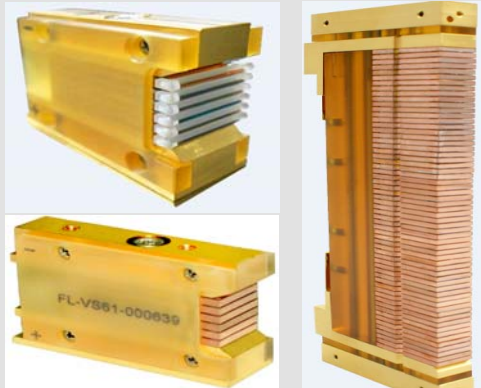


FocusEngine™

Micro-Channel Water Cooled Vertical Stack Diode Laser (QCW)

MCC



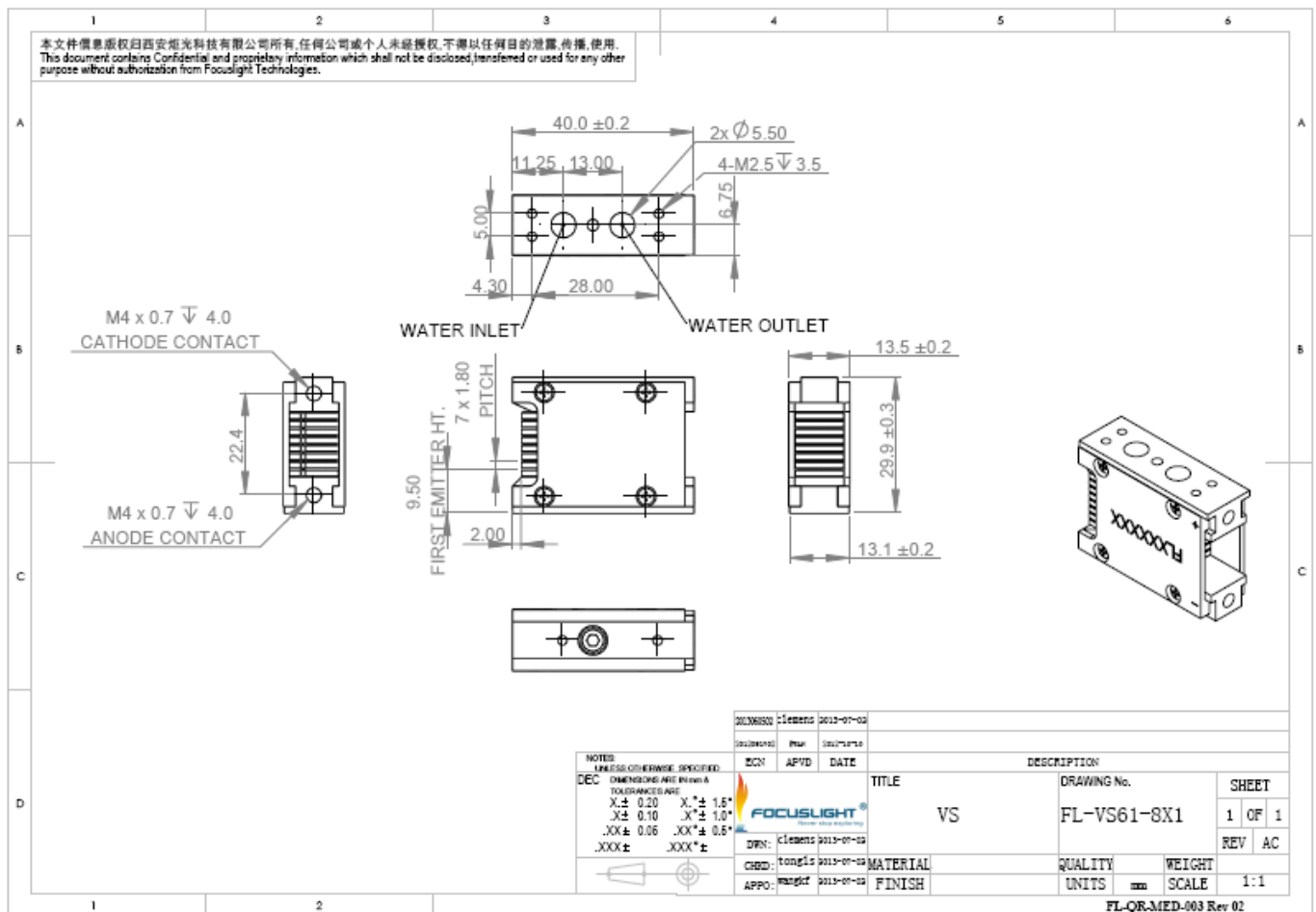
Features

- Long lifetime
- Uniform beam profile
- High power

Applications

- Pumping
- Scientific research
- Industry

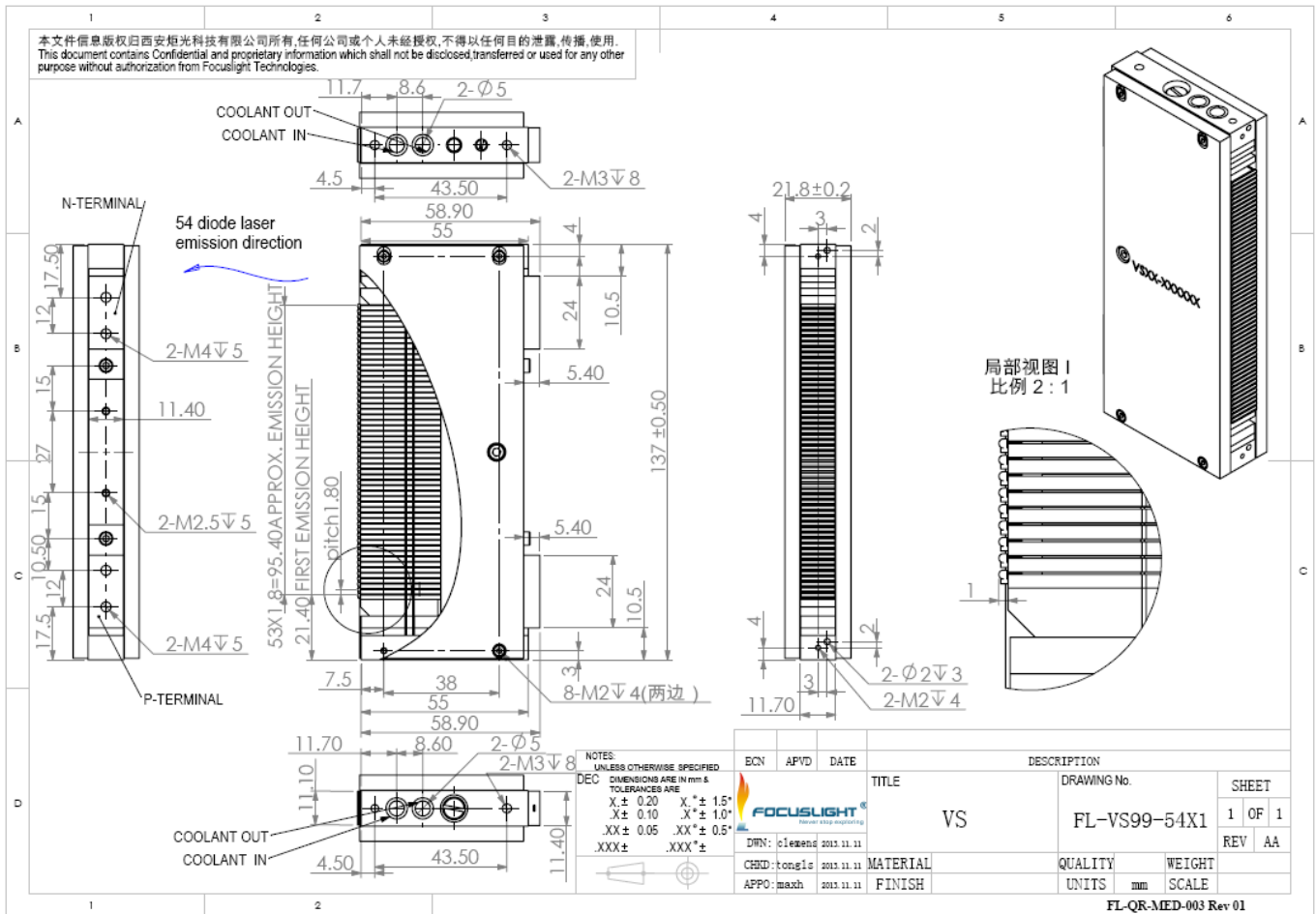
Device Dimension (mm)



1 This structure drawing is only for reference. More structure drawings can be found below the datasheet. For any other special requirement, please feel free to contact us.

2 Drawings for 1-12 bars are available. Please contact Focuslight for details.

Device Dimension (mm)



1 This structure drawing is only for reference. More structure drawings can be found below the datasheet. For any other special requirement, please feel free to contact us.

2 Drawings for 1-60 bars are available. Please contact Focuslight for details.

Specification

Module Type ¹	Units	FL-VS**-N- ##-808(Q)	FL-VS**-N- ##-808(Q)	FL-VS**-N- ##-940(Q)	FL-VS**-N- ##-940(Q)
Optical ²					
Center Wavelength λ	nm	808	808	940	940
Wavelength Tolerance	nm	± 3	± 3	± 5	± 5
Output Power per Bar ³	W	300	350	250	300
Number of Bars	#	1~60	1~60	1~60	1~60
Bar-to-Bar Spacing	mm	1.8	1.8	1.8	1.8
Spectral Width FWHM	nm	≤ 5	≤ 5	≤ 5	≤ 5
Spectral Width FW90%E	nm	≤ 8	≤ 8	≤ 8	≤ 8
Fast Axis Divergence(95%) ^{4,9}	degree	70	70	55	55
Slow Axis Divergence (95%) ⁵	degree	16	16	12	12
Pulse Width	ms	≤ 0.2	≤ 0.2	≤ 0.2	≤ 0.2
Duty Cycle	%	≤ 10	≤ 10	≤ 10	≤ 10
Polarization Mode	-	TE	TE	TE	TE
Wavelength Temp. Coefficient	nm/°C	~ 0.28	~ 0.28	~ 0.32	~ 0.32
Electrical Parameters ³					
Operating Current I_{op}	A	≤ 280	≤ 330	≤ 270	≤ 325
Threshold Current I_{th}	A	≤ 30	≤ 30	≤ 30	≤ 30
Operating Voltage V_{op} ⁶	V	≤ 2.5	≤ 2.5	≤ 2.2	≤ 2.2
Slope Efficiency ⁶	W/A	≥ 1.1	≥ 1.1	≥ 1.1	≥ 1.1
Power Conversion Efficiency	%	≥ 50	≥ 50	≥ 50	≥ 50
Thermal Parameters					
Operating Temperature ⁷	°C	20~30	20~30	20~30	20~30
Storage Temperature ⁸	°C	0~55	0~55	0~55	0~55
Coolant	-	Deionized Water	Deionized Water	Deionized Water	Deionized Water
Flow Rate/Bar	L/min	0.2-0.4	0.2-0.4	0.2-0.4	0.2-0.4
Max Inlet Pressure	kPa	380	380	380	380
Conductivity	$\mu\text{s}\cdot\text{cm}^{-1}$	< 5	< 5	< 5	< 5

¹Explanation for the name of Module Type: FL(abbreviation of Focuslight) - VS**(structure code) -N(Number of Bars) -##(Power) -808(center wavelength).

²Data at 25°C temperature, unless otherwise stated.

³Standard power configuration : 200W/Bar, 250W/Bar, 300 W/Bar

⁴For fast axis collimation: divergence $< 0.5^\circ$.

⁵Fill factor $< 30\%$, slow axis collimation $\leq 5^\circ$; fast and slow axis collimation at the same time is available.

⁶Parameters for single Bar

⁷ If exceed operating temperature, the device lifetime will be impacted, which will cause wavelength drift

⁸ Please avoid use and storage in the condensation environment

⁹ For smile requirements, please contact us.

Please feel free to contact with Focuslight if you have any requirement

Specification

Module Type ¹	Units	FL-VS**-N- ##-940(Q)	FL-VS**-N- ##-940(Q)	FL-VS**-N- ##-940(Q)
Optical ^{3,7}				
Center Wavelength λ	nm	940	940	940
Wavelength Tolerance	nm	± 5	± 5	± 5
Output Power per Bar ²	W	200	250	300
Number of Bars	#	1~60	1~60	1~60
Bar-to-Bar Spacing	mm	1.8	1.8	1.8
Spectral Width FWHM	nm	≤ 6	≤ 6	≤ 6
Spectral Width FW90%E	nm	≤ 8	≤ 8	≤ 8
Fast Axis Divergence(95%) ^{4,6}	degree	55	55	55
Slow Axis Divergence (95%)	degree	12	12	12
Pulse Width	ms	≤ 0.2	≤ 0.2	≤ 0.2
Duty Cycle	%	≤ 10	≤ 10	≤ 10
Polarization Mode	-	TE	TE	TE
Wavelength Temp. Coefficient	nm/°C	~ 0.32	~ 0.32	~ 0.32
Electrical Parameters ^{3,7}				
Operating Current I_{op}	A	≤ 220	≤ 270	≤ 325
Threshold Current I_{th}	A	≤ 30	≤ 30	≤ 30
Operating Voltage V_{op}	V	≤ 2	≤ 2	≤ 2.2
Slope Efficiency	W/A	≥ 1.1	≥ 1.1	≥ 1.1
Power Conversion Efficiency	%	≥ 50	≥ 50	≥ 50
Thermal Parameters				
Operating Temperature	°C	20~30	20~30	20~30
Storage Temperature ⁵	°C	0~55	0~55	0~55
Coolant	-	Deionized Water	Deionized Water	Deionized Water
Flow Rate/Bar	L/min	0.2-0.4	0.2-0.4	0.2-0.4
Max Inlet Pressure	kPa	380	380	380
Conductivity	$\mu\text{s}\cdot\text{cm}^{-1}$	< 5	< 5	< 5

1

Explanation for the name of Module Type: FL(abbreviation of Focuslight) -VS**(structure code) -N(Number of Bars) -##(Power) -808(center wavelength)(QCW)

²Reduced lifetime if used above nominal operating conditions.

³Data at 25°C temperature, unless otherwise stated.

⁴For fast axis collimation: divergence $< 0.5^\circ$.

⁵A non-condensing environment is required for storage and operation below ambient dew point

⁶For smile requirements, please contact us.

⁷If there are any other requirements, please contact us.



Focuslight Technologies Inc.

Add: 56 Zhangba 6th Road, High-Tech Zone
Xi'an, Shaanxi 710077, P. R. China

Tel: +86 29 8956 0050

Fax: +86 29 8177 5810

Email: sales@focuslight.com.cn

Website: www.focuslight.com.cn

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