

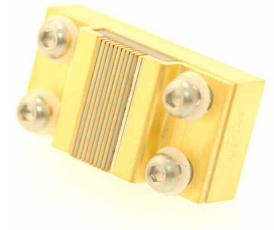
intense

next generation lasers

QCW STACKED ARRAYS

Hermes 1000 W

808 nm High Power QCW Laser Arrays, to 1000 W, for Aerospace, Defense, and Industrial Pumping Applications



The Hermes family of High Power QCW Stacked Arrays combines high reliability with robust, modular packaging and extended operating temperatures. This makes Hermes an ideal choice for the most demanding applications. These arrays are offered in a standard wavelength of 808 nm. Custom wavelengths, power levels, and package configurations are available on request, including 940 nm and multi-color wavelengths.

Hermes lasers are based on Intense's patented **Quantum Well Intermixing (QWI)** technology, which increases the brightness and reliability of the lasers while avoiding the usual problems associated with catastrophic optical mirror damage (COMD).

Assembled using AuSn hard solder, Hermes QCW stacked arrays are designed for a wide range of aerospace, defense, and industrial applications, including range finding, illumination, designation, and pumping.

Typical Specifications @ 25°C

Hermes		400W	600W	800W	1000W
Peak Output Power	(W)	> 400	> 600	> 800	> 1000
Operating Voltage	(V)	< 8	< 12	< 16	< 20
Number of Bars		4	6	8	10
Emitters per Bar		38			
Emitter Size/Pitch		100 µm / 250 µm			
		Min	Typ	Max	
Center Wavelength	(nm)	803	808	813	
Optional Wavelengths	(nm)	940, multi-color, custom			
Spectral Width	(nm)		3	5	(FWHM)
Wavelength Shift	(nm/K)		0.28		
Beam Divergence	(°)		36	40	(vertical)
Beam Divergence	(°)		12	14	(horizontal)
Stack Pitch	(µm)	412	417	422	
Operating Temp	(°C)	15		65	
Storage Temp	(°C)	-20		85	
Operating Current	(A)		100		
Nominal Frequency	(Hz)		100		
Pulse Width	(µs)		200		
Duty Cycle	(%)			2	
Conversion Efficiency	(%)		50		
Threshold Current	(A)		7	8	
Voltage Isolation	(V)			500	

Hermes 10-Bar Stacked Array has been qualified to military standard MIL-STD-810F, Methods 501.4, 503.4, 514.5, and 516.5.



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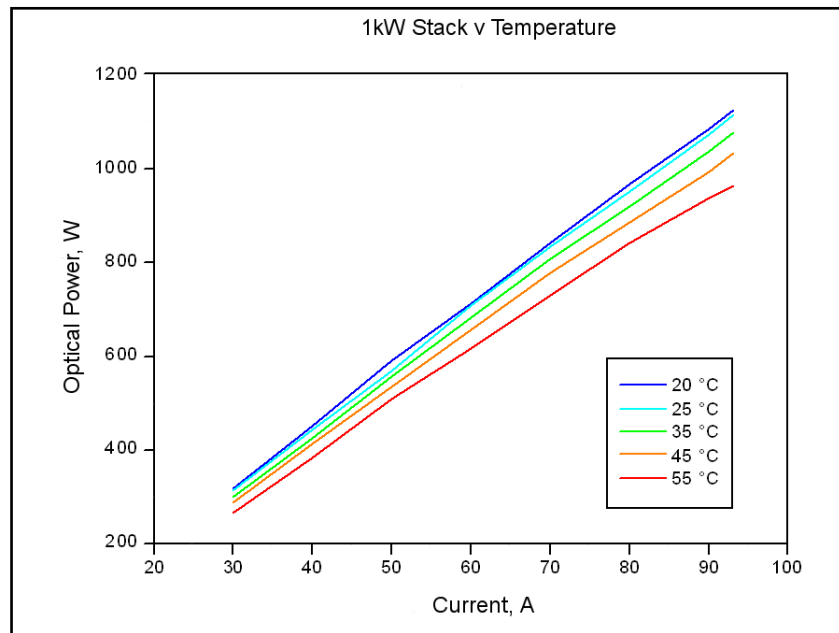


Figure 1. Typical LI Curve vs Temperature, 808 nm 10-Bar Stacked Array

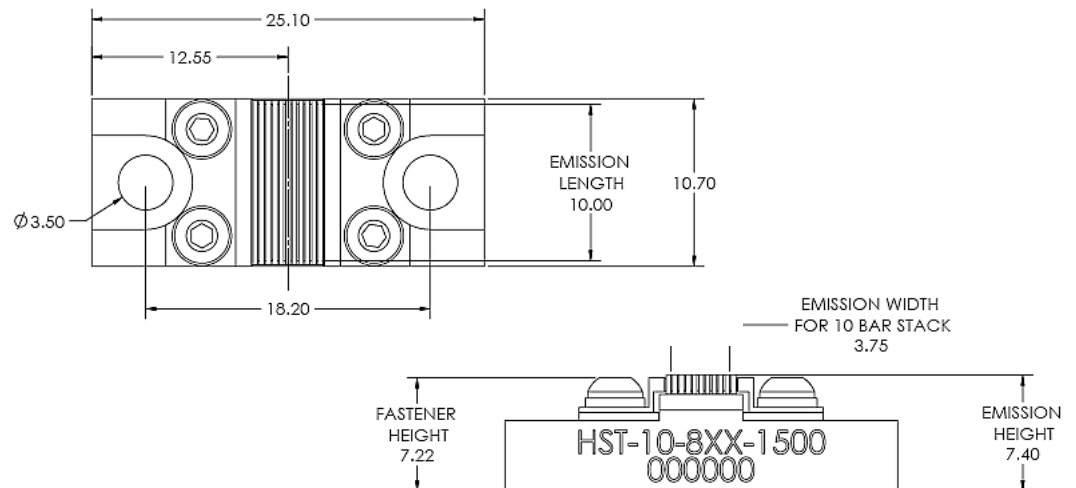


Figure 2. 10-Bar Stacked Array Dimension Drawing (G-package version)

Safety

Intense Aluminum Gallium Arsenide lasers emit infrared radiation. This radiation is invisible to the human eye and safety precautions must be taken to prevent potential eye damage. Do not view or stare at operating lasers. If viewing is required, use a matte surface or suitable viewing screen.

Disclaimer

Intense reserves the right to make changes at any time as necessary to improve the design and to supply the best product. The information provided is believed to be accurate at the time of printing. No responsibility is assumed for its use or on the infringements on the rights of others.