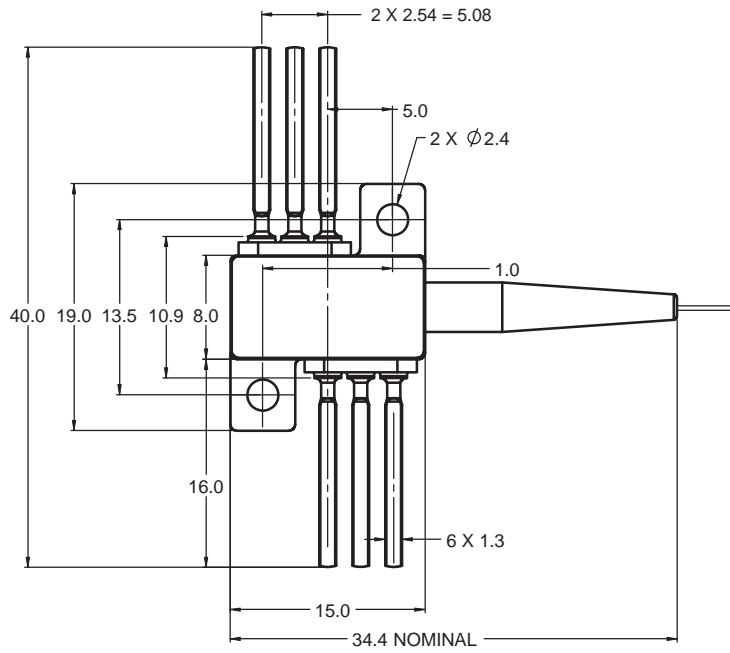
Mechanical

Case operating temperature at P_o	T	0		50	$^\circ\text{C}$
Case storage temperature		-40		85	$^\circ\text{C}$
Fiber core diameter			200		μm
Fiber cladding diameter			220		μm
Fiber NA			0.15		
Fiber length		1.25	1.5	1.8	m

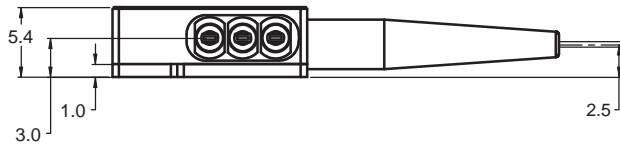
* All conditions are at 25 $^\circ\text{C}$ submount temperature and output power unless otherwise noted.

** Power outside of 787-796 nm range is less than 10% of the total power.

Package Dimensions



All units in mm



Package Pinout

