

Datasheet: Necsel™ Red High Power FC Bar

These specifications are for the Necsel red high power fiber-coupled bar package. The centroid of the wavelength spectrum will be within the indicated wavelength range.



| Model # | Symbol | Min. (nm) | Typical (nm) | Max. (nm) |
|---------------|-----------|-----------|--------------|-----------|
| Red-HP-FC-65x | λ | 653 | 657 | 661 |

Operating Wavelengths

| Laser Parameter | Symbol | Min. | Typical | Max. | Unit |
|--|------------------|------|---------|------|-------|
| Operating Power (CW) | P_{op} | - | 6.0 | - | W |
| Module Operating Temperature [non-condensing atmosphere] | $T_{Thermistor}$ | - | 25 | 30 | °C |
| Center Wavelength [at 25°C and P_{op}] | λ | 653 | 657 | 661 | nm |
| Spectral Width @ FWHM | $\Delta\lambda$ | - | 1 | 3 | nm |
| Wavelength Temperature Coefficient | - | - | 0.2 | - | nm/°C |
| Threshold Current | I_{th} | - | 3.5 | - | A |
| Slope Efficiency | η | - | 0.8 | - | W/A |

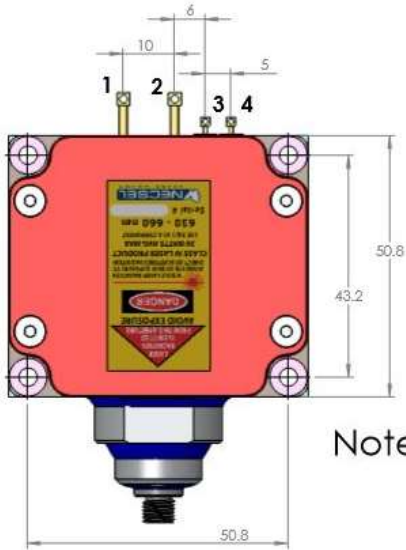
Power Supply Requirements

| | | | | | |
|-------------------|----------|---|-----|-----|---|
| Operating Voltage | V_{op} | - | 2.4 | 3.0 | V |
| Operating Current | I_{op} | - | 10 | 12 | A |

Fiber Specifications

| | | | | |
|--|--|---------|--|----|
| Fiber Core Diameter (Centration $\leq 10 \mu\text{m}$) | | 0.400 | | mm |
| Connector Type (Nose length 0.3850 - 0.3863 in., 9.779 – 9.812 mm) | | SMA-905 | | |
| Numerical Aperture | | 0.22 | | |

Outline Drawing and Electrical Connections

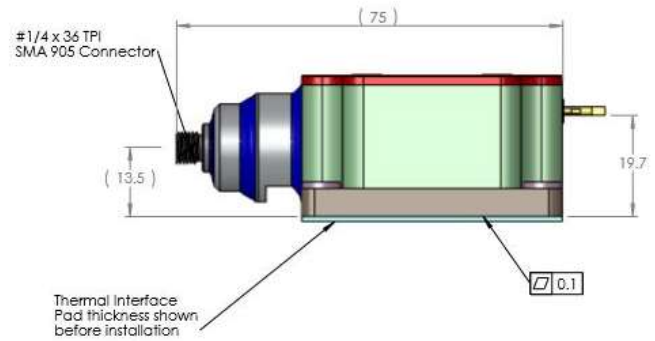
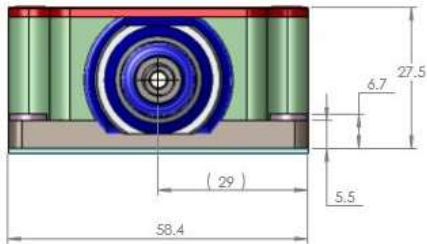


| Electrical Connection | |
|-----------------------|-------------|
| Contact # | Description |
| 1 | Laser (+) |
| 2 | Laser (-) |
| 3 | Thermistor |
| 4 | Thermistor |



Note: Package is electrically positive

nylon shoulder washer electrical insulator shown in all views



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Datasheet: Necsel™ Red High Power CS Mounted Bar

These specifications are for the Necsel red high power CS mounted bar with FAC/SAC lensing. The centroid of the wavelength spectrum will be within the indicated wavelength range.



| Model # | Symbol | Min. (nm) | Typical (nm) | Max. (nm) |
|------------|-----------|-----------|--------------|-----------|
| Red-HP-65x | λ | 653 | 657 | 661 |

Operating Wavelengths

| Laser Parameter | Symbol | Min. | Typical | Max. | Unit |
|--|------------------|------|---------|------|-------|
| Operating Power (CW) | P_{op} | - | 7.0 | - | W |
| Module Operating Temperature [non-condensing atmosphere] | $T_{Thermistor}$ | - | 25 | 30 | °C |
| Center Wavelength [at 25°C and P_{op}] | λ | 653 | 657 | 661 | nm |
| Spectral Width @ FWHM | $\Delta\lambda$ | - | 1 | 3 | nm |
| Wavelength Temperature Coefficient | - | - | 0.2 | - | nm/°C |
| Threshold Current | I_{th} | - | 3.5 | - | A |
| Slope Efficiency | η | - | 0.95 | - | W/A |

Array Specifications

| | | | | | |
|------------------------|----------|----|-----|----|---------------|
| Number of Output Beams | N | 18 | 20 | 20 | - |
| Emitting Area Width | W_{ea} | - | 40 | - | μm |
| Emitting Area Period | L_{ea} | - | 200 | - | μm |
| Fill Factor | FF | - | 20 | - | % |

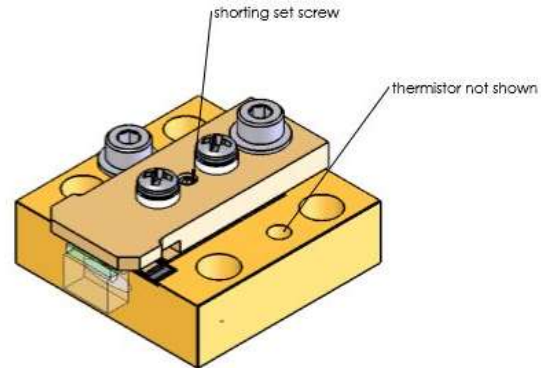
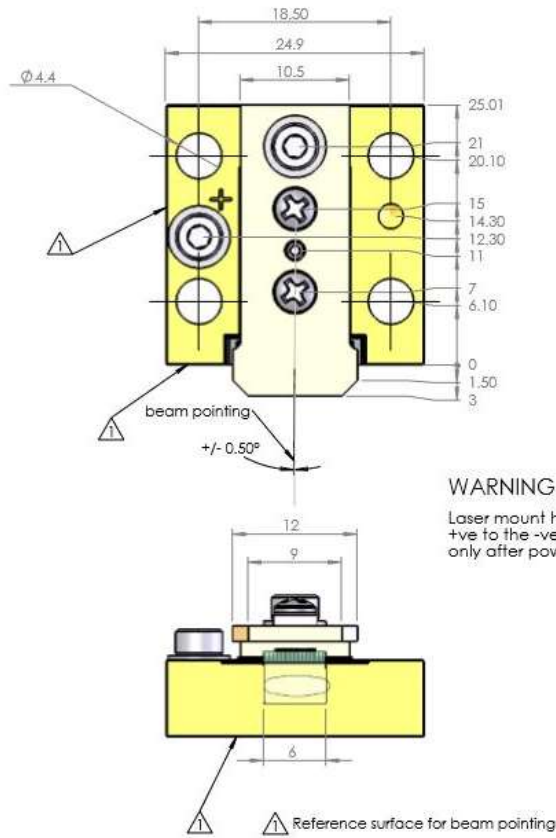
Lensing

| | | | | | |
|-----------------------|-----|---|----|----|------|
| Fast-Axis Collimation | FAC | - | 3 | 4 | mRad |
| Slow-Axis Collimation | SAC | - | 33 | 40 | mRad |

Power Supply Requirements

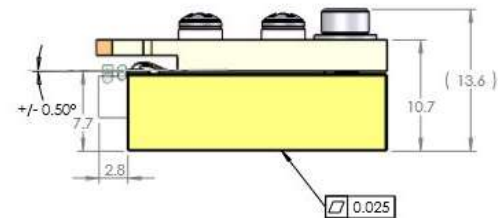
| | | | | | |
|-------------------|----------|---|-----|-----|---|
| Operating Voltage | V_{op} | - | 2.4 | 3.0 | V |
| Operating Current | I_{op} | - | 10 | 12 | A |

Outline Drawing and Electrical Connections



WARNING: ESD SENSITIVE DEVICE.

Laser mount has a set screw connecting the +ve to the -ve terminals. Remove set screw only after power supply is connected.



NOTE:
Lens Position actively aligned to achieve a residual beam divergence of <40 mRad horizontally and <4 mRad vertically.
Beam pointing shall be $<\pm 0.5$ degrees in the vertical and horizontal axes.

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