

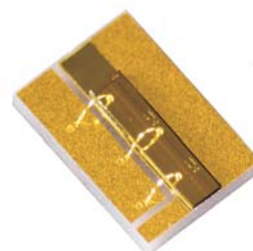
## LU0845S300

### Pump Laser Chip on Submount

# 300mW operation power

#### Features:

- Wavelength 840 - 860nm
- Kink-free power up to 360mW
- Proven reliability for high power operation
- Suited for cooled operation



#### Description / Applications:

The Lumics LU0845S300 laser chip on submount contains an optimized GaAs/AlGaAs/GaNAsP quantum well high power laser. It has been specifically designed for industrial applications. The extremely stringent reliability requirements are achieved through our patent pending innovative technology. This includes careful design, exactly defined manufacturing and extensive testing. The qualification contains a set of optoelectronic, thermal and mechanical tests. Each laser chip is individually serialized for traceability and is shipped with a specified set of test data.

#### Characteristics ( $T_{op}=20^{\circ}\text{C}$ )

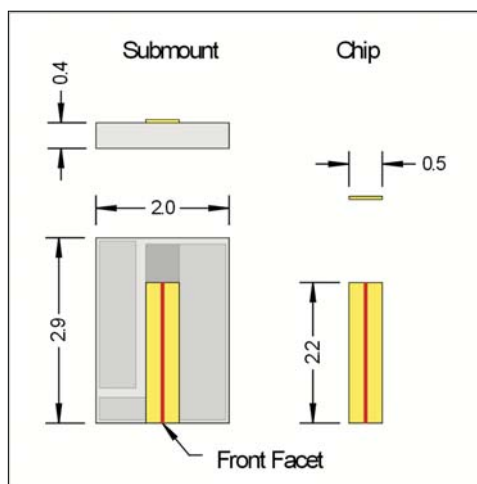
Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Operating Power	spec.	$P_{op}$	300		480	mW
Operating Forward Current		$I_{op}$		440	500	mA
Threshold Current		$I_{th}$		90	120	mA
Forward Voltage	at $I_{op}, T_{op}$	$V_{op}$		1.8	2.0	V
Slope Efficiency	at $I_{op}, T_{op}$	$\eta_{diff}$	0.88	0.95		W/A
Peak Wavelength	at $I_{op}, T_{op}$	$\lambda_{peak}$	840	845	855	nm
Spectral Width (FWHM)	at $I_{op}, T_{op}$	$\lambda_{rms}$		1	3	nm
Lateral Farfield	at $I_{op}, T_{op}$	$\Delta\Theta_{  }$	5	6	8	deg
Vertical Farfield	at $I_{op}, T_{op}$	$\Delta\Theta_{\perp}$	22	25	28	deg
AR Reflectivity		$r_f$		1		%
HR Reflectivity		$r_r$		95		%
Spectral Shift with Current		$\lambda_{I\_Shift}$		0.011		nm/mA
Spectral Shift with Temp.		$\lambda_{T\_Shift}$		0.3		nm/K

## Absolute Maximum Ratings:

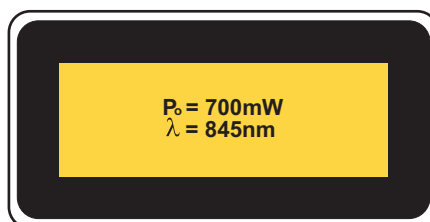
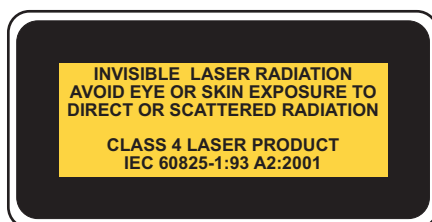
Parameter	Symbol	Min	Max	Unit
Forward Current	$I_{F,max}$		550	mA
Reverse Voltage	$V_{R,max}$		0.3	V
Operating Temperature	$T_{op}$	-10	50	°C
Storage Temp.	$T_{max}$	-40	85	°C
Processing Temp. Submount, max. 10sec.	$T_{S,max}$		260	°C

Extended wavelength range from 920nm to 1060nm on request.

## Drawing of Chip on Submount (dimensions in mm):



Customized versions with other submount sizes, operation power levels and wavelengths are available on request.



Complies with 21 CFR1040.10

For further information and ordering details please contact Lumics at:

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