

TITLE 1600G Active Loopback Module	DOC No. RFD-20260105300-001	
	REVISION : 01	AUTHORIZED BY : Albert Lin
	DATE : 2026.01.05	CLASSIFICATION : CONFIDENTIAL

1. PRODUCT FEATURES

- Hot-pluggable 1600G OSFP Active Loopback
- 3nm CMOS process DSP
- Compliant with OSFP MSA, close top
- VCC voltage ranges from 2.97V to 3.63V
- Operating case temperature 0°C to +85 °C
- Multi-color LED on the front
- The module power distributed to the 5 burners
- Customized CMIS Rev 5.2

2. PRODUCT APPLICATIONS

- Switch aging and testing
- 8x200G, 8x100G ,8x50G active loopback

3. PRODUCT DESCRIPTION

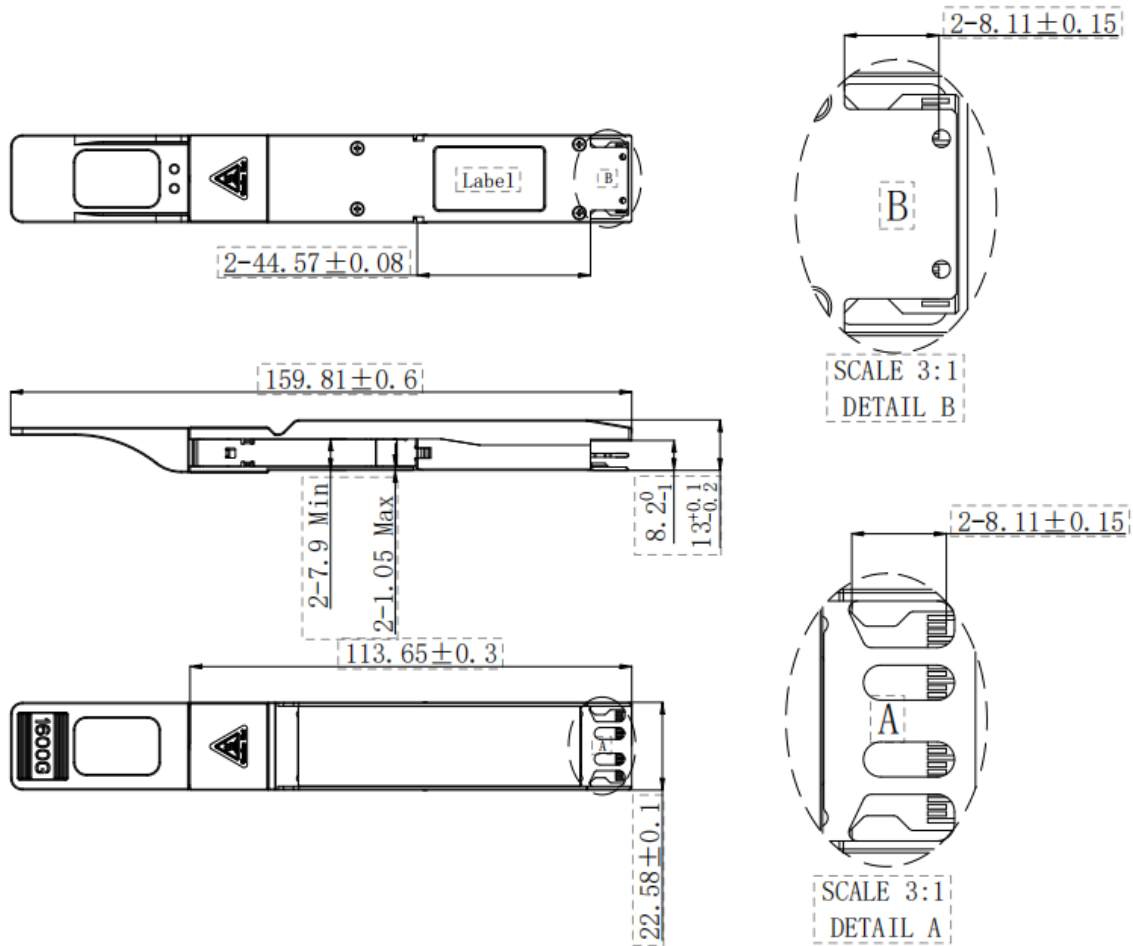
3.1 PRODUCT NAME

1.6T Active Loopback Module

JPC P/N	Bit Rate	Distance	Connector	Tem.	DDMI	Fiber Type
P6900LTKSX00-1	1600G	n/a	n/a	0~85	n/a	n/a

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3.2 DIMENSIONS, MATERIALS, PLATINGS AND MARKING



Unit is millimeter. All dimensions are ± 0.1 mm unless otherwise specified

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4. Absolute Maximum Ratings & Recommended Operating Conditions

Absolute Maximum Ratings						
Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Supply Voltage	V _{cc}	-0.3	-	3.6	V	
Storage Temperature	T _s	0	-	+85	°C	
Operating Humidity	RH	5	-	+85	%	
Control Input Voltage	V _I	-0.3	-	V _{CC} +0.3	V	

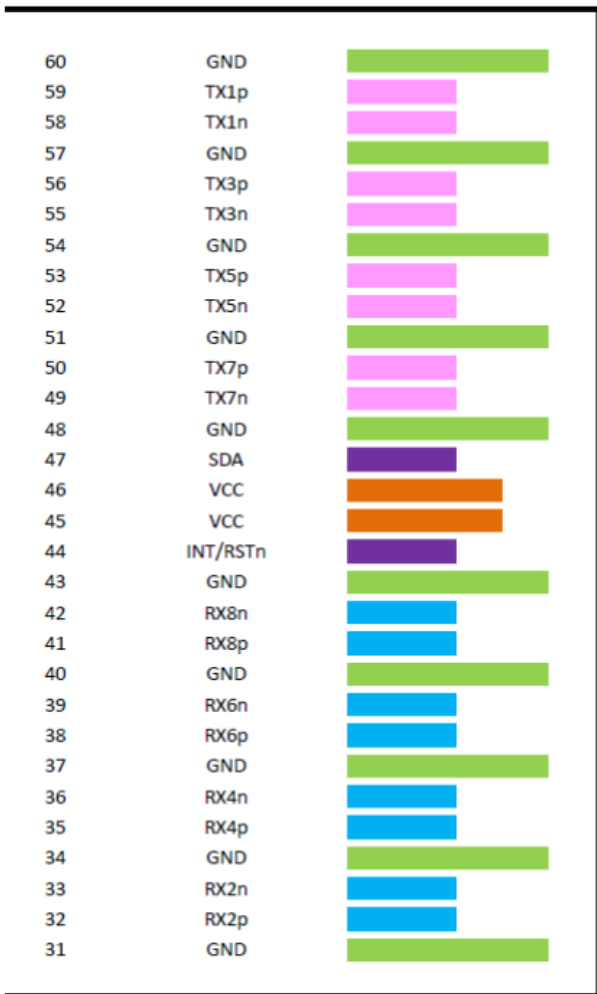
Recommended Operating Conditions and Power Supply Requirements						
Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Operating Case Temperature	T _c	0	-	85	°C	
Power Supply Voltage	V _{cc}	2.97	3.3	3.63	V	
Power Dissipation	P _{diss}	-	-	50	W	
Supply Current	I _{cc}	1.5	-	16	A	

Digital Diagnostic Specifications						
Parameter	Symbol	Min.	Typical	Max.	Unit	Notes
Temperature monitor absolute error	DMI_Temp	-3	-	3	degC	
Supply voltage monitor absolute error	DMI_VCC	-10%	-	10%	V	

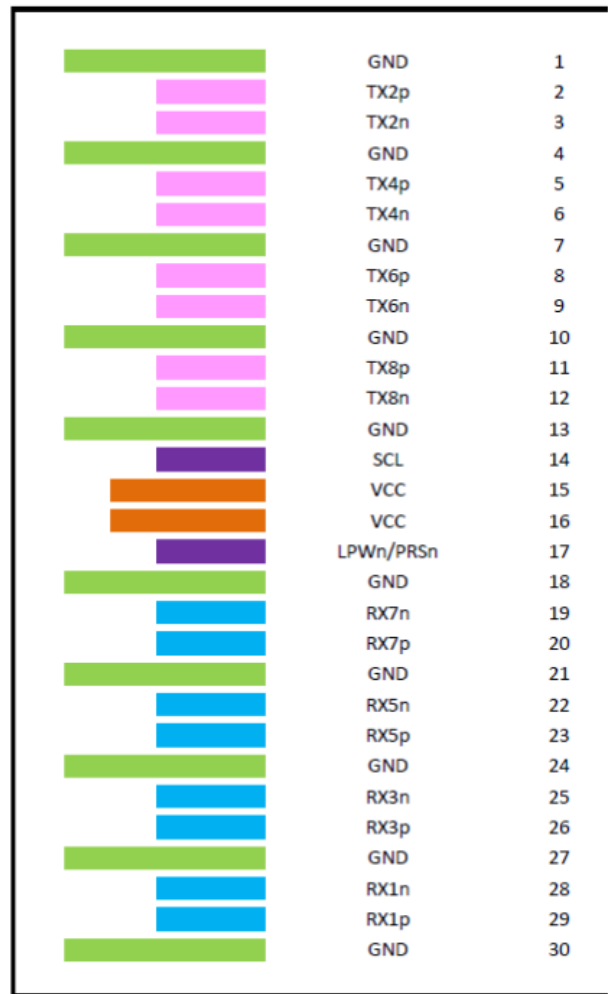
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5. Applications Note:

Top Side (viewed from top)



Bottom Side (viewed from bottom)



----- Module Card Edge -----

Pin Function Definitions for QSFP28

PIN	Symbol	Name/Description	Note
1	GND	Ground	
2	TX2p	Transmitter Data Non-Inverted	
3	TX2n	Transmitter Data Inverted	
4	GND	Ground	

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5	Tx4p	Transmitter Data Non-Inverted	
6	TX4n	Transmitter Data Inverted	
7	GND	Ground	
8	TX6p	Transmitter Data Non-Inverted	
9	TX6n	Transmitter Data Inverted	
10	GND	Ground	
11	TX8p	Transmitter Data Non-Inverted	
12	TX8n	Transmitter Data Inverted	
13	GND	Ground	
14	SCL	2-wire Serial interface clock	
15	VCC	+3.3V Power	
16	VCC	+3.3V Power	
17	LPWn/PR Sn	Low-Power Mode / Module Present	
18	GND	Ground	
19	RX7n	Receiver Data Inverted	
20	RX7p	Receiver Data Non-Inverted	
21	GND	Ground	
22	RX5n	Receiver Data Inverted	
23	RX5p	Receiver Data Non-Inverted	
24	GND	Ground	
25	RX3n	Receiver Data Inverted	
26	RX3p	Receiver Data Non-Inverted	
27	GND	Ground	
28	RX1n	Receiver Data Inverted	
29	RX1p	Receiver Data Non-Inverted	
30	GND	Ground	

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31	GND	Ground	
32	RX2p	Receiver Data Non-Inverted	
33	RX2n	Receiver Data Inverted	
34	GND	Ground	
35	RX4p	Receiver Data Non-Inverted	
36	RX4n	Receiver Data Inverted	
37	GND	Ground	
38	RX6p	Receiver Data Non-Inverted	
39	RX6n	Receiver Data Inverted	
40	GND	Ground	
41	RX8p	Receiver Data Non-Inverted	
42	RX8n	Receiver Data Inverted	
43	GND	Ground	
44	INT/RSTn	Module Interrupt / Module Reset	
45	VCC	+3.3V Power	
46	VCC	+3.3V Power	
47	SDA	2-wire Serial interface data	
48	GND	Ground	
49	TX7n	Transmitter Data Inverted	
50	TX7p	Transmitter Data Non-Inverted	
51	GND	Ground	
52	TX5n	Transmitter Data Inverted	
53	TX5p	Transmitter Data Non-Inverted	
54	GND	Ground	
55	TX3n	Transmitter Data Inverted	
56	TX3p	Transmitter Data Non-Inverted	

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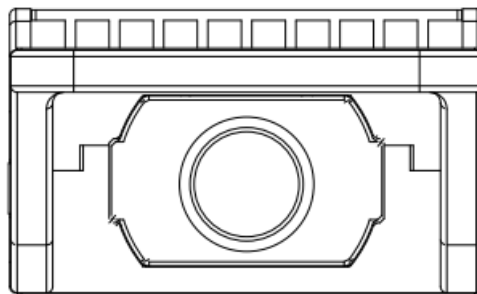
57	GND	Ground	
58	TX1n	Transmitter Data Inverted	
59	TX1p	Transmitter Data Non-Inverted	
60	GND	Ground	

Digital Diagnostic Specifications

Customized CMIS rev 5.2.

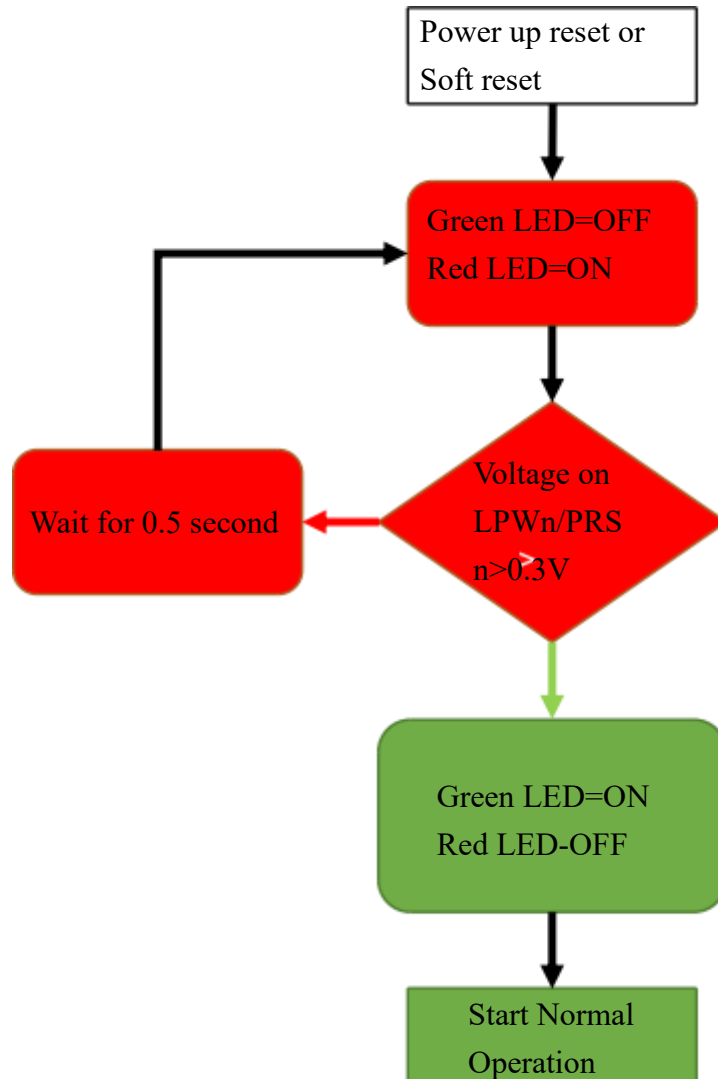
Status LED

A multi-color LED viewed from the front of the module in order to signify high/low power modes, module fully insert, and interrupts:



LED interface arrangement

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Power up reset or Soft reset

- Illuminate RED LED,
- Continuous illuminate Red LED if the voltage on LPWn/PRSn is below 0.3V
- Once the LPWn/PRSn is above 0.3V, illuminate Green LED, and
- Start the Normal operation.

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Normal Operation

- 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

6. Modification History

Rev.	Comments	Date	Originator	Approval
01	Initial	2026.01.05	Albert Lin	Mike Sun