

Features

- Transmission data rate up to 25.78Gbps
- 850nm VCSEL laser
- PIN photo-detector
- Internal CDR on both transmitter and receiver channels
- Low power consumption < 1W
- Hot-pluggable SFP28 form factor
- Up to 70m on OM3 MMF and 100m on OM4 MMF
- Digital diagnostics functions are available (optional)
- Operating case temperature range: 0°C to +70°C



- 3.3V power supply voltage
- RoHS-6 compliant

Applications

- IEEE 802.3by 25GBASE-SR

1. Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Supply Voltage	Vcc	0	3.6	V
Storage Temperature	Ts	-40	+85	°C
Operating Humidity	-	5	85	%

2. Recommended Operating Conditions

Parameter	Symbol	Min	Typical	Max	Unit
Operating Case Temperature (Commercial)	Tc	0		+70	°C
Power Supply Voltage	Vcc	3.13	3.3	3.47	V
Power Supply Current	Icc			300	mA

Fiber Length on 50/125µm high-bandwidth (OM3) MMF				70	m
Fiber Length on 50/125µm high-bandwidth (OM4) MMF				100	m

3. Optical and Electrical Characteristics

Parameter		Symbol	Min	Typical	Max	Unit
Transmitter						
Data rate		BR		25.78		Gbps
Centre Wavelength		λ_c	840	850	860	nm
Spectral Width (-20dB)		σ			0.6	nm
Average Output Power		Pavg	-8.4		2.4	dBm
Optical Power OMA		POMA	-6.4		3	dBm
Extinction Ratio		ER	2			dB
Differential data input swing		VIN,PP	40		1000	mV
Input Differential Impedance		ZIN	90	100	110	Ω
TX Disable	Disable		2.0		Vcc	V
	Enable		0		0.8	V
TX Fault	Fault		2.0		Vcc	V
	Normal		0		0.8	V
Receiver						
Data rate		BR		25.78		Gbps
Centre Wavelength		λ_c	840	850	860	nm
Receiver Sensitivity (OMA)		Psens	-	-	-10	dBm
Stressed Sensitivity (OMA)			-	-	-5.2	dBm
Receiver Power (OMA)					3	dBm
LOS De-Assert		LOSD			-13	dBm
LOS Assert		LOSA	-30			dBm
LOS Hysteresis			0.5			dB
Differential data output swing		Vout,PP	300		850	mV
LOS	High		2.0		Vcc	V
	Low				0.8	V

Note:

Receive Sensitivity measured with a prbs31 pattern @25.78125Gb/s, BER 1E-5;

4. Timing and Electrical

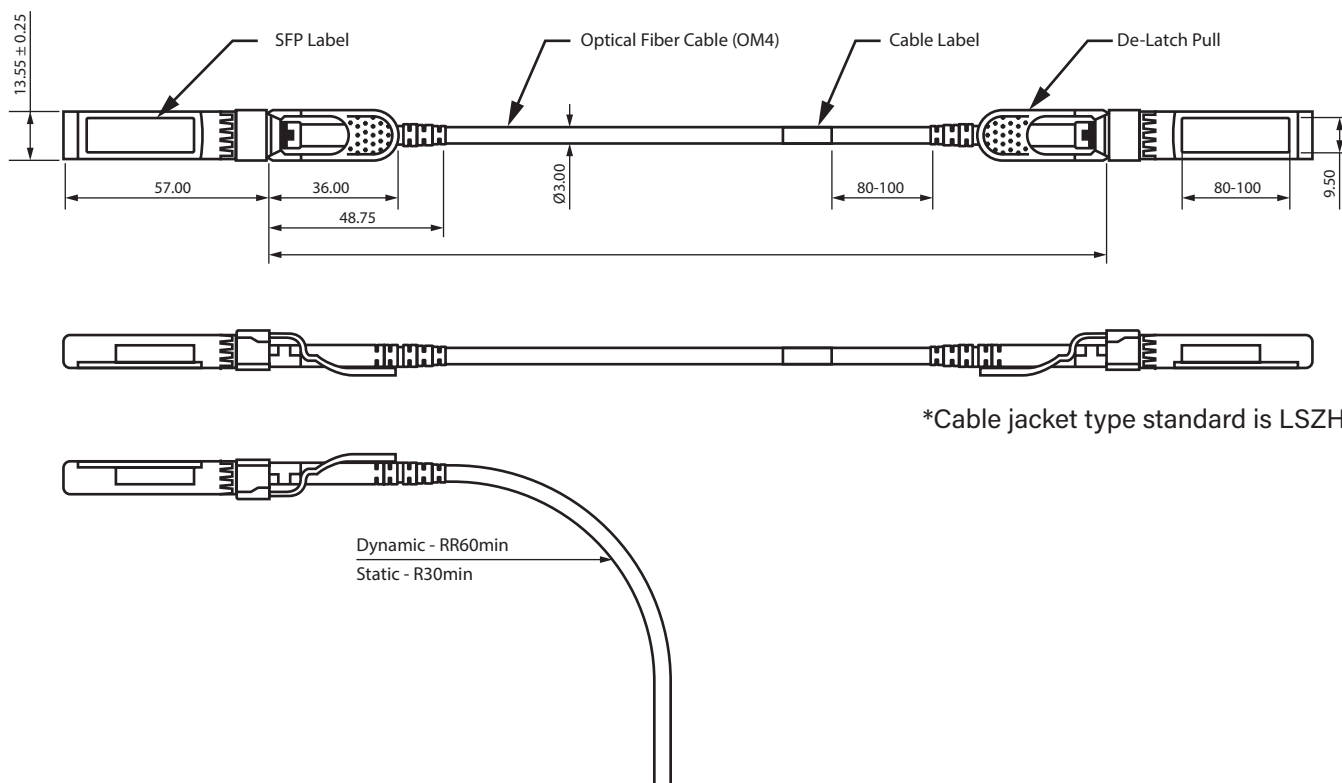
Parameter	Symbol	Min	Max	Unit	Conditions
Tx_Disable assert time	t_off		100	µs	Rising edge of Tx_Disable to fall of output signal below 10% normal
Tx_Disable negate time	t_on		2	ms	Falling edge of Tx_Disable to rise of output signal above 90% of normal. This only applies in normal operation, not during startup or fault recovery.
Time to initialize 2-wire interface	t_2w_start_up		300	ms	From power on or hot plug after the supply meeting table 8
Time to initialize	t_start_up		300	ms	From power supplies meeting table 8 or hot plug or Tx disable negated during power up, or Tx_Fault recovery, until non-cooled power level I part (or non-cooled power level II part already enabled at power level II for Tx_Fault recovery) is fully operational
Time to initialize cooled module and time to power up a cooled module to power level II	t_start_up_cooled		90	s	From power supplies meeting table 8 or hot plug or Tx disable negated during power up, or Tx_Fault recovery, until non-cooled power level I part (or non-cooled power level II part already enabled at power level II for Tx_Fault recovery) is fully operational. Also, from stop bit low-to-high SDA transition enabling power level II until cooled module is fully operational
Time to power up to level II	t_power_level2		300	ms	From stop bit low-to-high SDA transition enabling power level II until cooled module is fully operational
Tx_Fault assert	Tx_Fault_on		1	ms	from occurrence of fault to assertion of Tx-Fault
Tx_Fault assert for cooled module	Tx_Fault_on_cooled		50	ms	from occurrence of fault to assertion of Tx-Fault
Tx_Fault Reset	t_reset	10		µs	Time Tx_Disable must be held high to reset Tx_Fault
RS0, RS1 rate select timing for FC	t_RS0_FC, t_RS1_FC		500	µs	from assertion to stable output
RS0, RS1 rate select timing for non FC	t_RS0, t_RS1		24	ms	from assertion to stable output

Rx_LOS assert delay	t_los_on		100	µs	From occurrence of loss of signal to assertion of Rx_LOS
Rx_LOS negate delay	t_los_off		100	µs	From occurrence of presence of signal to assertion of Rx_LOS

5. Diagnostics

Parameter	Range	Unit	Accuracy	Calibration
Temperature	0 to +70	°C	±3°C	Internal / External
Voltage	3.0 to 3.6	V	±3%	Internal / External
Bias Current	0 to 20	mA	±10%	Internal / External
TX Power	-8 to 3	dBm	±3dB	Internal / External
RX Power	-14 to 0	dBm	±3dB	Internal / External

6. Mechanical Diagram



*Cable jacket type standard is LSZH.

Note: 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.

7. Ordering Information

OEM	Part Number	OEM	Part Number
Arista	AOC-S-S-25G-1M-A	Arista	AOC-S-S-25G-2M-A
Arista	AOC-S-S-25G-3M-A	Arista	AOC-S-S-25G-4M-A
Arista	AOC-S-S-25G-5M-A	Arista	AOC-S-S-25G-7M-A
Arista	AOC-S-S-25G-10M-A	Arista	AOC-S-S-25G-12M-A
Arista	AOC-S-S-25G-15M-A	Arista	AOC-S-S-25G-20M-A
Arista	AOC-S-S-25G-25M-A	Arista	AOC-S-S-25G-30M-A
Avago/Broadcom	AFBR-8CER01Z-A	Avago/Broadcom	AFBR-8CER02Z-A
Avago/Broadcom	AFBR-8CER03Z-A	Avago/Broadcom	AFBR-8CER04Z-A
Avago/Broadcom	AFBR-8CER05Z-A	Avago/Broadcom	AFBR-8CER07Z-A
Avago/Broadcom	AFBR-8CER10Z-A	Avago/Broadcom	AFBR-8CER12Z-A
Avago/Broadcom	AFBR-8CER15Z-A	Avago/Broadcom	AFBR-8CER20Z-A
Avago/Broadcom	AFBR-8CER25Z-A	Avago/Broadcom	AFBR-8CER30Z-A
Cisco	SFP-25G-AOC1M-A	Cisco	SFP-25G-AOC2M-A
Cisco	SFP-25G-AOC3M-A	Cisco	SFP-25G-AOC4M-A
Cisco	SFP-25G-AOC5M-A	Cisco	SFP-25G-AOC7M-A
Cisco	SFP-25G-AOC10M-A	Cisco	SFP-25G-AOC12M-A
Cisco	SFP-25G-AOC15M-A	Cisco	SFP-25G-AOC20M-A
Cisco	SFP-25G-AOC25M-A	Cisco	SFP-25G-AOC30M-A
Cisco	SFP-25G-AOC6M-C1	Dell	AOC-SFP-25G-2M-A
Cisco	SFP-25G-AOC7M-C1	Dell	AOC-SFP-25G-4M-A
Dell	AOC-SFP-25G-1M-A	Dell	AOC-SFP-25G-7M-A
Dell	AOC-SFP-25G-3M-A	Dell	AOC-SFP-25G-12M-A
Dell	AOC-SFP-25G-5M-A	Dell	AOC-SFP-25G-20M-A
Dell	AOC-SFP-25G-10M-A	Dell	AOC-SFP-25G-30M-A
Dell	AOC-SFP-25G-15M-A	Extreme	25G-SFP28-SFP28-AOC-001-A
Dell	AOC-SFP-25G-25M-A	Extreme	25G-SFP28-SFP28-AOC-002-A
Edgecore	ET7302-25AOC-1M-A	Extreme	25G-SFP28-SFP28-AOC-003-A
Edgecore	ET7302-25AOC-2M-A	Extreme	25G-SFP28-SFP28-AOC-004-A
Edgecore	ET7302-25AOC-3M-A	Extreme	25G-SFP28-SFP28-AOC-005-A
Edgecore	ET7302-25AOC-4M-A	Extreme	25G-SFP28-SFP28-AOC-007-A
Edgecore	ET7302-25AOC-5M-A	Extreme	25G-SFP28-SFP28-AOC-010-A
Edgecore	ET7302-25AOC-7M-A	Extreme	25G-SFP28-SFP28-AOC-012-A
Edgecore	ET7302-25AOC-10M-A	Extreme	25G-SFP28-SFP28-AOC-015-A
Edgecore	ET7302-25AOC-12M-A	Extreme	25G-SFP28-SFP28-AOC-020-A
Edgecore	ET7302-25AOC-15M-A	Extreme	25G-SFP28-SFP28-AOC-025-A

Edgecore	ET7302-25AOC-20M-A	Extreme	25G-SFP28-SFP28-AOC-030-A
Edgecore	ET7302-25AOC-25M-A	Finisar	FCBG125SD1C02-A
Edgecore	ET7302-25AOC-30M-A	Finisar	FCBG125SD1C04-A
Finisar	FCBG125SD1C01-A	Finisar	FCBG125SD1C07-A
Finisar	FCBG125SD1C03-A	Finisar	FCBG125SD1C12-A
Finisar	FCBG125SD1C05-A	Finisar	FCBG125SD1C20-A
Finisar	FCBG125SD1C10-A	Finisar	FCBG125SD1C30-A
Finisar	FCBG125SD1C15-A	Intel	XXVAOCBL2M-A
Finisar	FCBG125SD1C25-A	Intel	XXVAOCBL4M-A
Intel	XXVAOCBL1M-A	Intel	XXVAOCBL7M-A
Intel	XXVAOCBL3M-A	Intel	XXVAOCBL12M-A
Intel	XXVAOCBL5M-A	Intel	XXVAOCBL20M-A
Intel	XXVAOCBL10M-A	Intel	XXVAOCBL30M-A
Intel	XXVAOCBL15M-A	Juniper	JNP-25G-AOC-2M-A
Intel	XXVAOCBL25M-A	Juniper	JNP-25G-AOC-4M-A
Juniper	JNP-25G-AOC-1M-A	Juniper	JNP-25G-AOC-7M-A
Juniper	JNP-25G-AOC-3M-A	Juniper	JNP-25G-AOC-12M-A
Juniper	JNP-25G-AOC-5M-A	Juniper	JNP-25G-AOC-20M-A
Juniper	JNP-25G-AOC-10M-A	Juniper	JNP-25G-AOC-30M-A
Juniper	JNP-25G-AOC-15M-A	Lenovo	7Z57A035412-A
Juniper	JNP-25G-AOC-25M-A	Lenovo	7Z57A035414-A
Lenovo	7Z57A035411-A	Lenovo	7Z57A035427-A
Lenovo	7Z57A03541-A	Lenovo	7Z57A0354312-A
Lenovo	7Z57A03542-A	Lenovo	7Z57A03545-A
Lenovo	7Z57A03543-A	Lenovo	7Z57A0354530-A
Lenovo	7Z57A03544-A	Mellanox	MFA2P10-A002-A
Lenovo	7Z57A0354525-A	Mellanox	MFA2P10-A004-A
Mellanox	MFA2P10-A001-A	Mellanox	MFA2P10-A007-A
Mellanox	MFA2P10-A003-A	Mellanox	MFA2P10-A012-A
Mellanox	MFA2P10-A005-A	Mellanox	MFA2P10-A020-A
Mellanox	MFA2P10-A010-A	Mellanox	MFA2P10-A030-A
Mellanox	MFA2P10-A015-A	MSA	AN-SFP25G-AOC-2M
Mellanox	MFA2P10-A025-A	MSA	AN-SFP25G-AOC-4M
MSA	AN-SFP25G-AOC-1M	MSA	XX -SFP25G-AOC-7M
MSA	AN-SFP25G-AOC-3M	MSA	AN-SFP25G-AOC-12M
MSA	AN-SFP25G-AOC-5M	MSA	AN-SFP25G-AOC-20M
MSA	AN-SFP25G-AOC-10M	MSA	AN-SFP25G-AOC-30M

MSA	AN-SFP25G-AOC-15M	MSA	CAB-SFP25-SFP25-AOC-3M-C1
MSA	AN-SFP25G-AOC-25M	MSA	CAB-SFP25-SFP25-AOC-5M-C1
Siemon	S1S28F-V01.0M13-A	MSA	CAB-SFP25-SFP25-AOC-7M-C1
Siemon	S1S28F-V03.0M13-A	Siemon	S1S28F-V02.0M13-A
Siemon	S1S28F-V05.0M13-A	Siemon	S1S28F-V04.0M13-A
Siemon	S1S28F-V010.0M13-A	Siemon	S1S28F-V07.0M13-A
Siemon	S1S28F-V15.0M13-A	Siemon	S1S28F-V12.0M13-A
Siemon	S1S28F-V25.0M13-A	Siemon	S1S28F-V20.0M13-A
Ubiquiti	SFP25G-U-AOC-1M-A	Siemon	S1S28F-V30.0M13-A
Ubiquiti	SFP25G-U-AOC-3M-A	Ubiquiti	SFP25G-U-AOC-2M-A
Ubiquiti	SFP25G-U-AOC-5M-A	Ubiquiti	SFP25G-U-AOC-4M-A
Ubiquiti	SFP25G-U-AOC-10M-A	Ubiquiti	SFP25G-U-AOC-7M-A
Ubiquiti	SFP25G-U-AOC-15M-A	Ubiquiti	SFP25G-U-AOC-12M-A
Ubiquiti	SFP25G-U-AOC-25M-A	Ubiquiti	SFP25G-U-AOC-20M-A
		Ubiquiti	SFP25G-U-AOC-30M-A

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