

Optoelectronics Components Data Sheet

■ DE-0777

1510nm, 6mW DFB Laser Diode Coaxial Module

Description

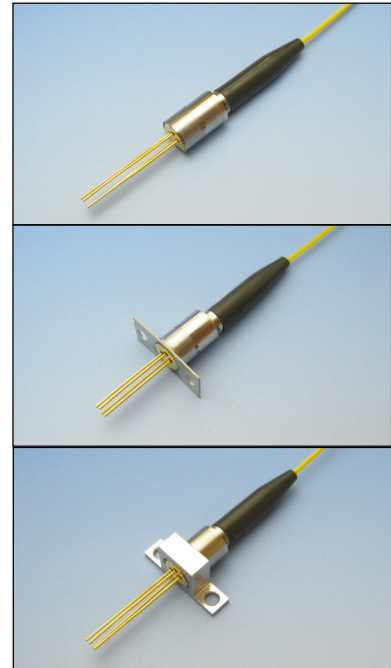
DE-0777 is 1510nm laser diode (LD) modules of coaxial pigtail type. This module consists of a multi quantum well distributed feed-back (MQW-DFB) LD, a monitor photo diode (PD), a single-stage optical isolator, a single-mode fiber and a coaxial package. This module is suitable for building optical supervisory channel system.

Features

- ◆ Fiber output power : 6mW Min.
- ◆ Side mode suppression: 32dB Min.
- ◆ MQW DFB-LD structure
- ◆ Built-in single-stage optical isolator
- ◆ Hermetically sealed LD device
- ◆ YAG laser spot welding for high reliability
- ◆ Coaxial package
- ◆ 0 to +70 °C operating temperature range

Applications

- Optical supervisory channel system



Absolute Maximum Ratings

(Tc=25°C, unless otherwise specified)

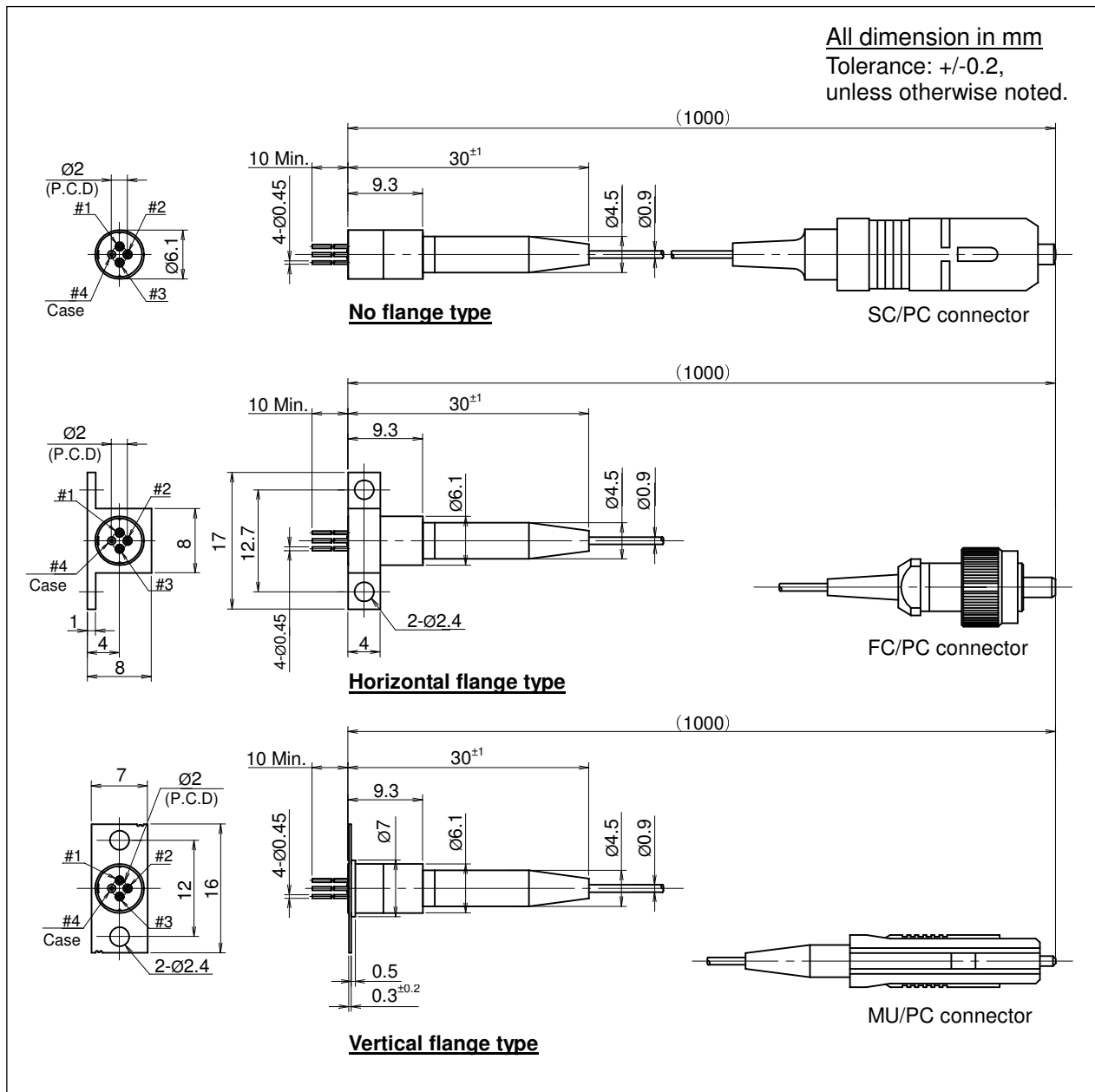
| Parameter | Symbol | Ratings | Unit | Conditions |
|----------------------------|------------------|-----------|------|-------------|
| Fiber output power | Pf | 10 | mW | CW |
| LD reverse voltage | V _{RL} | 2 | V | --- |
| LD forward current | If | 150 | mA | --- |
| Monitor PD Reverse voltage | V _{RP} | 15 | V | --- |
| Monitor PD Forward current | I _{FP} | 2 | mA | --- |
| Storage temperature | T _{stg} | -40 ~ +85 | °C | --- |
| Operating temperature | T _c | 0 ~ +70 | °C | --- |
| Soldering temperature | T _s | 260 | °C | 10sec, >2mm |

Electrical and Optical Characteristics

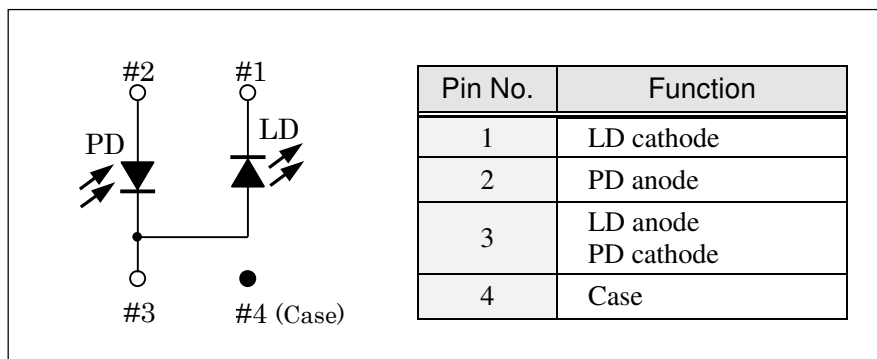
(Tc=0 to 70°C, unless otherwise specified)

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|-----------------------------|---------------------------------|--|------|------|------|------|
| Fiber output power | Pf | CW | 6 | --- | --- | mW |
| Threshold current | I _{th} | CW | --- | --- | 35 | mA |
| Operation current | I _{op} | CW, Pf=6mW | --- | --- | 100 | mA |
| Operation voltage | V _{op} | CW, Pf=6mW | --- | --- | 1.5 | V |
| Peak wavelength | λ _p | CW, Pf=6mW | 1500 | 1510 | 1520 | nm |
| Spectrum width | Δλ | CW, Pf=6mW, -20dB | --- | --- | 1 | nm |
| Side mode suppression ratio | SMSR | Pf=6mW(Peak), 155MHz | 32 | --- | --- | dB |
| Rise & Fall time | t _r , t _f | 10-90%, I _b =I _{th} , Pf=6mW | --- | --- | 0.5 | ns |
| Monitor PD output current | I _m | V _{RP} =1.6V, Pf=6mW | 100 | --- | 1500 | μA |
| Monitor PD dark current | I _d | V _{RP} =1.6V | --- | --- | 100 | nA |
| Monitor PD Capacitance | C _t | V _{RP} =1.6V | --- | --- | 10 | pF |
| Tracking Error | TE | CW, I _m (@Tc=25°C)=constant | -1 | --- | 1 | dB |

Outline Drawings



Pin configuration

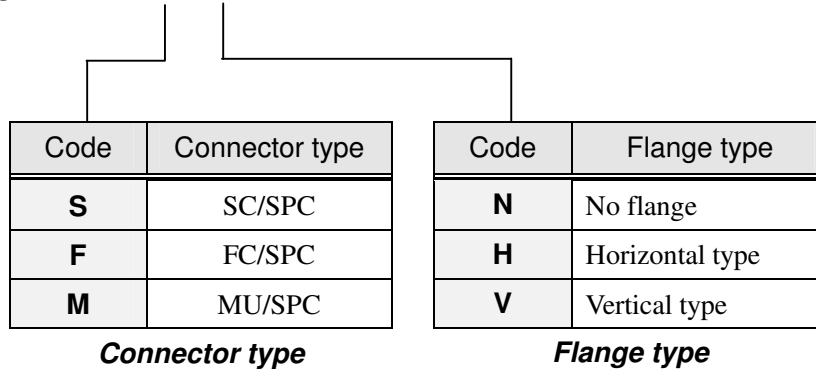


Optical Fiber Characteristics

| Parameter | Min. | Typ. | Max. | Unit |
|-----------------------------|---------------|--------|------|------|
| Fiber type | Single mode | | | --- |
| Mode field diameter | 8 | 9 | 10 | μm |
| Clad diameter | 123 | 125 | 127 | μm |
| Concentricity error | --- | --- | 1 | μm |
| Cladding non-circularity | --- | --- | 2 | % |
| Mode field non-circularity | --- | --- | 6 | % |
| Cut off wavelength | 1270 | --- | --- | nm |
| Jacket diameter | 0.8 | 0.9 | 1 | mm |
| Bending Radius | 20 | --- | --- | mm |
| Tensile strength fiber case | 5 | --- | --- | N |
| Length | --- | (1000) | --- | mm |
| Connector | FC type / SPC | | | |
| | SC type / SPC | | | |
| | MU type / SPC | | | |

Ordering information

DE-0777-□□



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