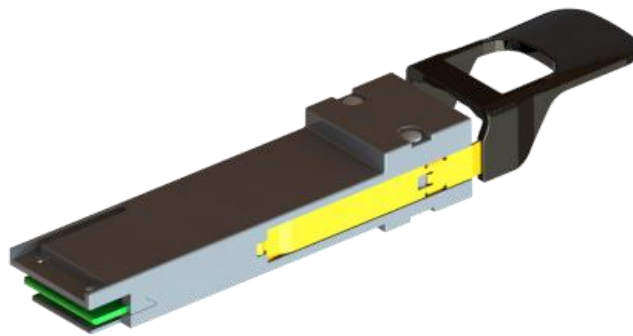
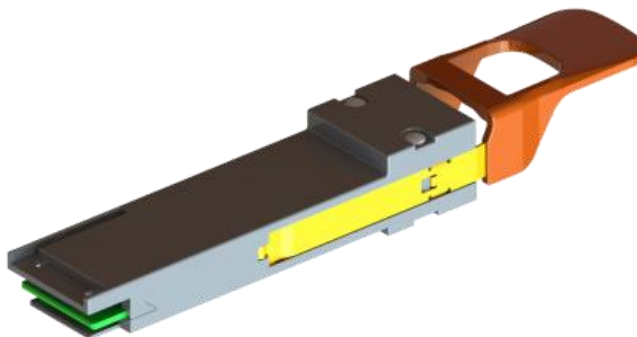


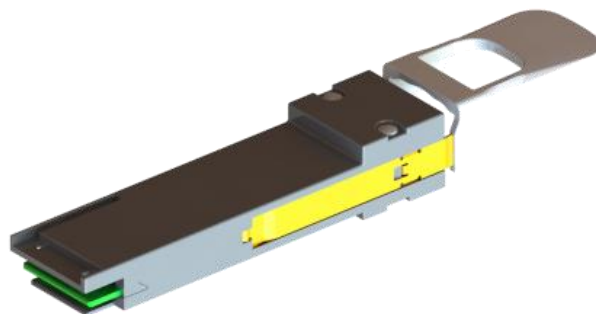
QSFP56 LOOPBACK MODULE



0- Watt



3.5-Watt



7-Watt



ColorChip Technology Co., LTD.

Better World Beyond Optics

ColorChip SmartLoop for QSFP 200G

FEATURES

- ◆ Industry's highest rated mating cycles for 2000 and above
- ◆ Built-in surge current mitigation technology
- ◆ Built-in programmable power dissipation up to 7 W
- ◆ Operating temperature: -40°C to 85°C
- ◆ +3.3V power supply
- ◆ Supports 10G/25G/56G PAM4 data rates
- ◆ 2-wire interface for integrated Digital Diagnostic Monitoring
- ◆ Signal integrity performance meets IEEE 802.3ba, 802.3bj, 802.3cd standards respectively
- ◆ Custom EEPROM available
- ◆ A multi-color LED indicator for high/low power modes
- ◆ Hot-pluggable
- ◆ RoHS 2.0 compliant

REFERENCES

- [1] SFF-8665, QSFP+ 28 Gb/s 4X Pluggable Transceiver Solution (QSFP28), Rev 1.8
- [2] SFF-8636, Management Interface for Cabled Environments, Rev 2.9
- [3] SFF-8661, Mechanical requirements specification
- [4] SFF-8679, QSFP28 4X Base Electrical Specification, Rev 1.7
- [5] SFF-8024, SFF Cross Reference to Industry Products, Rev 4.4

Description

Designed and engineered to accommodate customers high usage 2000 cycles at -40°C to 85°C, the loopback module series are the most reliable products in the market to enable the quickest customers systems production and deployment. Software defined multiple power consumption may emulate the optical module power, and the embedded insertion loss characteristics emulates the real-world cabling for 40G/100G/200G Ethernet/Infiniband/FC. The built-in surge current mitigation technology mitigates the DUT risks from being damaged. The broad operating temperature range accommodates the enterprise, datacom and telecom applications. The loopback module may be used for ports testing, field deployment testing and equipment troubleshooting.

ColorChip SmartLoop for QSFP 200G

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temperature	Tst	-40	+85	°C
Operating Case Temperature	Tc	-40	+85	°C
Storage Relative Humidity	RH _s	0	95	%
Operating Humidity	RH _o	0	85	%
Supply Voltage	Vcc	2.97	3.63	V

Recommended Operating Conditions

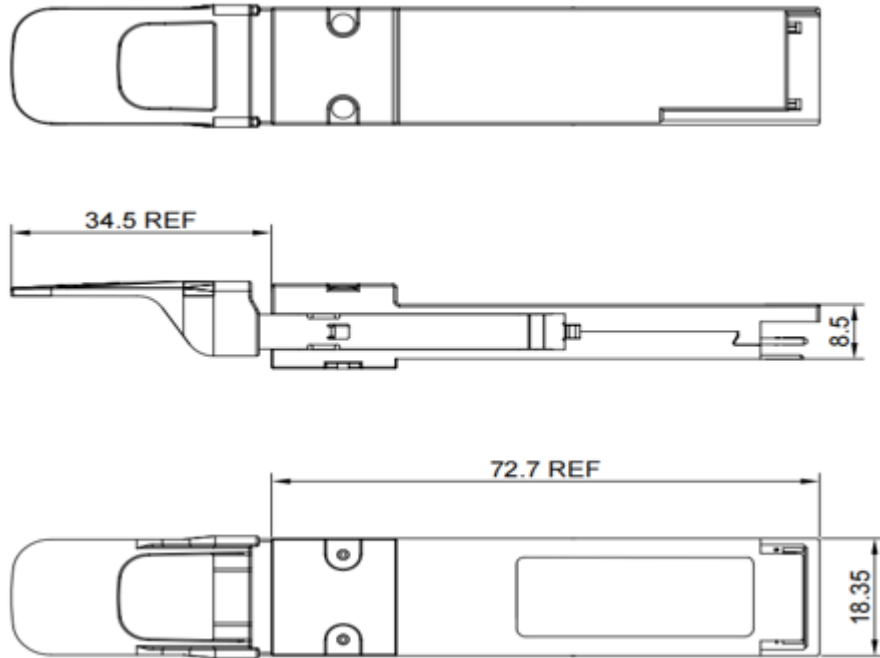
Parameter	Symbol	Min	Typical	Max	Unit
Operating Case temperature	Tc	-40	-	85	°C
Supply Voltage	Vcc	2.97	3.3	3.63	V
Data Rate	BRate	0.1	-	200	Gbps
Durability Cycles		-	2000	2250	Cycles

Electrical Specifications

Parameter	Symbol	Min	Typical	Max	Unit	Note
Differential input impedance	Z _{in}	90	100	110	ohm	
Insertion Loss	SDD21 _{MIN}	$SDD21_{MIN} = -0.005 * f^2 - 2 * IL_{catf}(f)$			dB	
	SDD21 _{MAX}	$SDD21_{MAX} = -0.015 * (8 + f)^2 - 2 * IL_{tcatf}(f)$			dB	
	<i>f</i> is frequency in GHz; <i>IL_{catf}(f)</i> is the reference test fixture printed circuit board insertion loss per 4 Equation 92-35 of IEEE 802.3bj Standard at frequency <i>f</i> ; Exclude the MCB insertion loss, at 13GHz, SDD21MIN(13GHz) = -0.845dB, and SDD21MAX(13GHz) = -6.615dB					
Insertion Loss Deviation	ILD	IEEE 802.3cd Clause 136B.1.1.1.			dB	
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	

ColorChip SmartLoop for QSFP 200G

Mechanical Dimensions



Mechanical Drawing

Ordering Information

Model Number	Part Number	Product Description
T-50-Q-LB-070	1060100033070	QSFP56 200G LOOPBACK ,7W, WHITE PULLTAB
T-50-Q-LB-035	1060100033035	QSFP56 200G LOOPBACK ,3.5W, ORANGE PULLTAB
T-50-Q-LB-000	1060100033000	QSFP56 200G LOOPBACK ,0W, BLACK PULLTAB