

Product Specification Sheet

1940 nm high-power semiconductor laser diode chip

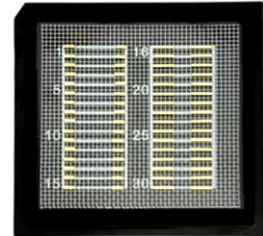


1940 nm high-power semiconductor laser diode chip

(HH-UMC-190-1940-TE-2-3.0-D1)

Performance characteristics Typical applications

- Multiquantum well
- High power
- High efficiency
- High reliability
- Medium- and high-power industrial fiber laser pumping
- Biomedical
- Laser equipment
- Scientific research

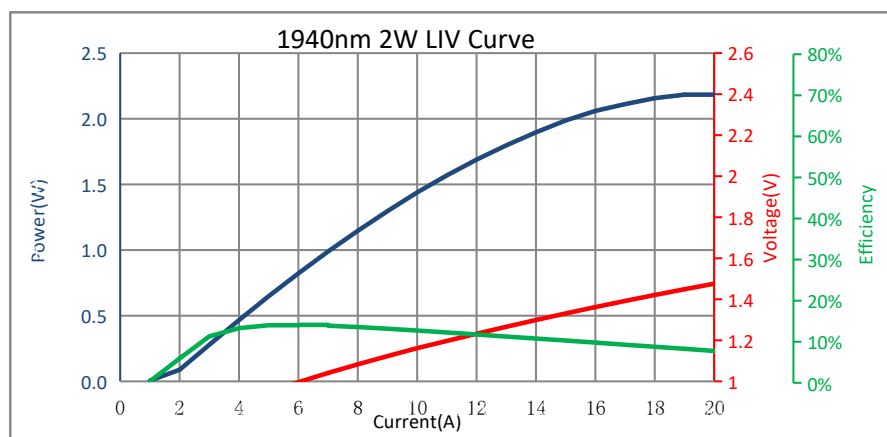
Optoelectronic performance (@T_c=25±3°C)

Model: HH-UMC-190-1940-TE-2-3.0-D1					
Item	Symbol	Min	Typ	Max	Unit
Operation					
Central Wavelength 中心波长 (CW)	λ	1930	1940	1950	[nm]
Optical output power 输出功率	P _{opt}		2		[W]
Operation mode 工作模式			CW		
Power modulation 功率调制率			100		[%]
Geometrical					
Emitter Width 出光窗口宽度	W		190		[μm]
Emitter Pitch 发光点周期	P		400		[μm]
Cavity Length 腔长	L	2990	3000	3010	[μm]
Thickness 厚度	D	110	130	150	[μm]
Electro Optical Data					
Fast Axis Divergency (FWHM) 快轴发散角	$\theta_{\perp}$		52	53	[deg]
Slow Axis Divergency (FWHM) 慢轴发散角	$\theta_{\parallel}$		12	13	[deg]
Spectral Bandwidth (FWHM) 光谱宽度	$\Delta\lambda$		11		[nm]
Pulse Wavelength 脉冲波长	λ		1940		[nm]
Slope Efficiency 斜率效率	η		0.18		[W/A]
Conversion efficiency 转换效率			10		[%]
Threshold Current 阈值电流	I _{th}		1.6	1.8	[A]
Operating Current 工作电流	I _{op}		15	16	[A]
Operating Voltage 工作电压	V _{op}		1.35	1.45	[V]
Polarization 偏振			TE		
LD Operating Temperature 工作温度		15	25	35	[°C]

Limit parameters

Parameter name	Symbology	Rated value	Unit
Operating temperat	Tc	-20 ~ +60	°C
Storage temperature	Tstg	-40 ~ +125	°C
Maximum output p	Pmax	3	W
Maximum forward current	If	20	A

Test curve



LIV curve

Notes:

1. Unit: micrometers
2. Light-emitting area width: 190 micrometers
3. P electrode: on the front side of the chip, electrode thickness 0.3 micrometers $\pm$ 0.03 micrometers
4. N electrode: on the back of the chip, electrode thickness 0.6 micrometers $\pm$ 0.03 micrometers

Notes

Necessary ESD protection measures should be taken to prevent the chip from being damaged by static electricity.

The chip is fragile; handle with extreme care when handling. It is recommended to use a vacuum suction method to handle the chip. Soldering force, temperature, and other parameters should be carefully set to avoid damaging the chip.



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