Cisco CPAK-100G-ER4F Datasheet

Cisco CPAK-100G-ER4F 100GBASE-ER4 Lite CPAK Module for SMF (FEC available, terminated with LC Connectors)

CPAK-100G-ER4F

Cisco CPAK 100GBASE fiber modules for Cisco switches and routers offer a selection of high-density 100-Gbps connectivity solutions. The modules are especially well suited for connections in enterprise and service provider data centers and in service provider edge networks.

The line cards use the Cisco CPAK form factor. They are 20 percent smaller and consume 40 percent less power than C Form-Factor Pluggable 2 (CFP2) modules; they use 70 percent less power than the CFP interface. Cisco CPAK modules give you up to 20 percent greater port density and front-panel bandwidth than competing products.

Choose the model that matches the distance you need to cover, the type of fiber cabling you are using, and the Cisco networking product you are using. Cisco CPAK 100GBASE modules work in the following Cisco networking equipment: ASR 1000 Series Router; ASR 9000 Series Router; CRS-X Carrier Routing System; NCS 2000, 4000, and 6000 Series Routers; the Nexus 7000 and 7700 Series Switches, and the Cisco ONS Transport Platform.

Features and benefits

Cisco CPAK modules combine high density and bandwidth with low power consumption and are interoperable with any IEEE-compliant 100GBASE-LR4 or 100GBASE-SR10 for investment protection and product choice. Some models, including the Cisco CPAK 100GBASE-LR4, use Cisco Complementary Metal-Oxide Semiconductor (CMOS) photonic technology to provide industry-leading optical integration, performance, power savings, and scalability.

Cisco CPAK 100GBASE-ER4 Lite Module

The primary application of the Cisco CPAK-100G-ER4L and CPAK-100G-ER4F modules is to support 100-Gbps optical links over long distances of standard single-mode fiber (SMF, G.652) terminated with SC connectors or LC connectors.

The ER4 Lite module is compatible with the 100GBASE-ER4 standard and delivers an aggregate data signal of 100 Gbps, carried over four LAN Wavelength-Division Multiplexing (WDM) wavelengths operating at a nominal 25 Gbps per lane. CPAK-100G-ER4L (no available FEC) supports link lengths up to about 25 km and CPAK-100G-ER4F supports link lengths up to about 30km with FEC disabled and 40km with FEC enabled over standard SMF, G.652. Optical multiplexing and demultiplexing of the four wavelengths are managed within the module.

Specifications

- Product Number: CPAK-100G-ER4F
- Description: Cisco 100GBASE-ER4 Lite CPAK Module for SMF (FEC available, terminated with LC Connectors)

- Connector: Dual LC/PC connector
- Wavelength: 1310nm
- Cable Type: SMF Duplex
- Cable Distance: 30 km (no FEC), 40 km (with FEC)
- Transmit Power (dBm):
    - Maximum: 6.5 per lane
    - Minimum: -2.5 per lane
- Receive Power (dBm):
    - Maximum: -3.5 per lane
    - Minimum: -18.5 per lane
- Transmit and Receive Center Wavelength Range (nm): Four lanes:
    - 1294.53 to 1296.59
    - 1299.02 to 1301.09
    - 1303.54 to 1305.63
    - 1308.09 to 1310.19

Dimensions

- Maximum outer dimensions for the Cisco CPAK-100G-ER4F module (H x W x D): 11.6 x 34.8 x 101.2 mm (0.46 x 1.37 x 3.98 in).
- The Cisco CPAK modules typically weigh approximately 127 grams (4.48 oz.).

Environmental conditions and power requirements

- Operating temperature range: 0 to 70° C (32 to 158° F)
- Storage temperature range: -40 to 85° C (-40 to 185° F)
- CPAK-100G-ER4F power consumption at 70° C: