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# Product Data Sheet

## Key Highlights:

- **Type:** SFP28
- **Compatibility:** Multi-Vendor MSA Compatible
- **Tx Wavelength:** 1330 nm
- **Rx Wavelenght:** 1270 nm
- **Transmitter Type:** DFB Laser
- **Media Type:** Single-Mode Fiber (SMF)
- **Connectors:** Single LC
- **Optical Budget:** 13.3 dB
- **Max. Distance:** 20km
- **Data Rate:** 8.5-28.1 Gbps
- **DDM/DOM:** Supported
- **Power Consumption:** <1.2W
- **Temperature:** Industrial -45°C – +85°C

# Optical Transceiver: BIDI-25GFH-SFP28-20BI

## Product Description:

BIDI-25GFH-SFP28-20BI is an Industrial Temperature Tx:1330nm Rx:1270nm BIDI 25GE LR 20km eCPRI (enhanced CPRI) / CPRI Fronthaul Multi-Vendor MSA Compatible SFP28 (Small Form-Factor Pluggable 28) Transceiver, operating over Single Fiber Single-Mode Fiber (SMF) optical cable. It has minimum guaranteed optical budget of 13.3 dB, which in most cases is enough to reach 20 km over OS2 fiber. However, distance is just indicative parameter for comfort of identification that is calculated by taking into account minimal optical budget and average attenuation of optical cabling in industry. BIDI-25GFH-SFP28-20BI uses top quality DFB (Distributed Feedback Laser) transmitter and 25Gb/s PIN photodiode receiver. BIDI-25GFH-SFP28-20BI Industrial Temperature BIDI 25GE-LR 20km eCPRI / CPRI supports DDM/DOM optical diagnostics that provide real-time diagnostic information about the present operating conditions. BIDI-25GFH-SFP28-20BI operates in Industrial -45°C – +85°C temperature range and has Single LC interface. BIDI-25GFH-SFP28-20BI Industrial Temperature BIDI 25GE-LR 20km eCPRI / CPRI SFP28 support 8.5-28.1 Gbps data rate and eCPRI / CPRI Option 10 (24.33 Gbps), CPRI Option 9 (12.165 Gbps), CPRI Option 8 (10.138 Gbps), CPRI option 7 (9.830 Gbps) applications. BIDI-25GFH-SFP28-20BI SFP28 Single Fiber optical transceiver is multi-purpose module used in number of different places of today's networking. Consequently, most popular use cases are in Mobile Carrier Networks, thus 5G fronthaul and O-RAN (open radio access network) applications.

BIDI-25GFH-SFP28-20BI Industrial Temperature BIDI 25GE-LR 20km eCPRI / CPRI SFP28 transceiver is CE/RoHS certified and is compliant with product safety standards. BIDI-25GFH-SFP28-20BI is fully compliant to SFF-8431 and SFF-8472 Multi Source Agreement (MSA), eCPRI, CPRI and IEEE 802.3by 25 Gb/s specification. Consequently, compliance to above standards guarantees that module is compatible and works with majority of networking equipment, where is not implemented special algorithm for protection against third party modules. However - our technical team has accumulated deep expertise in custom-encoded firmware's for Industrial Temperature BIDI 25GE-LR 20km eCPRI / CPRI SFP28 transceiver in order to make it work in almost any brand equipment. We will be glad to know your requirements.

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# Product Data Sheet

## Product Specification:

| General Parameter | Value |
|---|---|
| Media Type: | Single-Mode Fiber (SMF) |
| Connectors: | Single LC |
| Tx Wavelength: | 1330 nm |
| Rx Wavelength: | 1270 nm |
| Minimum Optical Budget: | 13.3 dB |
| Maximum Distance: | 20km |
| Supported Data Rate: | 8.5-28.1 Gbps |
| Supported Applications: | CPRI Option 10 (24.33 Gbps), CPRI Option 9 (12.165 Gbps), CPRI Option 8 (10.138 Gbps), CPRI option 7 (9.830 Gbps) |
| Modulation Format: | NRZ |
| DDM/DOM: | Supported |
| CDR (Clock and Data Recovery): | Supported |
| Operating Temperature Range: | Industrial -45°C – +85°C |
| Storage Temperature Range: | -40° to 85°C |
| Relative Humidity (Non-Condensation): | 0 to 85% |
| Power Consumption: | <1.2W |
| Power Supply Voltage Typical: | +3.3V single power supply |
| Power Supply Voltage Range: | 3.14 to 3.46V |
| Supply Current (Max): | 360 mA |
| Chipset: | Macom, Oclaro, Renesas Electronics, II-VI, Neo, Maxim, Sumitomo, Semtech |
| Compliance: | SFP+ MSA, SFF-8402, SFF-8472, SFF-8431, SFF-8432, CE, RoHS-6, Class 1 FDA and IEC60825-1 Laser Safety Compliant |
| MTBF value at 35 °C: | 1’000’000 Hours. |

| Transmitter Parameters | Value |
|---|---|
| Transmitter Type: | DFB Laser |
| Tx Wavelength Bandwidth: | 20nm (1320-1340 nm) |
| Average Optical Power (Min): | 0 dBm |
| Average Optical Power (Max): | 5 dBm |
| Spectral Width (RMS) (Max): | 1nm |
| Extinction Ratio (Min): | 3.5 dB |
| Relative Intensity Noise: | -130 dB/Hz |

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# Product Data Sheet

| Transmitter Parameters | Value |
|---|---|
| Input differential impedance (Max): | 100 Ohm |
| Single ended data input swing (Min): | 180 mV |
| Single ended data input swing (Max): | 800 mV |
| Transmit Disable Voltage (Min): | Vcc–1.3 V |
| Transmit Disable Voltage (Max): | Vcc V |
| Transmit Enable Voltage (Min): | Vee V |
| Transmit Enable Voltage (Max): | Vee+ 0.8 V |

| Receiver Parameters | Value |
|---|---|
| Receiver Type: | PIN photodiode |
| Rx Wavelength Bandwidth: | 20 nm (1260-1280 nm) |
| Receiver Sensitivity (Max): | -13.3 dBm |
| Receiver Overload: | 0.5 dBm |
| LOS Assert (Min): | -30 dBm |
| LOS De-Assert (Max): | -14 dBm |
| LOS Hysteresis (Min): | 0.5 dB |
| Differential data output swing (Min): | 185 mV |
| Differential data output swing (Max): | 425 mV |
| LOS Fault (Max): | Vcc–1.3 V |
| LOS Normal (Min): | VccHOST V |
| LOS Normal (Max): | Vee V |

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# Product Data Sheet

## Compatibility:

EDGE Optical transceivers can be provided with custom-encoded firmware, in order to provide compatibility with more then 100 vendor brands in data and telecom communications industry:

**MS** - General MSA
**AD** - ADVA
**AE** - Advantech
**AL** - Alcatel (Nokia)
**AT** - Allied Telesis
**AR** - Arista
**AS** - Arris
**AV** - Avaya
**BC** - Barracuda
**BR** - Broadcom
**QL** - Cavium (Qlogic)
**CR**- Ceragon
**CP** - Checkpoint
**CH** - Chelsio
**CN** - Ciena
**CI** - Cisco
**LI** - Cisco (Linksys)
**CE** - Comnet
**CO** - Coriant
**DH** - Dahua
**DC** - DCN
**DL** - Dell & Force10
**DK** - D-Link

**DZ** - DZS(Dasan-Zhone)
**EI** - ECI
**EC** - EdgeCore
**EW** - EdgeWare
**EL** - Eltex
**EM** - EMC2
**EN** - Enterasys
**ER** - Ericsson
**EF** - EXFO
**EX** - Extreme Networks
**F5** - F5 Networks
**FI** - Finisar
**FO** - Fortinet
**FU** - Fujitsu
**H3** - H3C
**HI** - Hirschmann
**HU** - Huawei
**IB** - IBM
**IF** - Infinera
**IN** - Intel
**IX** - Ixia
**JU** - Juniper Networks
**KM** - KeyMile

**KY** - KyLand
**LN** - Lenovo
**ML** - Mellanox
**ME** - Meraki (Cisco)
**MT** - MikroTik
**MO** - Moxa
**MR** - MRV
**NC** - NEC
**NG** - Netgear
**NK** - Nokia
**NT** - Nortel
**NS** - NSN
**OR** - Oracle
**PA** - Palo Alto Network
**PL** - Planet
**QC** - QCT(Quanta)
**QN** - QNAP
**RD** - RAD
**RW** - RadWare
**RC** - Raisecom
**RK** - Ruckus
**RU** - Ruijie Networks
**SG** - Samsung

**SV** - Sandvine
**SC** - Silicom
**SF** - SolarFlare
**SW** - Sonicwall
**SM** - Supermicro
**SY** - Synology
**TC** - Telco Systems
**TP** - TP-LINK
**TN** - Trendnet
**UN** - Ubiquiti Networks
**VX** - VeEx
**WG** - WatchGuard
**WS** - Waystream
**WT** - Westermo
**ZT** - ZTE
**ZX** - Zyxel
**HP** - HP
**AG** - Avago
**OC** - Oclaro
**EU** - Emulex
**TM** - Transmode
**AU** - HP Aruba
**XX** - Other

## Warranty:

EDGE Optic's provides a limited **warranty for sixty (60) months** from Purchaser's receipt of the Equipment represented in this data sheet against defective design or workmanship. Warranty does not cover damage caused by improper deployment, misuse and accidents.

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