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		λc	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		λc	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

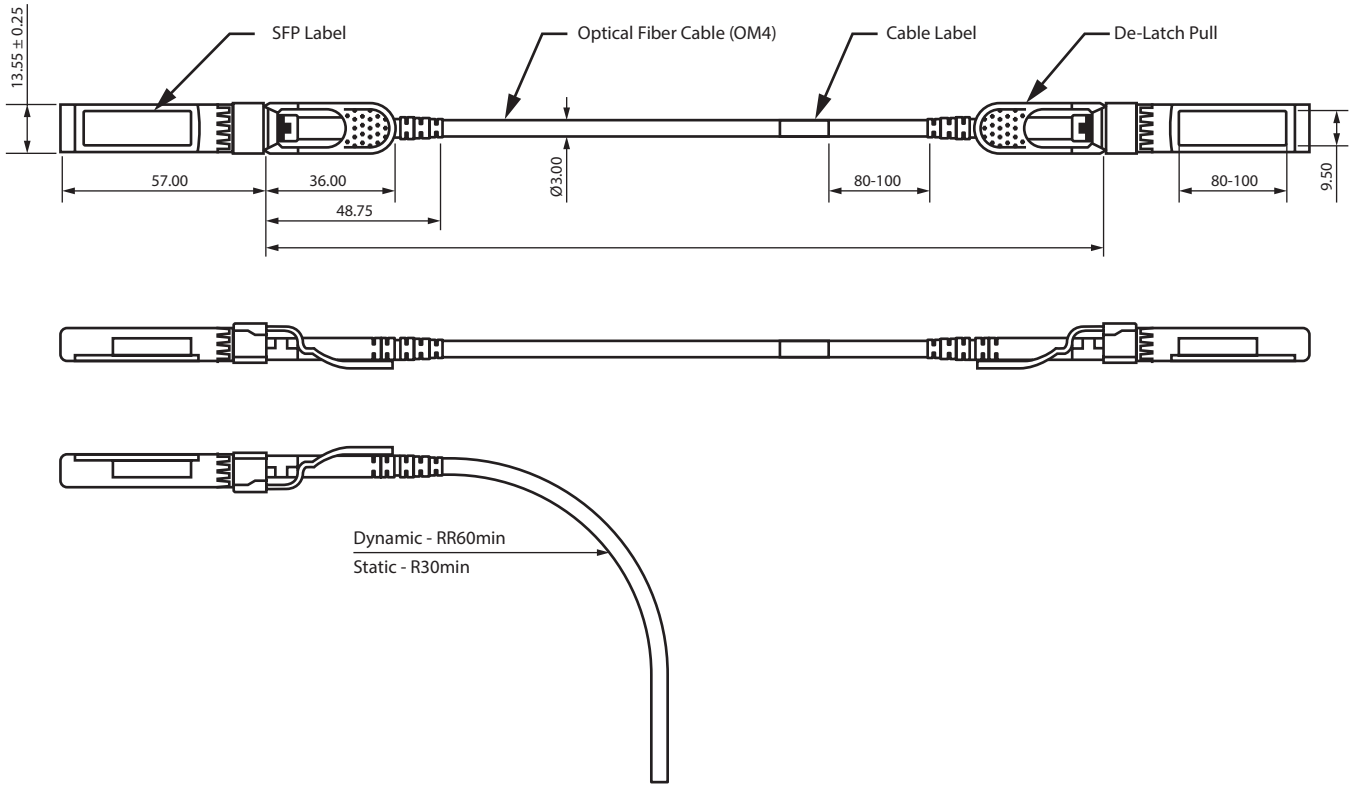
Parameter	Symbol	Min	Max	Unit	Conditions
Tx_Disable assert time	t_off		100	µs	Rising edge of Tx_Disable to fall of output signal below 10% normal
Tx_Disable negate time	t_on		2	ms	Falling edge of Tx_Disable to rise of output signal above 90% of normal. This only applies in normal operation, not during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

Our 25GBase SFP28 Multi-vendor active optical cables come in varying lengths and OEM connection options. To build the perfect fit for you, please view how to create your part number below.

Example:
For a **Brocade** to **Cisco** AOC measuring the length of **1m**, the part number would be as follows: SFP25G-**BRCS**-AOC-**1**M.

Please note that OEM abbreviations should be listed in alphabetical order.

Sample	OEM	OEM Abbreviations	Length <L>
SFP25G-XXXX-AOC-<L>M	Arista	AN	1m
	Brocade	BR	3m
	Cisco	CS	5m
	Dell	DF	7m
	Intel	IN	10m
	Juniper	JN	12m
	Mellanox	MX	15m
	MSA	MS	20m
	-	-	25m

8. Contact Information

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