MISCHQ561000000

MSA and TAA 200GBase QSFP56 Loopback Transceiver with 0dB Attenuation, -40 to 85C

Product Description

This MSA compliant QSFP56 loopback provides a simple solution to loopback testing on individual ports with the use of a cable assembly. It has 0dB of attenuation and is compatible with existing 200G QSFP56 ports. All of our transceivers are built to comply with Multi-Source Agreement (MSA) standards and are uniquely serialized and tested for data-traffic and application to ensure seamless network integration. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

Skylane's transceivers are RoHS compliant and lead-free.

Features:

- SFF-8665 Compliance
- Built-in surge current mitigation technology
- +3.3V power supply
- Supports 10G/25G/56G PAM4 data rates
- Industrial temperature: -40 to 85 Celsius
- Compliant with IEEE 802.3ba, 802.3bj, and 802.3cd standards
- 2-wire interface for integrated Digital Diagnostic Monitoring
- Hot Pluggable
- A multi-color LED indicator for high/low power modes
- RoHS Compliant and Lead-Free

Applications:

- 200GBase Ethernet

For your product safety, please read the following information carefully before any manipulation of the transceiver:

ESD

This transceiver is specified as ESD threshold 1kV for SFI pins and 2kV for all others electrical input pins, tested per MIL-STD-883G, Method 3015.4 /JESD22-A114-A (HBM). However, normal ESD precautions are still required during the handling of this module.

LASER SAFETY

This is a Class1 Laser Product according to IEC 60825-1:2007. This product complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated (June 24, 2007).

The optical ports of the module need to be terminated with an optical connector or with a dust plug in order to avoid contamination.

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Maximum Supply Voltage	Vcc	2.97	3.3	3.63	V	
Storage Temperature	Tstg	-40		+85	°C	
Operating Case Temperature	Tc	-40		+85	°C	
Storage Relative Humidity	RHs	0		95	%	
Operating Humidity	RHo	0		85	%	
Data Rate	BRate	0.1		200	Gbps	
Durability Cycles			2000	2250	Cycles	

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Differential Input Impedance	Zin	90	100	110	ohm	
Insertion Loss @14GHz	SDD21	3.5		10	dB	1
Insertion Loss Deviation	ILD	-1.0		1.0	dB	2
Return Loss		IEEE 802.3bj CL92.10.3.				
Skew Between Lanes	SKEW			200	ps	
Clock Frequency	f_{SCL}	0		400	KHz	
Clock Stretching	T_clock_hold			500	µs	

Notes:

1. The insertion loss for TX to RX, including the AC Caps, as measured with MCB. The MCB insertion loss comply with IEEE 802.3bj CL92.11.2.
2. At Nyquist Frequency

Pin Descriptions

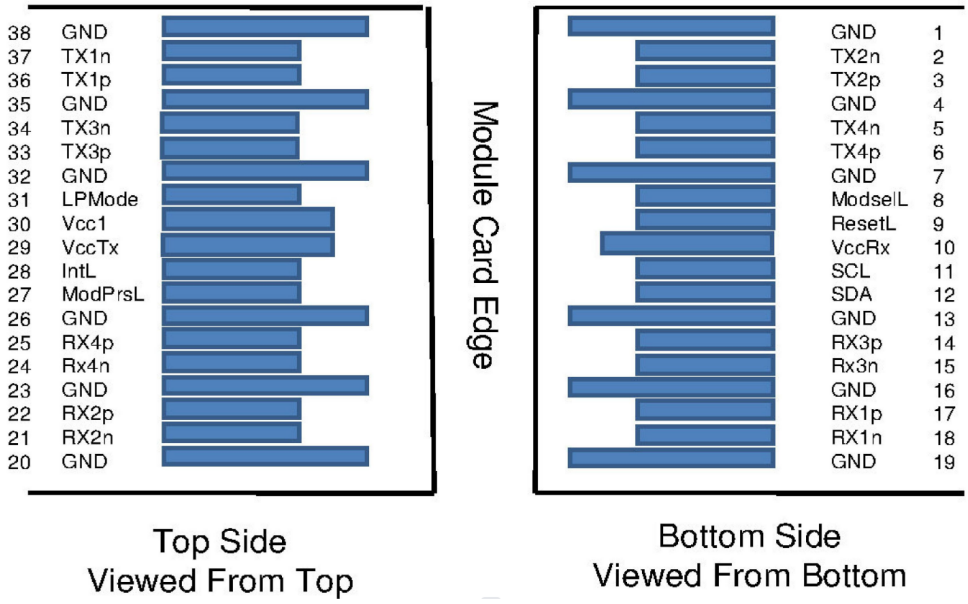
Pin	Symbol	Name/Description	Notes
1	GND	Module Ground.	1
2	Tx2-	Transmitter Inverted Data Input.	
3	Tx2+	Transmitter Non-Inverted Data Input.	
4	GND	Module Ground.	1
5	Tx4-	Transmitter Inverted Data Input.	
6	Tx4+	Transmitter Non-Inverted Data Input.	
7	GND	Module Ground.	1
8	ModSelL	Module Select.	
9	ResetL	Module Reset.	
10	VccRx	+3.3V Receiver Power Supply.	
11	SCL	2-Wire Serial Interface Clock.	
12	SDA	2-Wire Serial Interface Data.	
13	GND	Module Ground.	1
14	Rx3+	Receiver Non-Inverted Data Output.	
15	Rx3-	Receiver Inverted Data Output.	
16	GND	Module Ground.	1
17	Rx1+	Receiver Non-Inverted Data Output.	
18	Rx1-	Receiver Inverted Data Output.	
19	GND	Module Ground.	1
20	GND	Module Ground.	1
21	Rx2-	Receiver Inverted Data Output.	
22	Rx2+	Receiver Non-Inverted Data Output.	
23	GND	Module Ground.	1
24	Rx4-	Receiver Non-Inverted Data Output.	
25	Rx4+	Receiver Inverted Data Output.	
26	GND	Module Ground.	1
27	ModPrsL	Module Present.	
28	IntL	Interrupt.	
29	VccTx	+3.3V Transmitter Power Supply.	
30	Vcc1	+3.3V Power Supply.	
31	LPMode	Low-Power Mode.	
32	GND	Module Ground.	1
33	Tx3+	Transmitter Non-Inverted Data Input.	
34	Tx3-	Transmitter Inverted Data Input.	
35	GND	Module Ground.	1

36	Tx1+	Transmitter Non-Inverted Data Input.	
37	Tx1-	Transmitter Inverted Data Input.	
38	GND	Module Ground.	1

Notes:

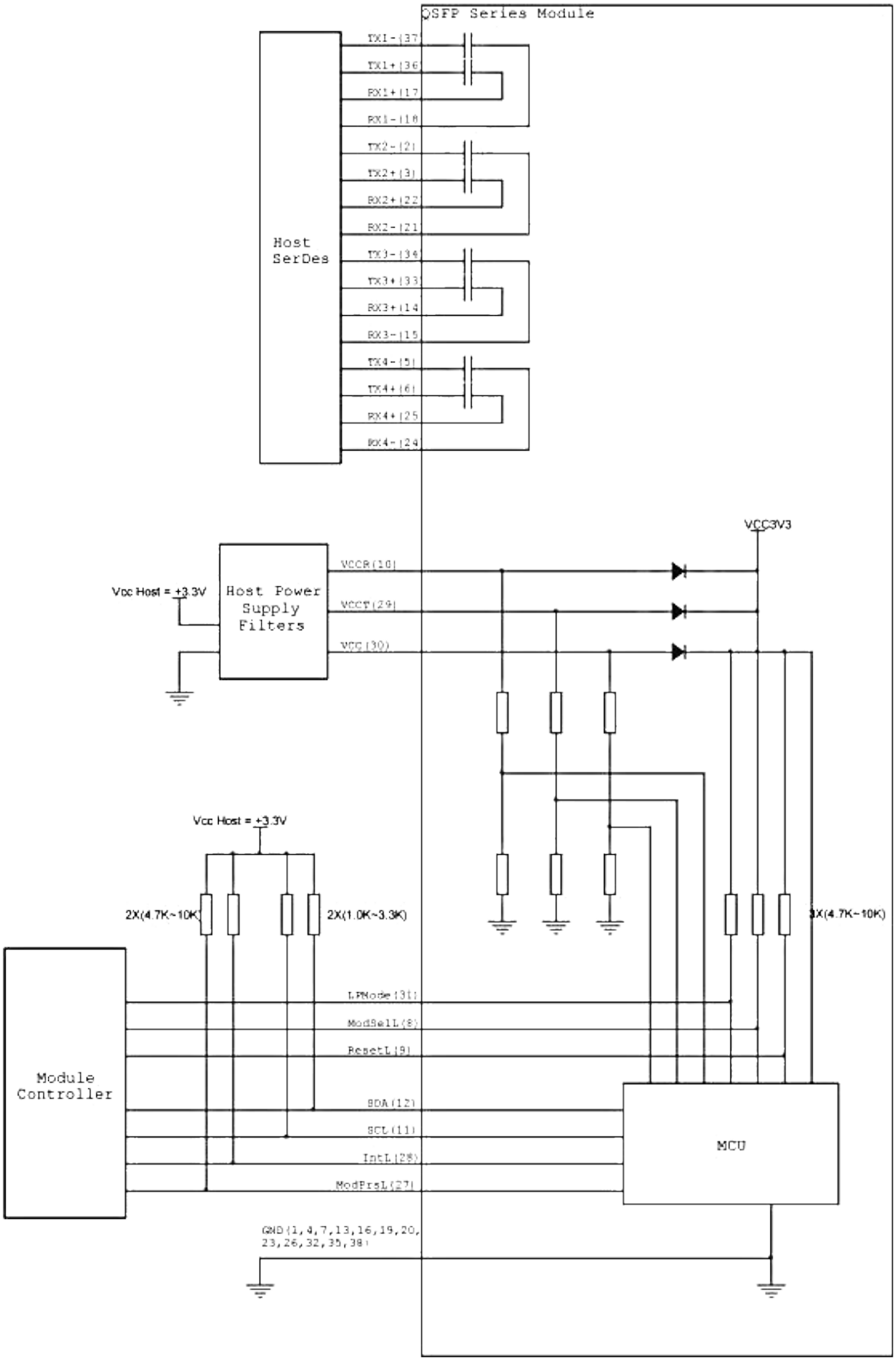
1. Circuit ground is internally isolated from the chassis ground.

Electrical Pad Layout



Pin-Out of Connector Block on the Host Board

Typical Application Circuit



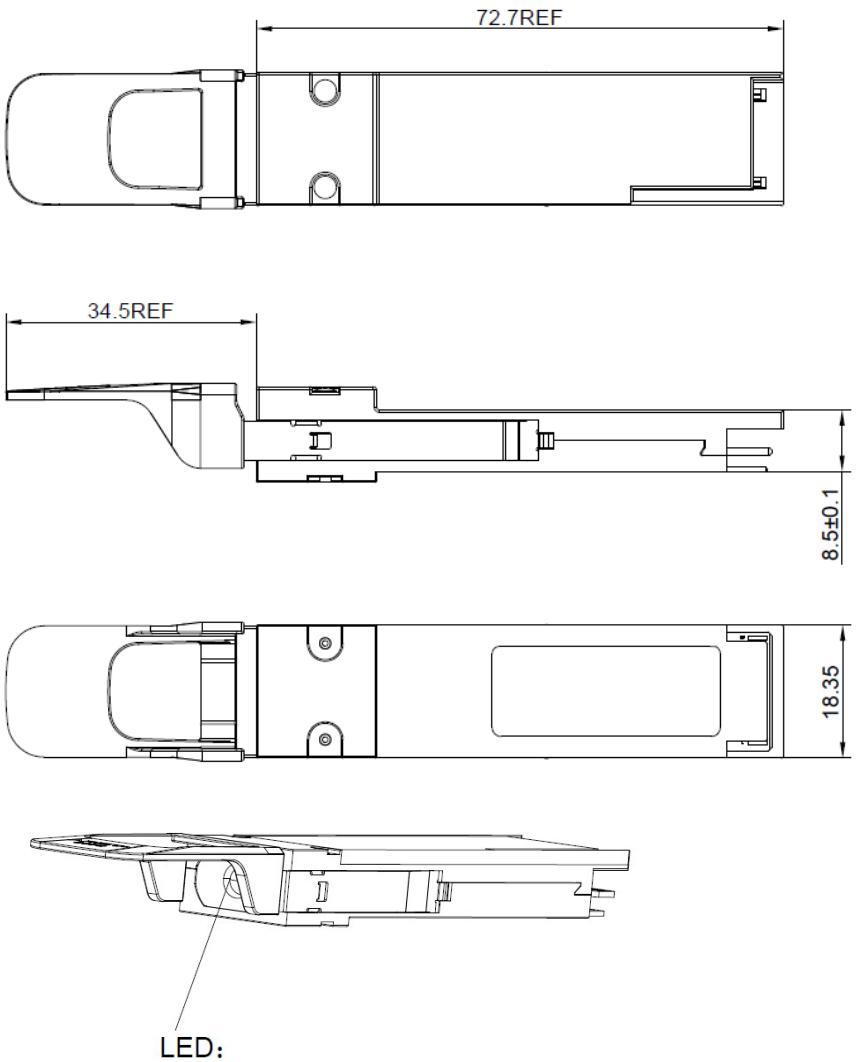
Status LED

A multi-color LED must be viewed from the front of the module in order to signify high/low power modes, as well as interrupts:

- Solid green: low-power mode
- Solid red: high-power mode
- Blinking green: low-power mode with any of the interrupt flag is set
- Blinking red: high-power mode with any of the interrupt flag is set

Mechanical Specifications

Dimensions are in millimeters. (Unit: mm)



About Skylane Optics

Skylane is a leading provider of transceivers for optical communication.

We offer an extensive portfolio for the enterprise, access, datacenter and metropolitan fiber optical market as well as for smart home applications and home networks.

We cover the European, South American and North American market with a strong partner network and have offices in Belgium, Brazil, Sweden and USA.

Our offerings are characterized by high quality and performance. In combination with our strong technical support, we enable our customers to build cost optimized network solutions.

We offer an extensive range of high-quality products including transceivers (Optical and copper), Active Optical Cable (AOC), Direct Attach Cable (DAC), Mux/Demux, Coding Box.