

## 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
<b>Transmitter</b>					
Data rate	BR		25.78		Gbps
Centre Wavelength	$\lambda_c$	840	850	860	nm
Spectral Width (-20dB)	$\sigma$			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	$\Omega$
TX Disable	Disable		2.0	Vcc	V
	Enable		0	0.8	V
TX Fault	Fault		2.0	Vcc	V
	Normal		0	0.8	V
<b>Receiver</b>					
Data rate	BR		25.78		Gbps
Centre Wavelength	$\lambda_c$	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

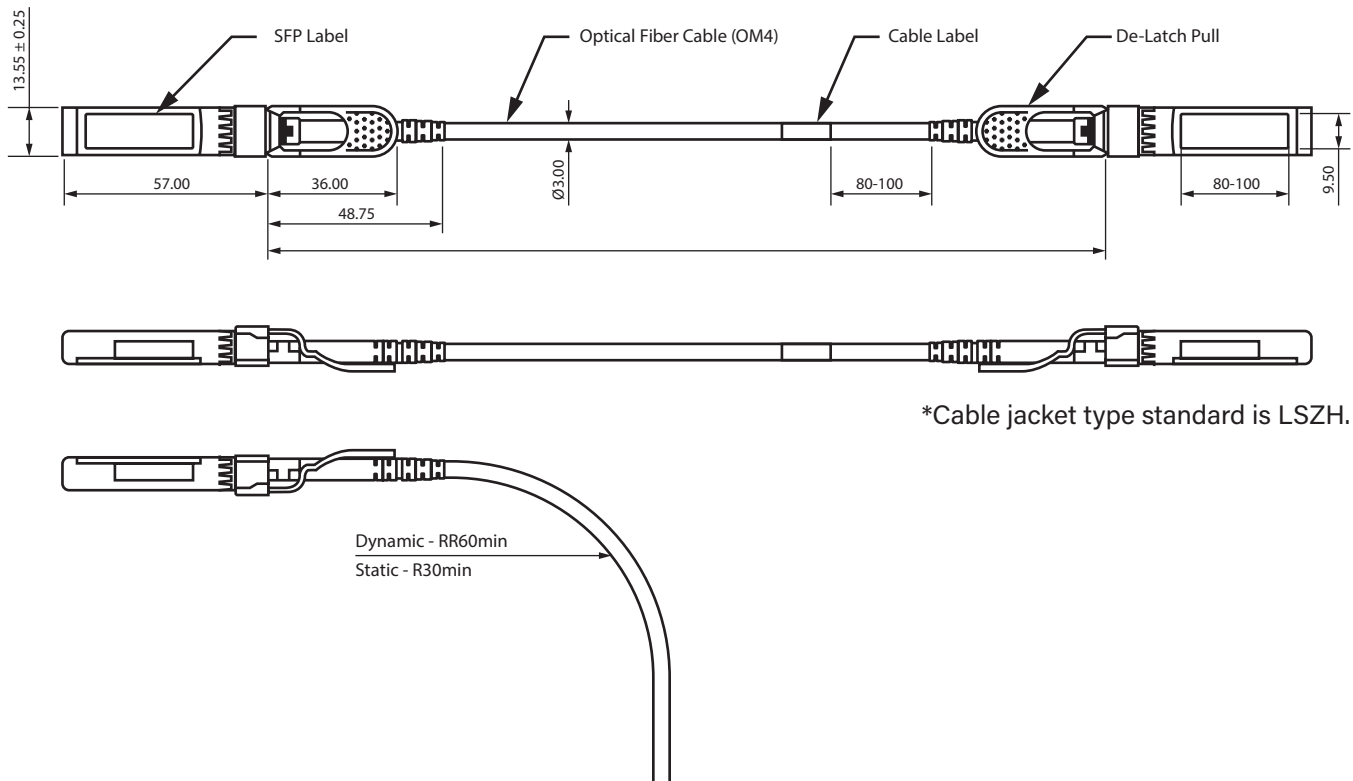
Parameter	Symbol	Min	Max	Unit	Conditions
Tx_Disable assert time	t_off		100	µs	Rising edge of Tx_Disable to fall of output signal below 10% normal
Tx_Disable negate time	t_on		2	ms	Falling edge of Tx_Disable to rise of output signal above 90% of normal. This only applies in normal operation, not during 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



**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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