DATA SHEET
2.5Gb/s 4ch SINGLE MODE PARALLEL OPTICAL TRANSCEIVER

GENERAL DESCRIPTIONS AND MAXIMUM RATINGS

Table 1. General Descriptions

Parameters	Transceiver
Part Number	POX25K08SGJPX
Number of Channels	4
Type of Optical Fiber	Single Mode 12 Fiber Ribbon *
Optical Connector	MTP® (MPO) **
Electrical Interface	AC coupling required

* Refer to the latest Data Sheet for "Fiber Ribbon Assembly for Parallel Optical Interconnects"

** MTP® is a registered trademark of US Conec Ltd.

Table 2. Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit
Power Supply Voltage	V_{CC1}, V_{CC2}	- 0.3	-	4.5	V
Termination Voltage	V_{TT}	- 0.3	-	4.5	V
Control Input Voltage	V_{CT}	- 0.5	-	V_{CC}+0.5	V
Data Input Swing (single ended)	V_{HIGH} - V_{LOW}	-	-	1.0	V
Data Output Swing (single ended)	V_{HIGH} - V_{LOW}	-	-	0.65	V
Storage Temperature	-	- 40	-	85	°C
Maximum Reflow Temperature [1]	-	-	-	260	°C

Note 1: Temperature for 30 second with 3 cycles.

OPERATING CONDITIONS

Table 3. Operating Conditions

Parameter	Symbol	Min	Typ	Max	Unit
Power Supply Voltage	V_{CC1}, V_{CC2}	3.15	3.3	3.45	V
Termination Voltage	V_{TT}	1.2	2	3.0	V
Noise on Power Supply [2]	-	-	-	100	mV_{P-P}
Control Input Voltage Laser Disable [3]	V_{CT}	V_{CC} - 0.3	V_{CC}	-	V
Control Input Voltage Laser Enable [3]	V_{CT}	-	0	0.5	V
Data Input Swing (single ended)	V_{HIGH} - V_{LOW}	200	250	500	mV
Differential Termination Impedance [4]	-	-	100	-	Ω
Optical Input Center Wavelength	λ	-	1310	-	nm
Input Optical Power Variation	-	-	3	5	dB
Operating Temperature (case)	-	0	-	80	°C

Note 2: Frequency range of Supply noise is to be determined.
Note 3: V_{CT} enable or disable all channels simultaneously.
(Default is enable, may be left open, if not used)
Note 4: Differential impedance between complementary outputs.

ELECTRO-OPTICAL CHARACTERISTICS

Below specified electro-optical characteristics are given under the operating condition stated in Table 3.

Table 4. Electro-Optical Characteristics - Transmitter side

Parameter	Symbol	Min	Typ	Max	Unit
Supply Current for V_{CC1} and V_{CC2}	I_{CC}	140	160	300	mA
Supply Current for V_{TT}	I_{TT}	-	0	-	mA
Power Dissipation (at 25 °C ambient)	-	-	0.48	-	W
Power Dissipation (at 80 °C ambient)	-	-	0.72	-	W
Differential Input Impedance [5]	-	-	100	-	Ω
Average Launched Power at t_0	-	- 11	- 7	- 4	dBm
Optical Power Decrease to End-of -Life	-	-	-	3	dB
Average Optical Power Variation	-	-	2	3	dB
Optical Power Level (if Laser is Disabled)	-	-	-	- 35	dBm
Wavelength	λ	1260	1310	1360	nm
Spectral Width (rms)	Δλ	-	-	4	nm
Optical Extinction Ratio at DC [6]	-	5	6	-	dB

Table 5. Electro-Optical Characteristics - Receiver side

Parameter	Symbol	Min	Typ	Max	Unit
Supply Current for V_{CC1} and V_{CC2}	I_{CC}	-	140	-	mA
Power Dissipation (at 25 °C ambient)	-	-	0.45	-	W
Power Dissipation (at 80 °C ambient)	-	-	0.45	-	W
Data Output Swing (single ended)	V_{HIGH} - V_{LOW}	-	200	-	mV
Control Output LOS Low (no signal)	V_{LOS}	-	0	0.5	V
Control Output LOS High	V_{LOS}	V_{CC} - 0.3	V_{CC}	-	V
Minimum Received Power (Sensitivity)	-	-	-17	- 16	dBm
Maximum Received Power (Saturation)	-	- 4	-	-	dBm

Table 6. Electrical Characteristics - Link

Parameter	Symbol	Min	Typ	Max	Unit
Data Rate	-	0.01	2.5	2.7	Gb/s
Total Link Jitter (peak to peak, 6σ)	-	-	-	150	ps

Note 5: Differential impedance between complementary inputs.
Note 6: Ratio between Optical DC High and Optical DC Low.

Note: This data sheet is preliminary.
The conditions and characteristics may be changed without notice.

ELECTRICAL INTERFACE