

QSFPDD-SR8-400G

6. Optical characteristics

Transmitter	Specification	Receiver	Specification
Launch optical power [2]	-6.5 to +4 dBm	Wavelength (min/typ/max)	840 / 850 / 860 nm
OMAAouter	-4.5 to +3 dBm	Sensitivity (Poma) [1]	max(-6.5, SECQ - 7.9) dBm max
Wavelength (min/typ/max)	840 / 850 / 860 nm	Average receive power / lane	-8.4 to +4 dBm
Extinction ratio [3]	3 dB min	Receive OMAouter / lane	3 dBm max
Spectral width (RMS)	0.6 nm max	Damage threshold	5 dBm min
TDECQ	4.5 dB max	Optical reflectance	-12 dB max
Average launch power, OFF	-30 dBm max	LOS De-assert / Assert	-9 dBm max / -30 dBm min
Optical return loss tolerance	12 dB max	LOS hysteresis	0.5 dB min
TX Disable Assert / De-assert	100 / 400 ms max	Receiver reflection (source repeat)	-12 dB max
OMAAouter minus TDECQ	-5.9 dBm min	Stressed sensitivity (OMAAouter)	-3.4 dBm max
TDECQ - 10log10(Ceq), per lane	4.5 dB min	Stress test: SECQ, lane under test	4.5 dB min
RIN12OMA	-128 dB/Hz min	Stress test: SECQ - 10log10(Ceq)	4.5 dB max
Encircled flux (typ column)	≥86% at 19 μm; ≤30% at 4.5 μm	Stress test: aggressor lane Poma	3 dBm min

[1] Sensitivity: PRBS31Q, 53.125 GBd, PAM4, BER <2.4E-4. [2] Launch power into OM3 MMF. [3] ER: SSPRQ at 53.125 Gb/s PAM4.

7. Digital diagnostics and management

Parameter	Specification / source pin assignment
Management	QSFP-DD management interface; 2-wire serial interface: SCL pin 11, SDA pin 12. Digital diagnostic monitor values and accuracy limits are not specified in the source.
Module controls	ModSelL 8 (select); ResetL 9 (reset); ModPrsL 27 (present); IntL 28 (interrupt); Init Mode 31 (initialization).
TX pins, p/n by lane 1-8	36/37; 3/2; 33/34; 6/5; 74/75; 41/40; 71/72; 44/43. Source direction labels are retained in General notes.
RX pins, p/n by lane 1-8	17/18; 22/21; 14/15; 25/24; 55/56; 60/59; 52/53; 63/62. All are receiver non-inverted / inverted data outputs.
Power pins, 3.3 V	VccRx 10; VccTx 29; Vcc1 30; VccRx1 48; VccTx1 67; Vcc2 68. Apply concurrently; any combination may be internally connected. Each Vcc contact: 1000 mA maximum.
Ground pins	1,4,7,13,16,19,20,23,26,32,35,38,39,42,45,51,54,57,58,61,64,70,73,76. All signal/supply grounds are common; module voltages refer to GND. Connect directly to the host signal ground plane.
Vendor / reserved / no connect	VS1 47; VS2 49; VS3 50; Reserved 46,66,69; NC 65. All may be terminated with 50 ohm to host ground. Pad 65 is internally unconnected. Vendor/reserved pads: impedance to GND >10 kohm and <100 pF.

8. Safety and regulatory

RoHS compliant. Certificate BST13080782Y-1RC-4; directive 2011/65/EU. Absolute maximum ratings are stress limits only; excess stress can cause permanent damage and prolonged exposure can reduce reliability.

9. Ordering information

Ordering number	Product description
QDD-400G-SR8	QSFP-DD, 400GbE-SR8, 8x50GbE, 100 m; 850nm, 1.9dB, MM, MPO-16