

# High Power Fiber Coupled Diode Laser

## FCMSE58 Series



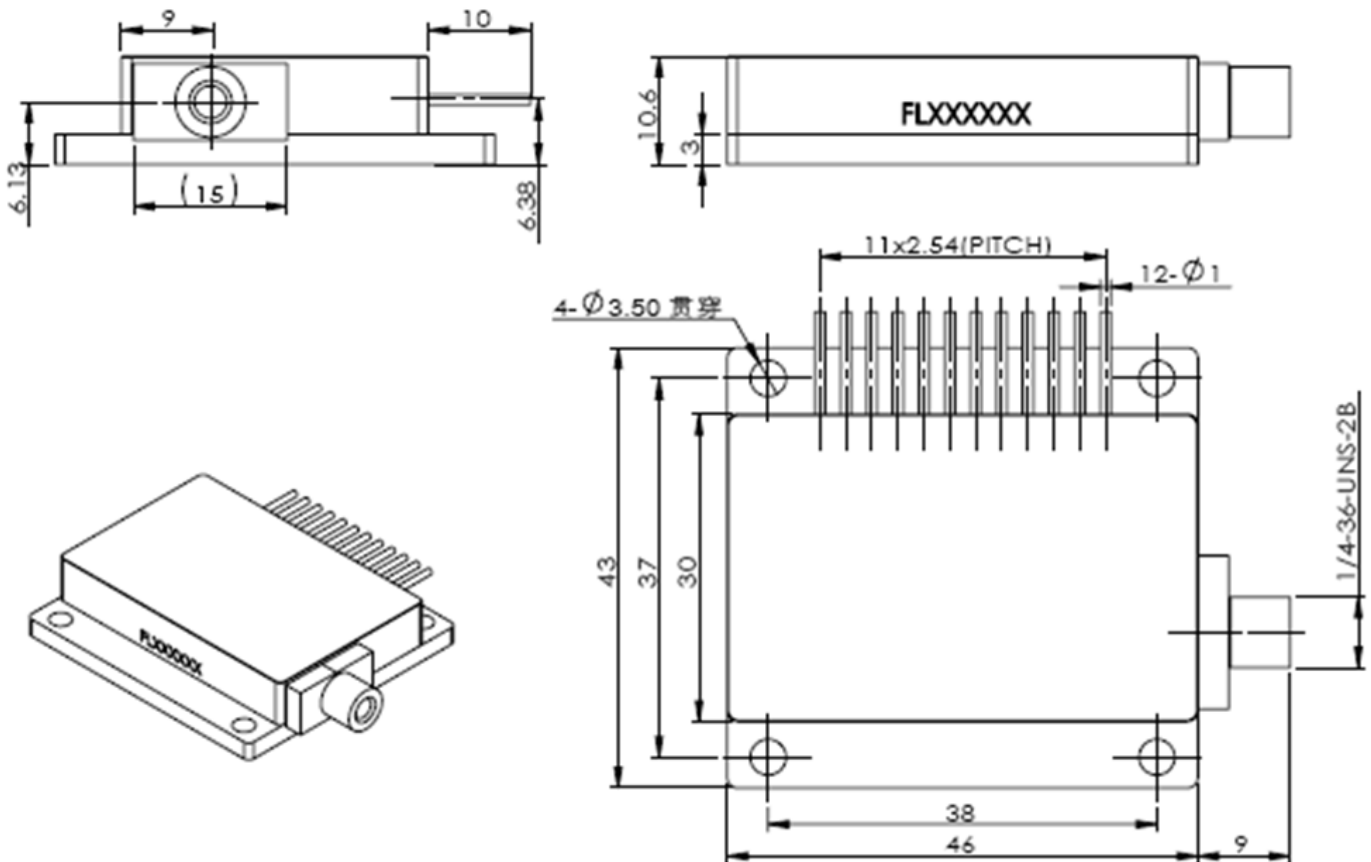
### Features

- High brightness
- High power
- Compact housing
- Hermetically sealed housing
- Conduction Cooling

### Applications

- Advanced Manufacturing
- Health
- Information Technology
- Scientific Research

### Product Dimensions (mm)



**Remark:** The structure drawing is for reference only. Please feel free to contact us for any special requirements.

## Product Specifications

| Product Code                                 |                 | FCE000018             | FCE000013 <sup>2</sup>         |       |
|----------------------------------------------|-----------------|-----------------------|--------------------------------|-------|
| Part No. <sup>1</sup>                        |                 | FL-FCMSE58-25-808-200 | FL-FCMSE58-8(808)/15(1064)-200 |       |
| Optical Data                                 | Unit            | Value                 |                                |       |
| CW-nominal output power                      | W               | 25                    | 8                              | 15    |
| Centroid wavelength                          | nm              | 808                   | 808                            | 1064  |
| Wavelength tolerance (±)                     | nm              | 3                     | 5                              | 10    |
| Spectral width (FWHM)                        | nm              | ≤4                    | /                              | /     |
| Wavelength Temp. drift                       | nm/°C           | ~0.28                 | ~0.34                          | ~0.28 |
| Feedback Protection (1040nm-1100nm)          | dB              | /                     | /                              |       |
| Fiber connection                             |                 |                       |                                |       |
| Fiber included                               |                 | Yes (FP03)            | /                              |       |
| Fiber core diameter                          | μm              | 200                   | 200                            |       |
| Numerical aperture                           |                 | 0.22                  | 0.22                           |       |
| Fiber optic connector <sup>3</sup>           |                 | SMA905(SH/SF)         | SMA905(SH/SF)                  |       |
| Fiber length                                 | m               | 1.5±0.1               | /                              |       |
| Fixed fiber/Detachable fiber                 |                 | Detachable fiber      | /                              |       |
| Operation Conditions                         |                 |                       |                                |       |
| Nominal diode heat sink Temp.                | °C              | 25                    | 25                             |       |
| Diode heat sink operation Temp. <sup>4</sup> | °C              | +20 ... +30           | +20 ... +30                    |       |
| Minimum heat sink capacity                   | W               | 75                    | 75                             |       |
| Electrical Data                              |                 |                       |                                |       |
| Max. operation current start of life         | A               | ≤9.2                  | ≤10.5                          | ≤13.5 |
| Typical threshold current                    | A               | ≤1.8                  | ≤1.8                           | ≤1.2  |
| Typical operation voltage                    | V               | ≤8                    | ≤2.1                           | ≤4    |
| Typical slope                                | W/A             | ≥2.8                  | ≥0.8                           | ≥0.55 |
| Typical E/O efficiency                       | %               | ≥40                   | ≥35                            | ≥28   |
| Package                                      |                 |                       |                                |       |
| Dimensions                                   | mm <sup>3</sup> | 55×43×10.6            | 55×43×10.6                     |       |
| Weight basic package                         | g               | 110                   | 110                            |       |
| Storage Temp.                                | °C              | -20 ... +80           | -20 ... +80                    |       |
| Additional Features                          |                 |                       |                                |       |
| Temp. sensors                                |                 | NTC(10kΩ@25°C)        | NTC(10kΩ@25°C)                 |       |
| Monitor diode (driver: 9V)                   | mA              | /                     | 0 ... 15                       |       |
| Pilot beam (driver: 5V, < 30mA)              |                 | /                     | > 2mW, 670±20nm                |       |
| Fiber detection sensor                       |                 | /                     | /                              |       |
| Measurement                                  |                 |                       |                                |       |
| Fiber                                        |                 | AR coated, 200μm      | AR coated, 200μm               |       |
| Diode heat sink Temp.                        | °C              | 25                    | 25                             |       |

<sup>1</sup> Part No. = Brand Code - Series - Power - Centroid Wavelength - Fiber core diameter.

<sup>2</sup> Typical customization of products.

<sup>3</sup> SF: flat end, SH: air gap.

<sup>4</sup> Operation beyond recommended temperature may cause lifetime reduction or even damage to the product.



## Product Specifications

| Product Code                                 |                 | FCE000023             | FCE000035 <sup>2</sup> |
|----------------------------------------------|-----------------|-----------------------|------------------------|
| Part No. <sup>1</sup>                        |                 | FL-FCMSE58-30-976-200 | FL-FCMSE58-16-980-200  |
| Optical Data                                 |                 |                       |                        |
| CW-nominal output power                      | W               | 30                    | 16                     |
| Centroid wavelength                          | nm              | 976                   | 980                    |
| Wavelength tolerance (±)                     | nm              | 5                     | 15                     |
| Spectral width (FWHM)                        | nm              | ≤6                    | /                      |
| Wavelength Temp. drift                       | nm/°C           | ~0.34                 | ~0.34                  |
| Feedback Protection (1040nm-1100nm)          | dB              | /                     | /                      |
| Fiber connection                             |                 |                       |                        |
| Fiber included                               |                 | Yes (FP03)            | Yes (FP03)             |
| Fiber core diameter                          | μm              | 200                   | 200                    |
| Numerical aperture                           |                 | 0.22                  | 0.22                   |
| Fiber optic connector <sup>3</sup>           |                 | SMA905 (SH/SF)        | SMA905 (SH/SF)         |
| Fiber length                                 | m               | 1.5±0.1               | 1.5±0.1                |
| Fixed fiber/Detachable fiber                 |                 | Detachable fiber      | Detachable fiber       |
| Operation Conditions                         |                 |                       |                        |
| Nominal diode heat sink Temp.                | °C              | 25                    | 25                     |
| Diode heat sink operation Temp. <sup>4</sup> | °C              | +20 ... +30           | +20 ... +30            |
| Minimum heat sink capacity                   | W               | 75                    | 75                     |
| Electrical Data                              |                 |                       |                        |
| Operation current                            | A               | ≤9.5                  | ≤10                    |
| Typical threshold current                    | A               | ≤0.7                  | ≤0.7                   |
| Typical operation voltage                    | V               | ≤8                    | ≤4                     |
| Typical slope                                | W/A             | ≥3.3                  | ≥0.75                  |
| Typical E/O efficiency                       | %               | ≥47                   | ≥45                    |
| Package                                      |                 |                       |                        |
| Dimensions                                   | mm <sup>3</sup> | 55×43×10.6            | 55×43×10.6             |
| Weight basic package                         | g               | 110                   | 110                    |
| Storage Temp.                                | °C              | -20 ... +80           | -20 ... +80            |
| Additional Features                          |                 |                       |                        |
| Temp. sensors                                |                 | NTC(10kΩ@25°C)        | NTC(10kΩ@25°C)         |
| Monitor diode (driver: 9V)                   | mA              | 0 ... 15              | 0 ... 15               |
| Pilot beam (driver: 5V, < 30mA)              |                 | > 2mW, 670±20nm       | > 2mW, 670±20nm        |
| Fiber detection sensor                       |                 | Yes                   | Yes                    |
| Measurement                                  |                 |                       |                        |
| Fiber                                        |                 | AR coated, 200μm      | AR coated, 200μm       |
| Diode heat sink Temp.                        | °C              | 25                    | 25                     |

<sup>1</sup> Part No. = Brand Code - Series - Power - Centroid Wavelength - Fiber core diameter.

<sup>2</sup> Typical customization of products.

<sup>3</sup> SF: flat end, SH: air gap.

<sup>4</sup> Operation beyond recommended temperature may cause lifetime reduction or even damage to the product.

