D-TECH SFP 10G BIDI Tx1270/Rx 1330nm DDM

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Variants

80KM LC 10G 40km LC 10G 20km LC 10G 20km SC 10G 60km LC 10G 10km LC

Details

The **10G Optical Transceiver** is designed for high-speed 10 Gigabit Ethernet optical transmission over single-mode fiber. With long-distance reach up to **60km**, stable optical performance, and Digital Diagnostic Monitoring support, it is suitable for ISP backbone, telecom, enterprise, and data center network applications.

Data Rate	**10.3125Gbps**
Reach	**10-60KM**
Wavelength	**1270/1330nm**

Power

?1000mW

Key Features

? Supports 10.3125Gbps high-speed optical transmission

? Long-distance operating reach up to 60km

? 1270nm / 1330nm wavelength option

? Standard and industrial temperature options

? Digital Diagnostic Monitoring supported

? Suitable for ISP, telecom, enterprise and data center networks

Absolute Maximum Ratings

Parameter	Min	Max	Unit
Power Supply Voltage	0	3.6	V
Storage Temperature	-40	85	°C
Operating Case Temperature (Standard)	0	70	°C
Operating Case Temperature (Industrial)	-40	85	°C
Relative Humidity	5	95	%

Parameter	Min	Max	Unit
RX Input Average Power	—	0	dBm

Recommended Operating Conditions

Parameter	Min	Typ	Max	Unit
Power Supply Voltage	3.135	3.3	3.465	V
Power Supply Current	—	—	350	mA
Operating Case Temperature (Standard)	0	25	70	°C
Operating Case Temperature (Industrial)	-40	25	85	°C

Optical Characteristics

Parameter	Value	Unit
Operating Reach	60	km

Transmitter Specifications

Parameter	Value	Unit
Center Wavelength Range	1270 / 1330	nm
Side Mode Suppression Ratio Min	30	dB

Parameter	Value	Unit
Launched Power Max Average	6	dBm
Launched Power Min Average	2	dBm
Transmitter & Dispersion Penalty Max	3.2	dB
Average Launch Power of OFF Transmitter Max	-30	dBm
Extinction Ratio Min	3.5	dB
RIN12 OMA Max	-128	dB/Hz
Optical Return Loss Tolerance Min	12	dB

Receiver Specifications

Parameter	Value	Unit
Center Wavelength Range	1270 / 1330	nm
Receive Overload Max Average Power	-8	dBm
Receive Sensitivity Min Average Power	-20	dBm
Receiver Reflectance Max	-12	dB
Vertical Eye Closure Penalty Min	2.2	dB
LOS Deassert Max	-27	dBm
LOS Hysteresis Min	0.5	dB

Parameter	Value	Unit
Stressed Eye Jitter Min	0.3	UIp-p
RX Electrical 3dB Upper Cutoff Frequency Max	12.3	GHz
Receiver Power Damage Max	6	dBm

Digital Diagnostic Functions

Parameter	Min	Max	Unit	Notes
Temperature Monitor Absolute Error	-3	3	°C	Over operating temp
Laser Power Monitor Absolute Error	-3	3	dB	—
RX Power Monitor Absolute Error	-3	3	dB	-1dBm to -15dBm range
Supply Voltage Monitor Absolute Error	-0.08	0.08	V	Full operating range
Bias Current Monitor	-10%	10%	mA	—

Electrical Characteristics

Parameter	Min	Typ	Max	Unit
Data Rate	—	10.3125	—	Gbps
Power Consumption	800	—	1000	mW
TX Input Diff Voltage	180	—	700	mV

Parameter	Min	Typ	Max	Unit
RX Output Diff Voltage	300	—	850	mV
RX Output Rise / Fall Time	30	—	—	ps

Applications: 10G Ethernet, ISP Backbone, Metro Network, Enterprise Fiber Links, Data Center Interconnect, Telecom Transmission and Long-Distance Optical Connectivity.

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