

QSFP28-DR-100G

Single-Lambda 100GBASE, QSFP28, DR1, SMF TRANSCEIVER 1310nm, 500m REACH, DUPLEX LC CONNECTOR

Product Features

- Supports 100Gbps
- IEEE802.3cd 100GBASE-DR Specification Compliant
- Single 3.3V Power Supply
- Power dissipation < 4.5W
- Up to 500m over SMF with FEC
- QSFP28 MSA Compliant
- SFF-8636 Compliant
- 4x25G electrical interface
- LC duplex connector
- I2C Interface with Integrated Digital Diagnostic Monitoring
- Safety Certification: TUV/UL/FDA*1
- RoHS Compliant
- Case operating temperature:
 - Commercial: 0 ~ 70°C



Product Applications

- 100GBASE Ethernet Links
- Data Center

I. Maximum Ratings

Exceeding the limits below may damage the transceiver module permanently.

Parameter	Symbol	Min.	Typ.	Max.	Units
Storage Temperature	Ts	-40		85	°C
Supply Voltage	Vcc	-0.3		3.6	V
Relative Humidity (non-condensation)	RH	5		95	%
Data Input Voltage Differential	IVDIP-VDINI			1.0	V
Control Input Voltage	VI	-0.3		Vcc+0.5	V
Control Output Current	IO	-20		20	mA

II. Operating Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Notes
Case Operating Temperature	TC	0		70	°C	Commercial
Power Supply Voltage	Vcc	3.135	3.3	3.465	V	
Instantaneous peak current (hot plug)	Icc_IP			1800	mA	
Sustained peak current (hot plug)	Icc_SP			1485	mA	
Maximum Power Dissipation	PD			4.3	W	
Maximum Power Dissipation, Low Power Mode	PDLP			1.5	W	
Signaling Rate	SR		53.125		GBd	
Control Input Voltage High	VIH	Vcc*0.7		Vcc+0.3	V	
Control Input Voltage Low	VIL	-0.3		Vcc*0.3	V	
Two Wire Serial Interface Clock Rate				400	kHz	
Power Supply Noise				66	mVpp	10Hz-10MHz
Rx Differential Data Output Load			100		ohms	
Link Distance		2		500	m	

III. Optical Characteristics

Parameter	Symbol	Min	Typical	Max	Unit	Notes
Transmitter						
Wavelength	λ_C	1304.5	1311	1317.5	nm	
Side mode suppression ratio	SMSR	30			dB	
Average Optical Launch Power	Pout	-2.9		4	dBm	
Average Launch Power Tx_Of				-15	dBm	
Extinction Ratio	ER	3.5			dB	
Outer Optical Modulation Amplitude		-0.8		4.2	dBm	
Launch Power in OMAouter minus TDECQ for ER $\geq$ 5dB		-2.2			dBm	
Launch Power in OMAouter minus TDECQ for ER < 5dB		-1.9			dBm	
Transmitter and dispersion eye closure	TDECQ			3.4	dB	
TDECQ-10*log10(Ceq)				3.4	dB	
Transmitter transition time	TTx			17	ps	
RIN15.5OMA	RIN			-136	dB/Hz	
Optical return loss tolerance				15.5	dB	
Transmitter reflectance	TR			-26	dB	

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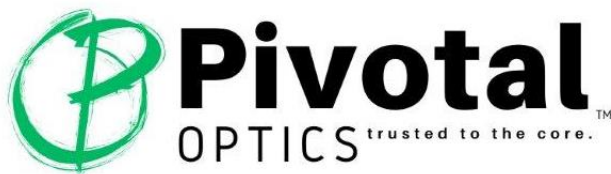
Parameter	Symbol	Min	Typical	Max	Unit	Notes
Receiver						
Wavelength	λ_C	1304.5	1311	1317.5	nm	
Damage Threshold	THd	5			dBm	
Average Receive Power	Pavg	-5.9		4	dBm	
Receive Power (OMA _{outer})	RP			4.2	dBm	
Receiver Reflectance	RR			-26	dBm	
Receiver Sensitivity (OMA _{outer})	RS	max (-3.9, SECQ-5.3)			dBm	
Stressed Receiver Sensitivity	SRS			-1.9	dBm	
Stressed Receiver Sensitivity Test Conditions:						
Stressed eye closure for PAM4	SECQ			3.4	dB	
SECQ-10log10(Ceq)				3.4	dB	

IV. Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Differential Data Input Amplitude	V _{in,p-p}	95		900	mVpp	
Differential Termination Mismatch				10	%	
LPMode, Reset and ModSelL	VIL	-0.3		V _{cc} *0.3	V	
	VIH	V _{cc} *0.7		V _{cc} +0.3	V	
Receiver						
Differential Data Output Amplitude	V _{out,p-p}	250		900	mVpp	
Differential Termination Mismatch				10	%	
Output Rise/Fall Time (20%~80%)	TR	9.5			ps	
ModPrsL and IntL	VOL	0		0.4	V	IOL=4mA
	VOH	V _{cc} -0.5		V _{cc} +0.3	V	IOL=-4mA

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v. Ordering Information

Pivotal Part Number	Description
QSFP28-DR-100G	QSFP28, 1310nm, DR 100G SMF 500m, 100G DDM

Notes:

1. Please contact sales for specific OEM Platform part numbers to fit your network.

Warranty

<https://pivotaloptics.com/warranty/>

Disclaimer

External physical characteristics are subject to variation. This may include, but is not limited to, external case designs, pull tab colors and/or shapes, removal latch styles or colors, and label sizes and placement. These variations do not affect the function or characteristics of the transceivers.