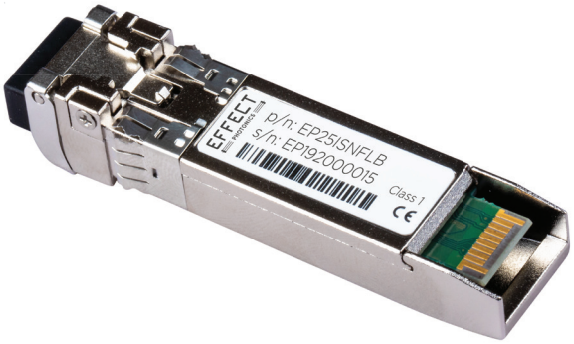
EFFECT PHOTONICS

28Gbps C-Band Full-band Tunable SFP28 **(Preliminary)**

Mobile CPRI-10 Fronthaul Industrial Temperature Range Operation



Key Features

- One part code to cover the complete C-band – simplified sparing and configuration for up to 96 part codes (50GHz spacing)
- 220ps/nm (~15km) single mode fibre point-to-point and multi-point passive networks
- Supports LTE/CPRI-10 Data Rates @ 24.3Gbps
- Operating temperature range -40°C to 85°C
- 1x28Gbps Pluggable Transceiver Solution (SFF-8402,rev.1.1)
- SFP+ Multi-Source Agreement compliant (SFF-8431,rev.4.1)
- Serial ID functionality supported (SFF-8472, rev. 12.2)
- SFF Tunability Interface (SFF-8690, rev. 1.4)
- Dual LC connector, hot pluggable with SFP footprint
- EFFECT's Optical System-on-Chip and packaging technology
- Integrated wavelength locking and power control
- Support for digital diagnostics and monitoring
- Limiting receiver electrical interface, power dissipation (<2.2W)

Overview

EFFECT Photonics' 25Gbps Full Band Tunable SFP28 optical transceiver module is designed to operate at transmission 25Gbps transmission rates, compatible with multiple network applications and transmission formats: CPRI-10, GbE, and Fibre Channel. Hot pluggable, and with full band (40nm) tunability, significantly reduces sparing and configuring costs in optical networks by up to 99%. Just one part code is required to cover the complete 1550nm C-band.
The module is optimised for Wide Area Networks (WAN), Mobile Fronthaul, Ethernet switches, and Fibre Channel storage networking and switching, over single-mode fibre (SMF) optical links, P2P and passive networks.
On the transmit side, the serial data path from the host enters the module through the electrical connector and enters the modulator driver. The modulator driver accurately biases and efficiently modulates EFFECT Photonics' Optical System-on--Chip which contains the 40nm tunable 1550nm cooled laser and Mach-Zehnder Interferometer (MZI) modulator and transmits the optical signal through an industry standard LC connector. Wavelength control to 100GHz ITU grid and optical power monitoring over life is also integrated within EFFECT Photonics' Optical System-on-Chip and packaging technology.
On the receive path, DC balanced serial NRZ data is efficiently converted into the electrical domain through the Receiver Optical Sub-Assembly (ROSA) which contains a PhotoDiode Receiver and Trans-Impedance Linear Amplifier with limiting output to the host.

Typical Applications

- Mobile Fronthaul, LTE 5G/CPRI-10 @24.33Gb, eCPRI
- 25.78Gb Ethernet switches
- Fiber Channel storage networking & switching @28.05Gb
- Up to 15km reach for G.652 SMF, 1550nm equivalent of 25GBASE-LR
- 25 Gb/s migration from the data centre to campus, metropolitan, and wide area environments

Compliance

- SFF-8402, rev 1.1
- SFF-8431, rev. 4.1
- SFF-8472, rev 12.2
- SFF-8690, rev 1.4
- Tested in accordance with Telcordia GR-468-CORE
- Telcordia GR-63-CORE, NEBS
- IEC 60825-1 Ed 2 Class 1
- FDA 21 CFR Ch1 Class 1
- RoHS 6/6 Lead Free

EFFECT PHOTONICS

28Gbps C-Band Full-band Tunable SFP28 **(Preliminary)**

Mobile CPRI-10 Fronthaul Industrial Temperature Range Operation

Module Wavelength Assignments and Part Codes

The centre wavelengths are aligned to DWDM wavelength grid as defined in ITUT G.694.1 and spaced 0.4nm (50 GHz) apart. Individual channels within each module are pre-calibrated and the full list of 96 addressable channels is available from EFFECT Photonics.

Module	Wavelength (nm)	Frequency (GHz)	Notes
EP25ISNFLB	1530.33 to 1567.95	191.20 to 195.90	50GHz spacing

Optical Characteristics

Transmit Characteristics

Parameter	Min	Typ	Max	Unit
Signalling rate		25.78		Gbps
Optical output power	-1		+3	dBm
Extinction ratio	9.0	10.0		dB
Optical frequency minimum tuning grid	50			GHz

Receive Characteristics

Parameter	Min	Typ	Max	Unit
Receiver wavelength range	191.20 (1567.95)		195.90 (1530.33)	THz(nm)
Receiver power	-14		-7	dBm
Receiver optical reflectance			-27	dB
LOS assert	-25		-20	dBm
LOS assert/de-assert hysteresis	0.5		2.0	dB

Contact information

e-mail: sales@effectphotonics.nl
phone: +44 7825 917 942
website: www.effectphotonics.com

www.effectphotonics.com