

# 1653nm XMD-packaged fiber coupled module

## Features

- 6-pin XMD package
- Single mode fiber coupled
- Output power up to 15mW
- TEC and Thermistor included
- Eye-safe wavelength



## Applications

- Detection of methane concentration in mine
- Methane concentration detection in urban integrated pipe gallery
- Methane concentration detection in buildings
- Household methane concentration detection

| Opto-electrical        | Symbol           | Unit  | Min              | Typical | Max    | Condition       |
|------------------------|------------------|-------|------------------|---------|--------|-----------------|
| Output Power           | P <sub>o</sub>   | mW    | 6                |         |        |                 |
| Operating current      | I <sub>op</sub>  | mA    |                  |         | 80     |                 |
| Threshold current      | I <sub>th</sub>  | mA    |                  | 5       | 15     | T=25°C          |
| Operating voltage      | V <sub>op</sub>  | V     |                  | 1.2     | 1.9    | I <sub>op</sub> |
| Slope efficiency       | η                | mW/mA | 0.12             | 0.17    |        |                 |
| Center wavelength      | λ <sub>c</sub>   | nm    | 1651             | 1653    | 1654   | I <sub>op</sub> |
| Spectral width (-20dB) | Δλ               | nm    |                  |         | 1      | I <sub>op</sub> |
| Side mode suppression  | SMSR             | dB    | 30               |         |        | I <sub>op</sub> |
| TEC operating voltage  | V <sub>TEC</sub> | V     |                  |         | 1.7    |                 |
| TEC operating current  | I <sub>TEC</sub> | A     |                  |         | 1.1    |                 |
| Thermistor resistance  | R <sub>t</sub>   | KΩ/β  | 10 ± 1%/4050     |         |        | T=25°C          |
| Type of SM fiber       |                  |       | G657A1           |         |        |                 |
| Fiber length           |                  | M     | 1                |         |        |                 |
| OD of jacket           |                  | μm    | 900              |         |        |                 |
| Fiber termination      |                  |       | FC/APC           |         |        |                 |
| Fiber bending radius   |                  | mm    | 15               |         |        |                 |
| <b>Mechanical</b>      |                  |       |                  |         |        |                 |
| Package dimensions     |                  |       | 9.5 × 6.4 × 5.35 |         |        |                 |
| Pin soldering temp     |                  |       |                  |         | 260° C | <5s             |
| <b>Absolute limits</b> |                  |       |                  |         |        |                 |
| Working temperature    | T <sub>op</sub>  | ° C   | -10              |         | 75     |                 |
| Storage temperature    | T <sub>STG</sub> | ° C   | -40              |         | 85     |                 |
| Max optical power      | P <sub>o</sub>   | mW    | 10               |         |        |                 |
| Max operating current  | I <sub>f</sub>   | mA    | 120              |         |        |                 |
| Max reverse voltage    | V <sub>r</sub>   | V     | 2                |         |        |                 |
| Max TEC current        | I <sub>TEC</sub> | A     | 1.1              |         |        |                 |

- Nominal wavelength 1653.7nm
- Laser performance is tested in CW mode at 25°C of housing temperature
- Thermistor resistance is defined at 25°C , the β value is valid in the temperature range of 0 ~ 50 °C