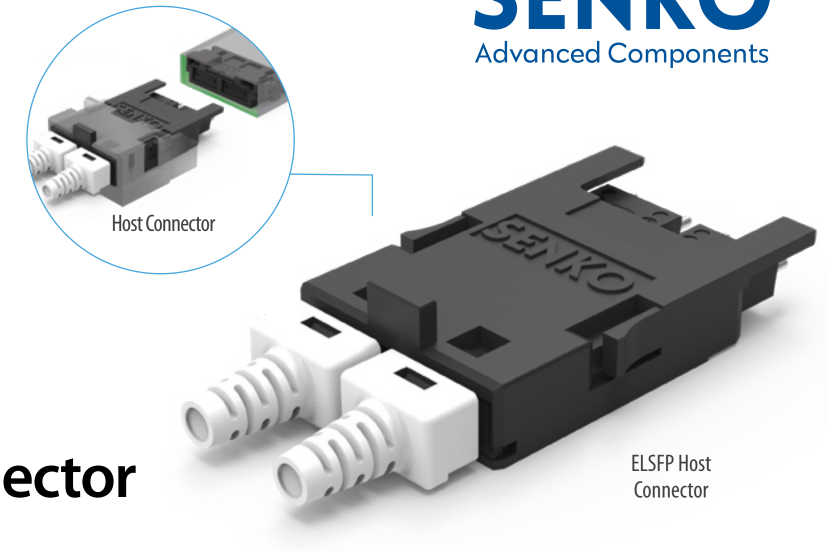
DATA SHEET

SENKO®
Advanced Components

ELSFP
HOST CONNECTOR
Precision Aligned Blind-Mate Optical Connector



SENKO's ELSFP optical connection is a cutting-edge solution designed for seamless integration in Co-Packaged Optics (CPO) application, particularly for external laser source. This advanced connector system, comprising a Module connector and a Host connector, offers a comprehensive answer to the diverse needs of modern optical architectures. The connectivity engineered with self alignment features to precisely blind-mate up to two Low-Loss MT ferrules in one connection, enhancing overall performance and reliability in optical transmission, ensuring ease of use and installation without the need for specialized tools. Additionally, it supports polarization maintaining fibers, ensuring stable and consistent optical signal quality.

The External Laser Small Form Factor Pluggable (ELSFP), standardized by OIF, is targeted primarily at CPO application, which may include but are not limited to the use of external lasers to provide optical power to the OEs incorporated in switches, network interface cards, artificial intelligent and machine learning application specific integrated circuits (ASICs), and more. The major advantages of this form factor are to reliably provide a field serviceable light source package, couple that light in a safe way to maintain the system eye-safe as IEC 60825-2 Hazard Level 1 product, and decouple the thermal environment of the laser from that of the co-packaged ASIC assembly. Lasers have historically demonstrated significantly lower maximum reliable junction temperatures than silicon die (including silicon photonic circuit elements and germanium photodetectors). By placing the ELSFP at the faceplate of CPO systems (removed from the heat of the co-package ASIC and OEs) a more efficient cooling solution can be designed for these, and greater reliability is achievable with the fail-safe of the field replaceable pluggable module in case of a laser failure.

FEATURES

- High precision blind-mateable
- Up to 2 MT ferrules in one connection
- Low-loss performance
- Support PM fiber for the interconnect
- Spring force to accommodate higher fiber counts ferrule alignment
- Multiple boot options

APPLICATIONS

- CPO (*Co-Packaged Optics)*
- NPO (*Near Packaged Optics)*

KEY BENEFITS

✓ **Standardized by OIF**

Mechanical Data

	Value
Durability	Exceeds GR-1435 *(tested to 100 mating cycles)*
Fiber Count	Multi-fiber *(up to 24 fibers per ferrule)*
Cable Suitablity	Bare ribbon, 1.8mm jacketed
Ferrule Material	Polymer

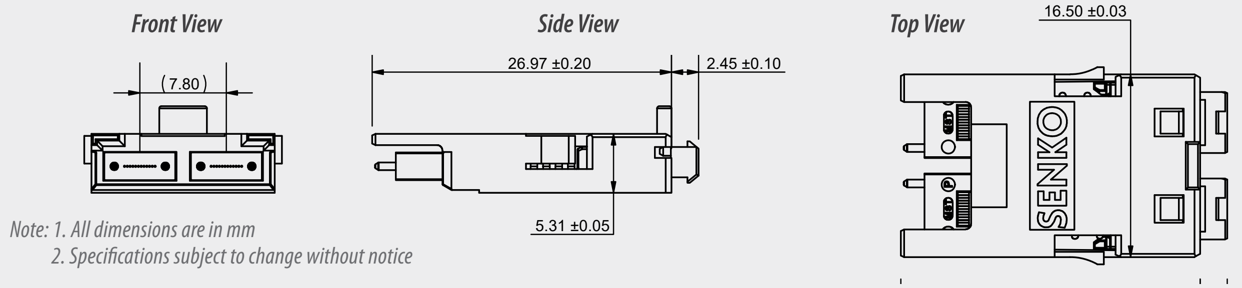
Optical Data

	Singlemode
	APC
	Low Loss
Typical Insertion Loss (dB) 12 fiber	0.25
Max. Insertion Loss (dB) 12 fiber	0.35
Typical Return Loss (dB)	≥60

Environmental Data

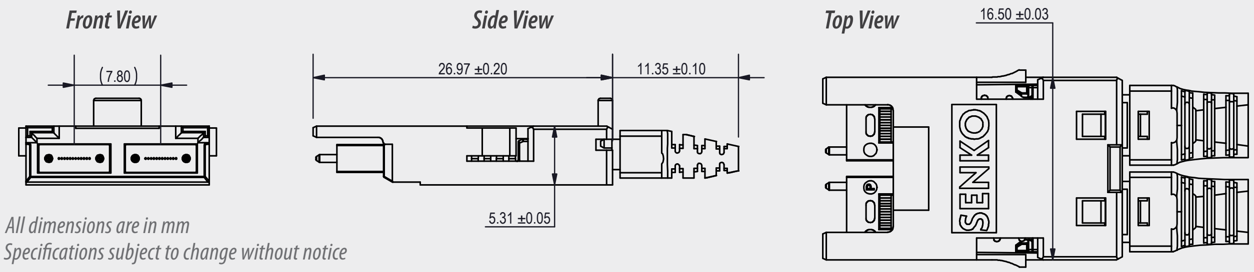
	Value
Operating Temperature	-40°C to +75°C
RoHS Compliance	2015/863 RoHS
REACH Compliance	Yes
Humidity Resistance	95% in duration of 168 hours

Host Connector Drawing - No Boot



Note: 1. All dimensions are in mm
2. Specifications subject to change without notice

Host Connector Drawing - Ribbon Boot



Note: 1. All dimensions are in mm
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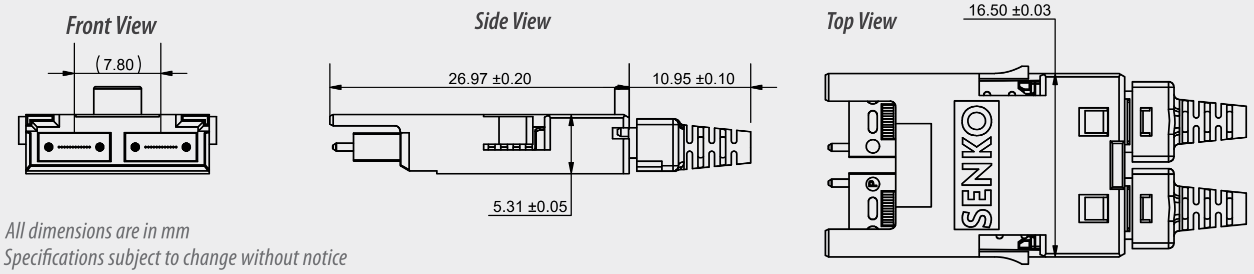
Host Connector Drawing - 1.8 mm Round Boot



Note: 1. All dimensions are in mm
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ORDERING

ELSFP Host Connector

SIZE/CATEGORY		TYPE		FERRULE		FERRULE QUANTITY		BOOT	
ELSFP	External Laser Small Factor Plugable	**HCON**	Host Connector	**SL12**	SM Low Loss 12 Fiber	**FL1**	1 Ferrule	**00**	Without
				SL24	SM Low Loss 24 Fiber	**FL2**	2 Ferrules	**01**	Bare Ribbon
								02	Round 1.8mm *(12F only)*

ELSFP - HCON - SL12 - FL1 - 00 ORDER CODE example

SENKO®
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