



Features

- 1550nm InGaAsP MQW-FP laser diode
- 1310nm InGaAs photodiode with TIA
- Uncooled, hermetically sealed Tx and Rx
- Low threshold current
- Single mode fiber pigtail type with SC connector.
- Operating temperature range up to 0 ~ +70 °C

Applications

- ATM/SONET OC-3

Ordering Information

| Part Number | TX | RX | Connector | Data rate |
|------------------|---------|---------|-----------|-----------|
| BF-5531-PXSX-CAX | 1550 nm | 1310 nm | SC/PC | 155Mbps |

Specifications

Absolute Maximum Ratings

| Parameter | Symbol | Value | Unit |
|---------------------------------|-------------------|---------|------|
| Storage temperature | T _{stg} | -40~+85 | °C |
| Operating case temperature | T _{op} | 0~+70 | °C |
| Peak optical output power | P _f | 1.0 | mW |
| Reverse voltage (LD) | V _{RL} | 2 | V |
| Forward current (PD) | I _{FP} | 2 | mA |
| Reverse voltage (PD) | V _{RP} | 20 | V |
| Soldering temperature (10 sec.) | S _{temp} | 260 | °C |

Transmitter Electro-optical Characteristics (CW @ T=25°C, unless otherwise specified)

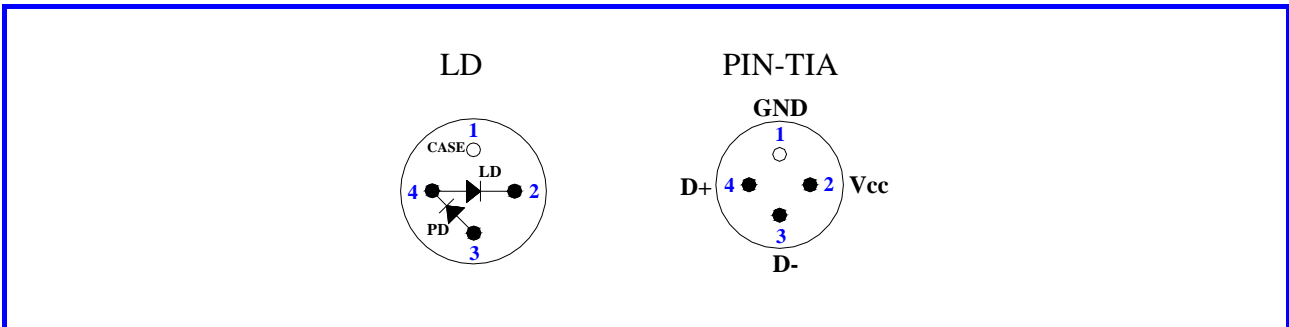
| Parameter | Symbol | Condition | MIN. | TYP. | MAX. | Unit |
|----------------------|--------------------|---|------|------|------|-------|
| Threshold current | I_{th} | CW | - | 5 | 20 | mA |
| Center Wavelength | λ_c | $P_f = 0.25\text{mW}$ | 1490 | - | 1580 | nm |
| Fiber output power | P_f | CW, $I_{th} + 25\text{mA}$ | 0.25 | - | 0.75 | mW |
| Slope efficiency | Se | CW | 0.01 | - | 0.03 | mW/mA |
| Operating voltage | V_{op} | $P_f = 0.25\text{mW}$ | - | - | 1.7 | V |
| Spectral width | $\Delta\lambda$ | CW, RMS | - | 1.0 | 2.5 | nm |
| Rise time | T_r | $I_b = I_{th}$, 10%~90% | - | - | 0.7 | nsec |
| Fall time | T_f | $I_b = I_{th}$, 90%~10% | - | - | 0.7 | nsec |
| Tracking error | $\Delta P_f / P_f$ | APC, 0°C~+70°C | - | ±1.0 | - | dB |
| Monitor current | I_m | $P_f = 0.25\text{mW}$, $V_{RP} = 10\text{V}$ | 100 | - | - | μA |
| Monitor dark current | I_d | $V_{RP} = 10\text{V}$ | - | - | 0.1 | μA |
| Monitor capacitance | C | $V_{RP} = 10\text{V}$, $f = 1\text{MHz}$ | - | - | 20 | pF |

Receiver Electro-optical Characteristics (CW @ T=25°C, unless otherwise specified)

| Parameter | Symbol | Condition | MIN. | TYP. | MAX. | Unit |
|----------------------|-----------|-----------|------|------|------|------|
| Power Supply | V_{cc} | | 3.0 | 3.3 | 3.6 | V |
| Supply Current | I_{cc} | No load | - | - | 25 | mA |
| Bandwidth | BW | | 115 | - | - | MHz |
| Operating Wavelength | λ | | 1260 | - | 1360 | nm |
| Crosstalk | CRT | | - | - | -45 | dB |
| Sensitivity | S | Note1 | - | - | -33 | dBm |
| Saturation Power | P_{sat} | Note1 | 0 | - | - | dBm |
| Output Resistance | R_o | | - | 50 | - | ohm |

Note1: $\lambda = 1310\text{nm}$, Extinction Ratio=9dB, 155Mbps, PRBS 2⁷-1, BER=1×10⁻¹⁰

Pin Assignment



Package Outline Drawing

