

## 25G SFP28 BIDI 80 km Transceiver

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### SFP28 Series



The SFP28 25Gb/s BIDI transceiver is a high-performance, long-reach optical module designed for up to 80 km transmission over single-mode fiber (SMF). Supporting data rates up to 25.78125 Gb/s, the module is compliant with IEEE 802.3cc, SFF-8472, and SFF-8419 standards, making it suitable for high-speed applications such as 25G Ethernet and CPRI links. Its compact SFP28 form factor with a single LC interface enables efficient bidirectional transmission over a single fiber.

The transceiver utilizes a high-performance EML transmitter combined with an integrated SOA and PIN/TIA receiver, ensuring excellent optical performance and extended transmission reach. Operating at nominal wavelengths of approximately 1295 nm or 1309 nm, the module supports stable long-distance communication with high sensitivity and low noise characteristics. The electrical interface is compliant with SFI specifications, with AC-coupled high-speed differential signaling for reliable signal integrity.

Designed for efficiency and reliability, the module offers low power consumption and supports both commercial and industrial operating environments. It also provides digital diagnostic monitoring (DDM) via a standard I<sup>2</sup>C interface, enabling real-time monitoring of key parameters such as temperature, voltage, and optical power. With its robust design and long-reach capability, the SFP28 25G BIDI transceiver is ideal for carrier-grade networks, long-distance data links, and next-generation access infrastructure.

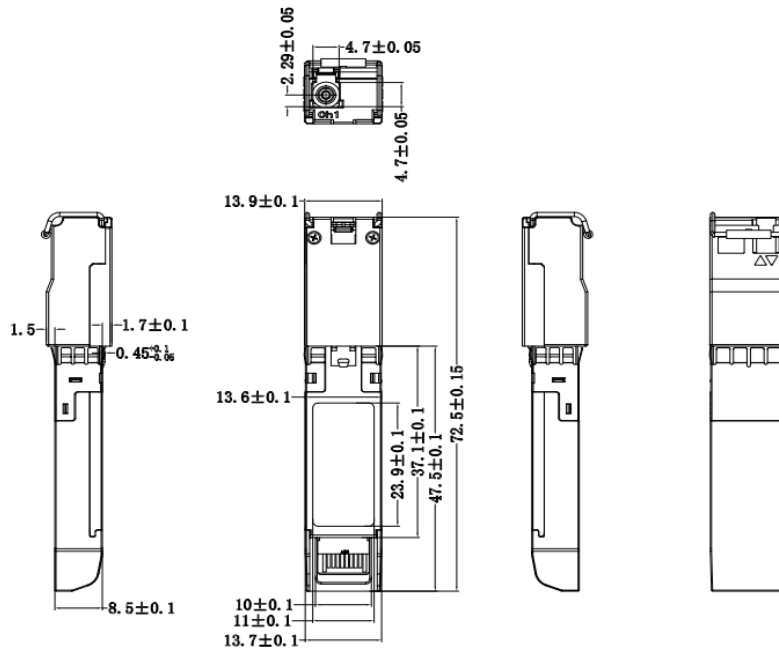
### Key Features

- Data rate up to 25.78125Gb/s
- Up to 80km reach
- Low power consumption (<5.5W commercial / <6.5W industrial)
- Wide operating temperature: 0°C~70°C / -40°C~85°C
- RoHS 6 compliance

## Specifications

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Operating Case Temperature	T <sub>op</sub>	0		70	°C	Commercial
		-40		85	°C	Industrial
Power Supply Voltage	V <sub>CC</sub>	3.13	3.3	3.47	V	
Transmission Distance	TD	-	-	80	km	Over SMF
Average Output Power	P <sub>OUT</sub>	2		7	dBm	
Average Output Power(Laser Off)	P <sub>OFF</sub>			-30	dBm	
TX Wavelength	λ	1294.53	1295.56	1296.59	nm	
		1308.09	1309.14	1310.19		
RX Wavelength	λ	1308.09	1309.14	1310.19	nm	
		1294.53	1295.56	1296.59		
Received Sensitivity	PIN			-27	dBm	
Damage threshold		3			dBm	
Input Differential Voltage	R_Vdiff	-	-	900	mVpp	
Output Differential Voltage	T_Vdiff	-	-	900	mVpp	

## Outline Diagram



## Ordering Information

Product Name	Product Description
SFP28-25G-BD-80	SFP28 25GBASE BIDI ER TX1309nm/RX1295nm 80km LC SMF DDM Optical Transceiver Module



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