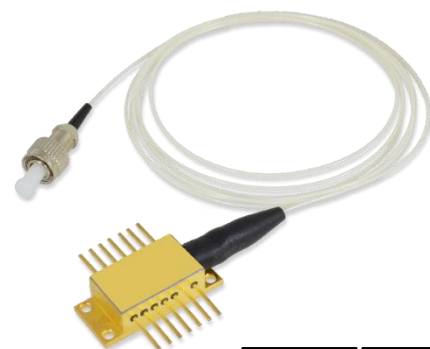




## SPM405-50-3-PDT-14P

- Violet Fiber-pigtailed Laser Diode Module
- 405±10 nm, 50 mW
- 3 µm Single Mode Fiber
- Build-in PD and TEC
- 14-Pin Package



### Description

**SPM405-50-3-PDT-14P** is a violet fiber-pigtailed laser diode, typically emitting at 405 nm, with an output power of 50 mW. It comes in a 14-pin package with 3 µm single mode fiber and FC/PC connector, built-in TEC (thermo-electric cooler), thermistor and photodiode. Different fibers and connectors are optionally available.

### Maximum Ratings

| Parameter                       | Symbol    | Values |       | Unit |
|---------------------------------|-----------|--------|-------|------|
|                                 |           | Min.   | Max.  |      |
| Reverse Voltage                 | $U_R$     |        | 2.0   | V    |
| Operating Temperature           | $T_{OPR}$ | 0      | + 70  | °C   |
| Storage Temperature             | $T_{STG}$ | - 40   | + 80  | °C   |
| Soldering Temperature (max. 3s) | $T_{SOL}$ |        | + 260 | °C   |

### Electro-Optical Characteristics ( $T_{CASE} = 25^{\circ}C$ )

| Parameter             | Symbol             | Values |             |      | Unit     |
|-----------------------|--------------------|--------|-------------|------|----------|
|                       |                    | Min.   | Typ.        | Max. |          |
| Peak Wavelength       | $\lambda_P$        | 395    | 405         | 415  | nm       |
| Output Power          | $P_O$              |        | 50          |      | mW       |
| Spectral Width (FWHM) | $\Delta\lambda$    |        | /           |      | nm       |
| Operating Voltage     | $V_F$              |        | 5.0         | 6.0  | V        |
| Threshold Current     | $I_{th}$           |        | 50          | 80   | mA       |
| Operating Current     | $I_F$              |        | 130         |      | mA       |
| TEC Current           | $I_{TEC}$          |        |             | 1.3  | A        |
| TEC Voltage           | $V_{TEC}$          |        |             | 4    | V        |
| Thermistor            | $R$                |        | 10k         |      | $\Omega$ |
| Fiber spec.           | Type               |        | Single Mode |      |          |
|                       | Core               |        | 3           |      | µm       |
|                       | Numerical Aperture |        | 0.12        |      |          |
|                       | Connector *        |        | FC/PC*      |      |          |
|                       | Length             |        | 80          |      | cm       |



\* SC or SMA905 con. Are available on request



## Electrical Connection

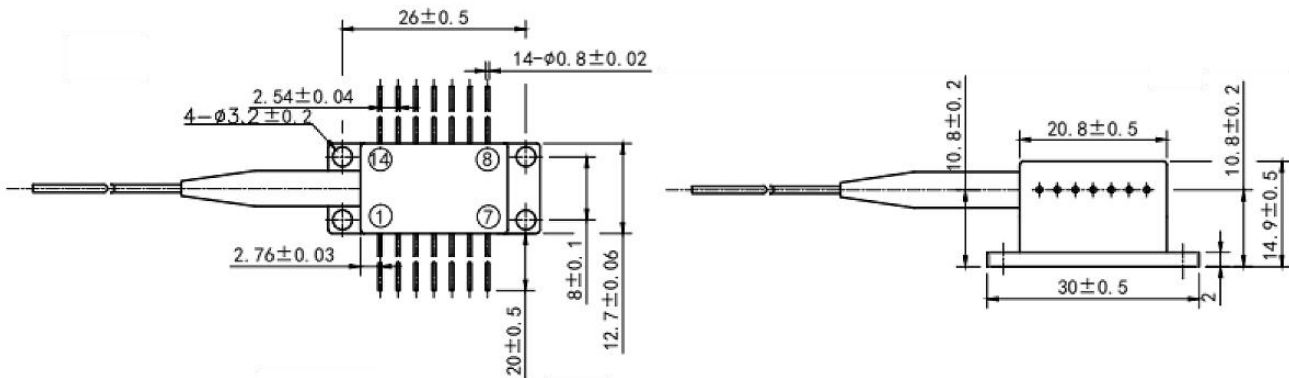
Pin Configuration\*

| PIN # | Function    | PIN # | Function    |
|-------|-------------|-------|-------------|
| 1     | TEC +       | 14    | TEC -       |
| 2     | Thermistor  | 13    | Case        |
| 3     | PD +        | 12    | n.c.        |
| 4     | LD + / PD - | 11    | LD -        |
| 5     | Thermistor  | 10    | LD + / PD - |
| 6     | n.c.        | 9     | n.c.        |
| 7     | n.c.        | 8     | n.c.        |



\* subject to change

## Outline Dimension



All dimensions in mm

## Precautions

### Safety

Laser light emitted from any laser diode may be harmful to the human eye. **Avoid looking directly into the laser diode's aperture.** The use of optical lenses will increase eye hazard



### ESD Caution

Always do handle laser diodes with care to **prevent electrostatic discharge.** We advise to **wearing wrist straps, and grounding all applicable work surfaces,** when handling laser diodes

### Operating Considerations

**Usage of current regulated drive circuits is mandatory** We advise to operate this laser diode with a current source and heat sink, and to never exceed the maximum specifications as outlined in this datasheet.

