

SMI Optical Interconnects

106108 Transceivers, 88531 Cable Assemblies

Plastic optical fiber SMI interconnects provide high-speed data signals for end-user applications

Molex's SMI Interconnects provide high-speed and effective data connections for industrial, consumer and end-user applications. This plastic optical system ensures many benefits over traditional copper lines.

SMI is a POF interface standardized to IEC-671754-21. SMI is accepted as an industry standard POF interconnect for applications ranging from wind turbines, medical equipment and internal equipment data links to set-top box interfaces and Internet Protocol Television (IPTV) applications. SMI plastic optical interconnects complement Molex's existing line of optical products.



Transceiver and Cable Assemblies

Dielectric material of POF (PMMA) cabling interconnects is immune to EMI and RFI, lightweight and easy to handle

Push-pull positive latching with safe-release mechanism for industrial and consumer applications offers secure, safe and easy mate de-mate

Easy connector termination process

Designed to IEC-61754-21 SMI interface standard

SMI transceiver with digital integrated fiber optic transmit (Tx) and receive (Rx) modules, and integrated digital signaling reduces board layout requirements, minimizing design requirements

Logic interfaces: LVDS and LVPECL

Available in Ethernet 10 to 100 Mbps versions which provides increased versatility and market applications

RoHS Compliant

Data speeds up to 250 Mbps over 50 meters Step Index POF cable (0.5 NA) to provide high-speed signals for Ethernet and Industrial Datalink (proprietary protocol) applications

Applications

Industrial

- Wind industry
- Frequency Inverters/Converters/Drives
- Controller board
- Networking
- Power Transmission & Distribution
- Transportation/Traction
- Factory automation



Medical Diagnostic Equipment



Wind Industry



Factory Automation

Optical sensors

Consumer

- HDTV
- Set Top Boxes

Medical

- Data and video transmission
- Medical diagnostic equipment
- Optical sensors

Networking

- Data communication centers

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Transceiver Specifications

REFERENCE INFORMATION

Transceiver Packaging:
Tray (50 per tray)

PHYSICAL

Housing: High-temperature
Thermo Plastic

Plating:
Solder Tail Area – Tin (Sn)
Underplating – Nickel (Ni)

Operating Temperature:
-20 to +85°C (Industrial Datalink)
-40 to +85°C (Ethernet)

The Moisture Sensitivity Level (MSL) classification of this device is 2a according to JEDEC J-STD-020. The shelf life of an unopened MBB (Moisture Barrier Bag) is 24 months at < 40 °C and < 90 % R.H.

Once the Moisture Barrier Bag is opened the devices can be either a) Stored in normal factory conditions < 30 °C and < 60 % R.H. for a maximum of 672 hours (4 Weeks) prior to soldering b) Stored at < 10 % R.H. (Dry Cabinet)

MECHANICAL

Mating Force SMI connector-to-transceiver at 25°C:
SMI connector Long Body: 29,69N
SMI connector Short Body: 29,69N
Unmating Force SMI connector-to-transceiver at 25°C:
SMI connector Long Body: 23,73N
SMI connector Short Body: 100N
Retention Force Cable-to-SMI connector (straight pull) at 25°C for 10 seconds, average increase loss 1.68dB:
SMI connector Long Body: 22,24N
SMI connector Short Body: 22,24N

OPTICAL

Insertion loss: 2.0 dB max.
Plastic Optical Fiber Compatibility:
standard 980µm core POF,
Step Index 0.3 and 0.5NA

ELECTRICAL

Data Rate:
10/100 Ethernet (100 Mbps)
Industrial Datalink
(min 10 Mbps up to 250 Mbps)
Distance: 50.00m (1968.5")
Step Index POF

Ordering Information

TRANSCEIVER

Order No.	PCB Mounting Style	Signaling Type	Data Rate	Baud Rate	Logic Interface	Operating Temperature Range	Storage Temperature Range
106108-3100	Through Hole	Ethernet	100 Mbps	125 Mbd	LVPECL	-40 to +85°C	-40 to +85°C
106108-4100	Through Hole	Industrial Datalink	250 Mbps		LVDS	-20 to +85°C	

SMI CONNECTOR

Order No.	Description
106108-6004	SMI Long Body Connector Bulk Pack (50 pcs)
106108-6301	SMI Short Body Connector Bulk Pack (50 pcs)

STANDARD LENGTH CABLE ASSEMBLIES

Order No.	Cable Type	Length
88531-9808	2.20mm diameter zipcord	0.20m
88531-9810		0.30m
88531-9800		1.00m
88531-9801		2.00m
88531-9802		3.00m
88531-9803		5.00m
88531-9804		10.00m
88531-9809		15.00m
88531-9805		20.00m
88531-9806		30.00m
88531-9807		50.00m

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