

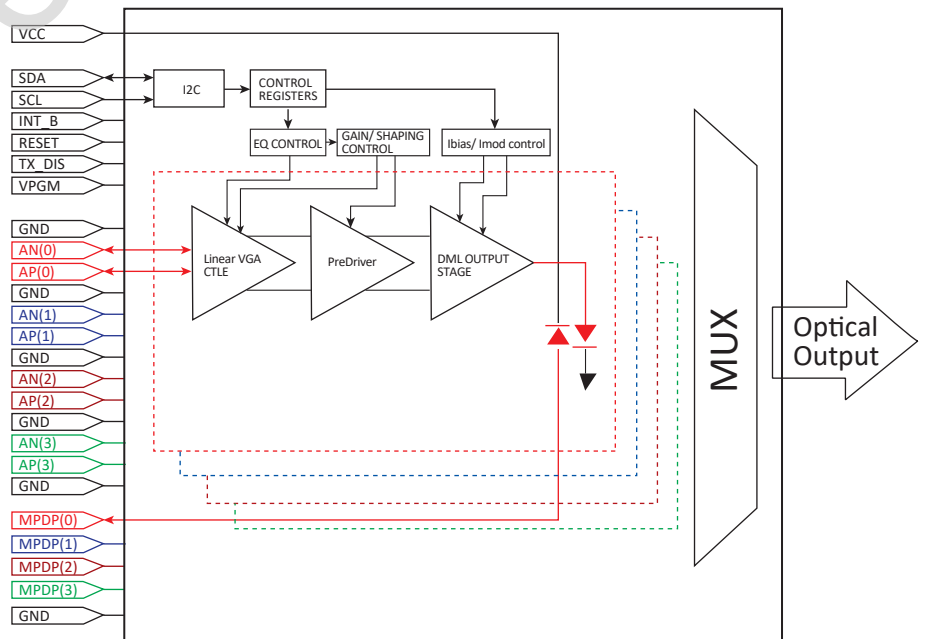
**Key Features**

- Up to 26.56 GbD/s (PAM4)
- Direct Modulation Laser (DML) Base Quad TOSA for 200G FR4
- Integrated LDD
- 2 Wire Communication (Up to 400 kHz)
- CWDM Optical MUX Integrated
- Pigtail with LC Connector

**Applications**

- 200G FR4 SMF Transceiver
- On Board Optics

**Modular Block Diagram**



### Optical and Electrical Characteristics

T<sub>c</sub> = 0°C to 80°C, (unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Units
<b>General / Environment</b>					
Operating Ambient Temperature	T <sub>a</sub>	0	25	80	degC
Data Rate		25.78	26.56	28.08	GBd/s
Input Voltage Supply	V <sub>cc</sub>	3.15	3.3	3.465	V

### Transmitter Performance

Lane wavelength range		1264.5		1277.5	nm
		1284.5		1297.5	
		1304.5		1317.5	
		1324.5		1337.5	
Average launch power, each lane			0.5		
Optical Modulation Amplitude (OMA), Each lane(*1)		-1.2	-0.7	4.5	dBm
Extinction ratio(*2)		3.5	4.5		dBm
Difference in launch power between any two lanes				4	dB
Transmitter and dispersion eye closure (TDECQ) for PAM4, each lane			2.5		dB
Transmitter reflectance				-26	dB
Optical return loss tolerance				16.5	dB

### Differential Data Inputs

Differential Input Voltage	V <sub>IN_DE</sub>	600	800	1000	mVpp
Differential Input Impedance	Z <sub>IN_DE</sub>		100		Ohm

### CMOS JEDEC JESD8-C and Serial Bus Interface

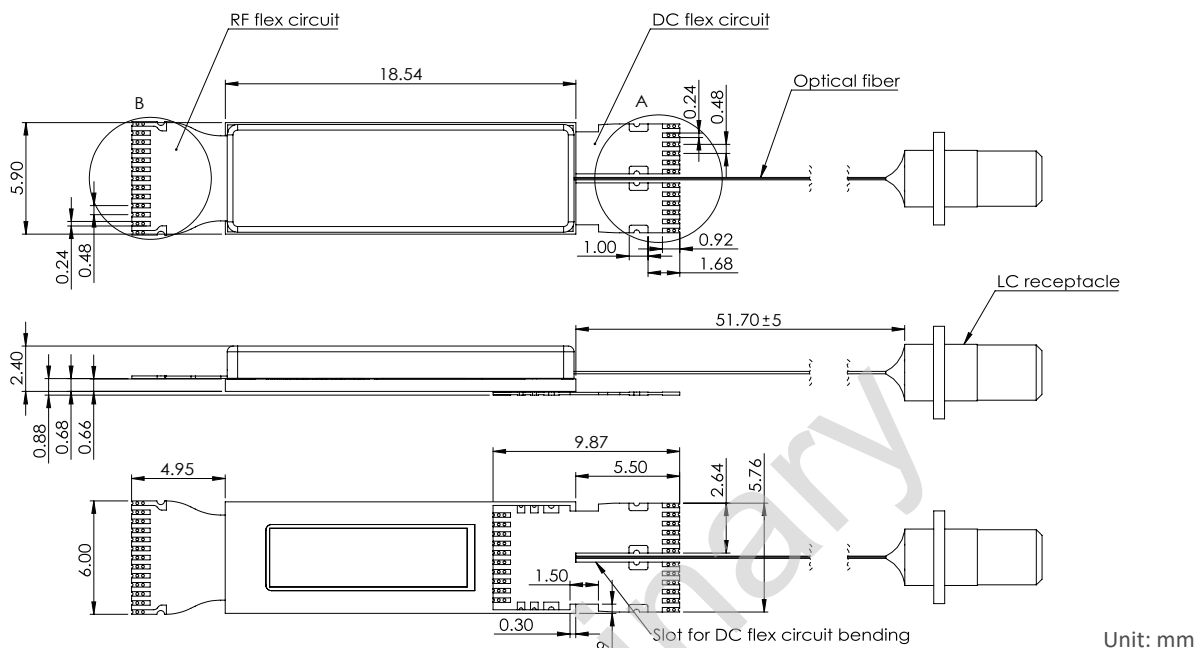
CMOS Input Voltage (Low)	V <sub>CMOSIL</sub>	V <sub>EE</sub> -0.3		0.8	V
CMOS Input Voltage (High)	V <sub>CMOSIH</sub>	2		V <sub>CC</sub> +0.3	V
CMOS Output Low Voltage	V <sub>CMOSOL</sub>	V <sub>EE</sub>		0.4	V
CMOS Output High Voltage	V <sub>CMOSOH</sub>	2.4		V <sub>CC</sub>	V

### Absolute Maximum Ratings

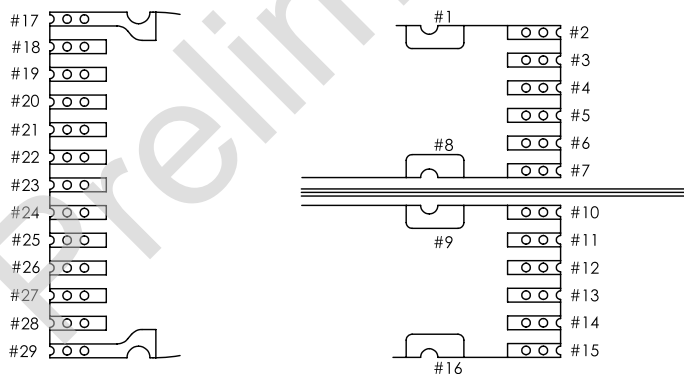
T<sub>c</sub> = 25°C, (unless otherwise specified)

Parameter	Symbol	Condition	Min.	Max.
Supply Voltage	V <sub>D</sub>		-0.5 V	4 V
Data Input Amplitude	I <sub>N0~3</sub>	AC coupled		V <sub>CC</sub> +0.5V
Monitor Photodiode Forward Current	I <sub>mpd_f</sub>			10 mA
Monitor Photodiode Reverse Voltage			20 V	
Storage Temperature	T <sub>stg</sub>		-40 degC	85 degC
Electrical Discharge Voltage(HBM)	VESD,HBM			TBD

**Dimensions**



Unit: mm



**Pin Configuration**

Pin#	Symbol	Pin#	Symbol	Pin#	Symbol	Pin#	Symbol
1	VCC	9	GND	17	GND	25	AP(2)
2	SCL	10	INT_B	18	AN(0)	26	GND
3	SDA	11	RESET	19	AP(0)	27	AN(1)
4	MPDP0	12	VPGM	20	GND	28	AP(1)
5	MPDP1	13	TX_DIS	21	AN(1)	29	GND
6	MPDP2	14	NC	22	AP(1)		
7	MPDP3	15	NC	23	GND		
8	GND	16	VCC	24	AN(2)		

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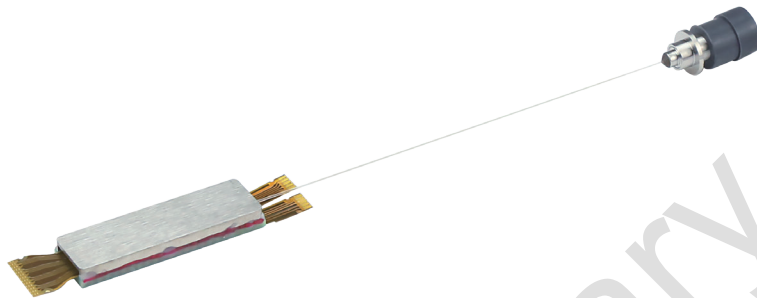
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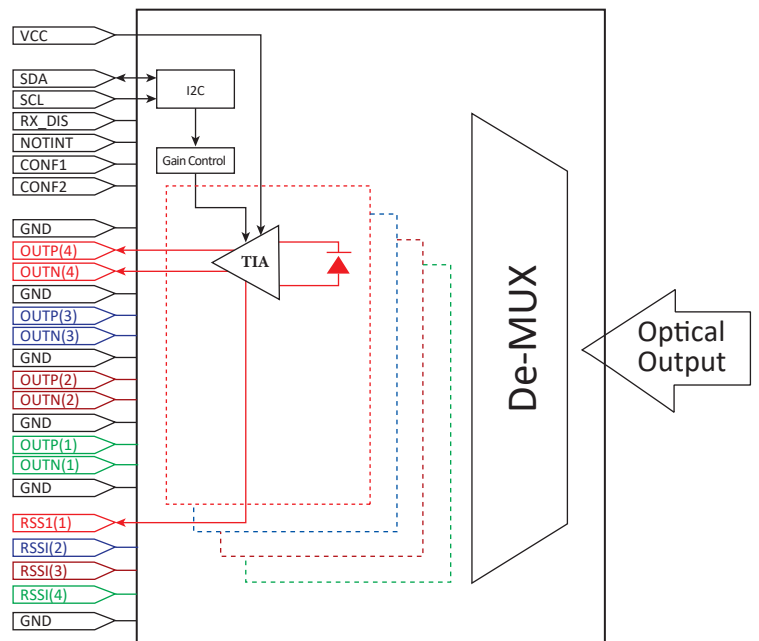
**Key Features**

- Up to 26.56 GBd/s (PAM4)
- PIN Photodiode (PIN-PD) Base Quad ROSA for 200G FR4
- Integrated TIA
- Programmable Output Swing, Squelch and De-Emphasis
- 2 Wire Communication (Up to 400 kHz)
- CWDM Optical De-MUX Integrated
- Pigtail with LC Connector

**Applications**

- 200G FR4 SMF Transceiver
- On Board Optics

**Modular Block Diagram**



### Optical and Electrical Characteristics

T<sub>c</sub> = 0°C to 80°C, (unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Units
<b>General / Environment</b>					
Operating Ambient Temperature	T <sub>a</sub>	0	25	80	degC
Storage Temperature		-40		85	degC
Data Rate		23.7	26.56	28.1	GBd/s
Input Voltage Supply	V <sub>cc</sub>	3.14	3.3	3.47	V
Lane wavelength range		1264.5		1277.5	nm
		1284.5		1297.5	
		1304.5		1317.5	
		1324.5		1337.5	
Damage threshold, each lane				5.7	dBm
Receiver reflectance				-26	dB

### Differential Data Outputs

Differential Output Amplitude	V <sub>IN_DE</sub>	150		500	mVppd
Maximum Supply Noise Density (pp)	V <sub>SND</sub>			100	mV/Hz
Low Frequency Cut-off			50	150	kHz
Receiver sensitivity (OMA-outer)				-6	dBm
Average receive power, Each lane		-8.2		4.7	dBm
Receive power (OMA-outer), each lane				4.5	dBm
Difference in receive power between Any two lane (OMA-outer)				4.1	dB

### CMOS IO

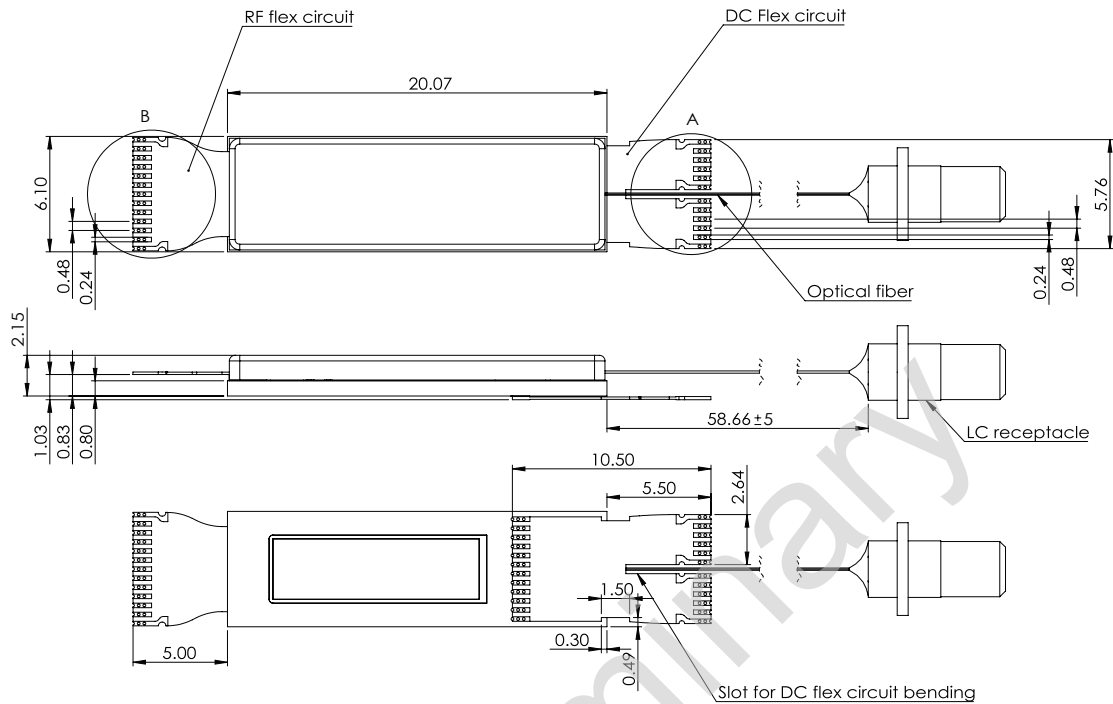
CMOS Input Voltage (Low)	V <sub>CMOSIL</sub>	V <sub>EE</sub>		0.8	V
CMOS Input Voltage (High)	V <sub>CMOSIH</sub>	2		V <sub>cc</sub>	V
CMOS Output Low Voltage	V <sub>CMOSOL</sub>	V <sub>EE</sub>		0.4	V
CMOS Output High Voltage	V <sub>CMOSOH</sub>	2.4		V <sub>cc</sub>	V

### Absolute Maximum Ratings

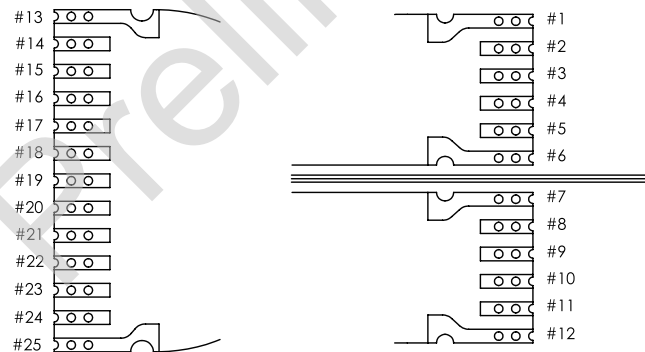
T<sub>c</sub> = 25°C, (unless otherwise specified)

Parameter	Symbol	Condition	Min.	Max.
Maximum Optical Input Power	P <sub>IN</sub>	Each lane, CW	5.7 dBm	
TIA Power Supply Voltage (3.3V)	V <sub>cc33</sub>		-0.5 V	4 V
Maximum Data Output Voltage	V <sub>out</sub>		V <sub>EE</sub> -0.5V	V <sub>cc</sub> +0.5V
Storage Temperature	T <sub>stg</sub>		-40 degC	85 degC
Electrical Discharge Voltage(HBM)	VESD, HBM			TBD

**Dimensions**



Unit: mm



**Pin Configuration**

Pin#	Symbol	Pin#	Symbol	Pin#	Symbol	Pin#	Symbol
1	VCC	8	SDA	15	OUTN(4)	22	GND
2	RSSI4	9	SCL	16	GND	23	OUTP(1)
3	RSSI3	10	RSSI2	17	OUTP(3)	24	OUTP(1)
4	RX_DIS	11	RSSI1	18	OUTN(3)	25	GND
5	NOTINT	12	GND	19	GND		
6	CONF2	13	GND	20	OUTP(2)		
7	CONF1	14	OUTP(4)	21	OUTN(2)		

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