

**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 | $\lambda$ | 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 $P_{op}$ ]                | $\lambda$        | 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   | $\eta$           | -    | 0.95    | -    | W/A   |

**Array Specifications**

| Parameter              | Symbol   | Min. | Typical | Max. | Unit          |
|------------------------|----------|------|---------|------|---------------|
| Number of Output Beams | N        | 18   | 20      | 20   | -             |
| Emitting Area Width    | $W_{ea}$ | -    | 40      | -    | $\mu\text{m}$ |
| Emitting Area Period   | $L_{ea}$ | -    | 200     | -    | $\mu\text{m}$ |
| Fill Factor            | FF       | -    | 20      | -    | %             |

**Lensing**

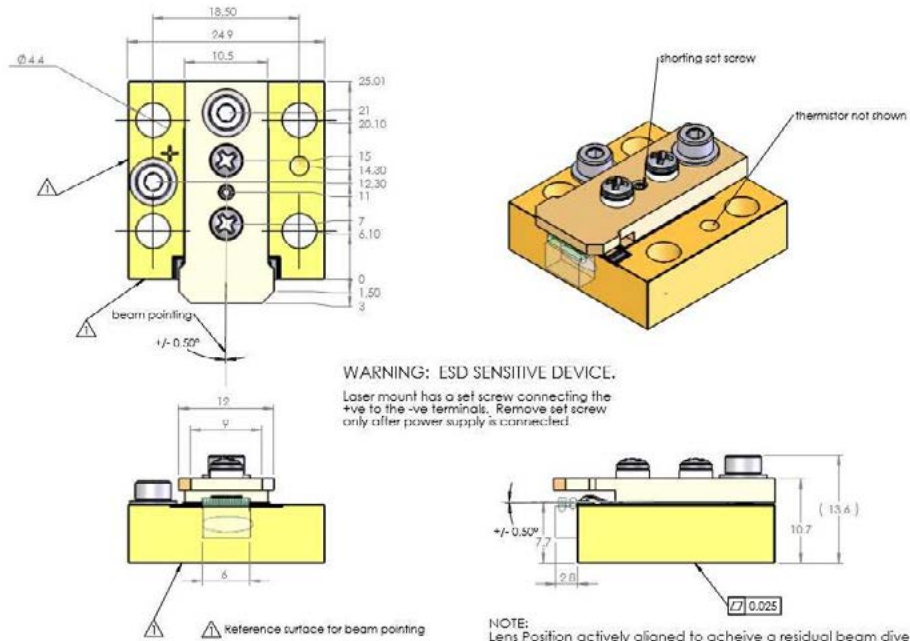
| Parameter             | Symbol | Min. | Typical | Max. | Unit |
|-----------------------|--------|------|---------|------|------|
| Fast-Axis Collimation | FAC    | -    | 3       | 4    | mRad |
| Slow-Axis Collimation | SAC    | -    | 33      | 40   | mRad |

**Power Supply Requirements**

| Parameter         | Symbol   | Min. | Typical | Max. | Unit |
|-------------------|----------|------|---------|------|------|
| Operating Voltage | $V_{op}$ | -    | 2.4     | 3.0  | V    |
| Operating Current | $I_{op}$ | -    | 10      | 12   | A    |

**USHIO**

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 disconnected.

**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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