WAVE2WAVE.io
Cabling, Power, Connectivity - Simplified

QSFP+ Loopback

Overview

The w-Ignite™ QSFP+ Passive Electrical Loopback Module is designed for testing and validating QSFP/QSFP+ ports in development, production, and field environments. It provides a low-loss, cost-effective electrical return path to evaluate port functionality, signal integrity, and power consumption without requiring optical transceivers.

Housed in a standard MSA-compliant enclosure, the module loops transmit signals back to the host receiver for system-level diagnostics and verification. Engineered for reliability and precision, the w-Ignite™ QSFP+ Loopback ensures stable performance and long service life, making it ideal for data centers, R&D labs, and manufacturing test systems.

Applications

- QSFP/QSFP+ port validation and performance testing
- System-level verification of signal integrity and power
- R&D, manufacturing, and field diagnostics
- Ethernet, InfiniBand, and Fiber Channel compliance testing
- Data center hardware and network validation

Specifications

- Backshell: Zinc die-cast with nickel plating and white nylon cork
- PCB Paddle: FR4, 38 positions
- PCB Contact Plating: 30µ" minimum gold
- Pull Tab: Polyamide (nylon)
- Pull Tab Cover: Stainless steel
- EMI Girdle: Stainless steel
- Rivet: Aluminum
- Durability: 500 cycles (EIA-364-23C)
- Mating Force: 40N max (EIA-364-13D)
- Unmating Force: 30N max (EIA-364-13D)
- Latch Strength: 90N min (EIA-364-13D)
- Supply Voltage: 3.13 – 5.25 VDC (typ. 3.3 VDC)
- Withstanding Voltage: 300 VDC
- Power Current Rating: 0.5 A max per contact
- Insulation Resistance: 1000 MΩ min (EIA-364-21C)
- Differential Impedance: 100 Ω ± 10 @ 70 ps rise time (20–80%) (EIA-364-108)
- Within-Pair Skew: < 10 ps (EIA-364-103)
- Insertion Loss (SDD21): 0 dB or 5 dB at initial test

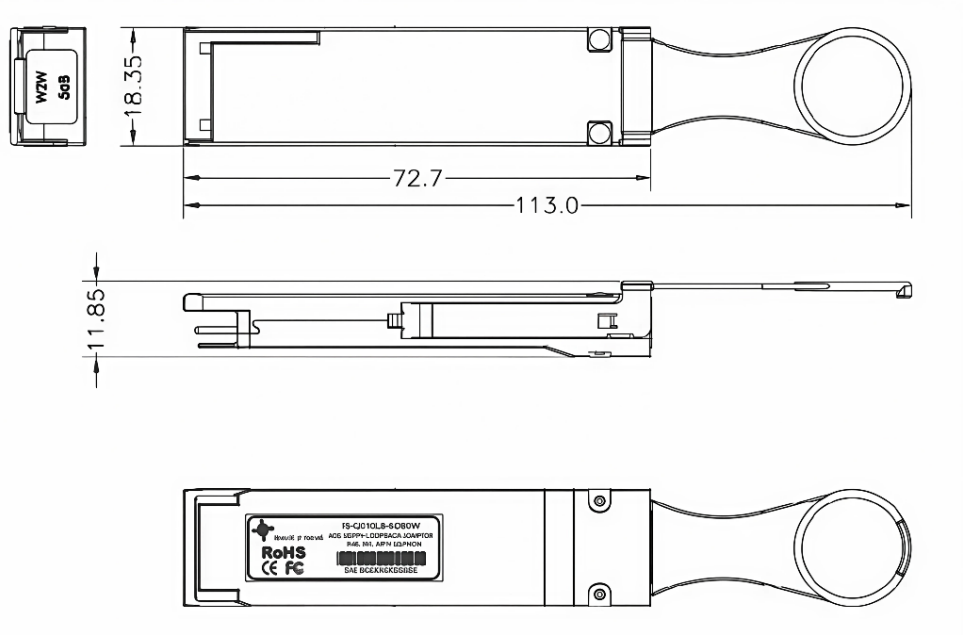
Features

- Supports data rates up to 10.3 Gbps per lane
- Hot-pluggable, MSA-compatible design
- Compliant with SFF-8436 and SFF-8431 standards
- Integrated EEPROM with customizable serial ID
- Available in 0 dB or 5 dB attenuation versions
- Operates from –40 °C to +85 °C
- Low crosstalk and skew for superior signal integrity
- Compatible with Ethernet, InfiniBand, SONET/SDH, and Fiber Channel

Benefits

- Cost-effective solution for port and system testing
- Enables board-level validation and power-on diagnostics
- Simplifies troubleshooting without optical modules
- Ensures stable signal integrity and repeatable results
- Durable plug-and-play design minimizes test time and maintenance

Technical Drawing



Recommended Operating Conditions					
Parameter	**Symbol**	**Min**	**Typical**	**Max**	**Unit**
Storage Ambient Temperature		-40		+85	ºC
Operating Case Temperature	Tc	0		+70	ºC
Power Supply Voltage	Vcc3	3.13	3.3	3.47	V
Power Dissipation	PD			0.5	W

Product Selection

Part Number: 75-Q010-LB-5DB-0W Attenuation: 5 dB

Part Number: 75-Q010-LB-0DB-0W Attenuation: 0 dB

Part Number: 75-Q010-LB-5DB-1W Attenuation: 5 dB

Part Number: 75-Q010-LB-0DB-1W Attenuation: 0 dB

Standards Compliance

- Electrical: SFF-8431, SFF-8083
- Mechanical: SFF-8432
- EEPROM: SFF-8472

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