New Products

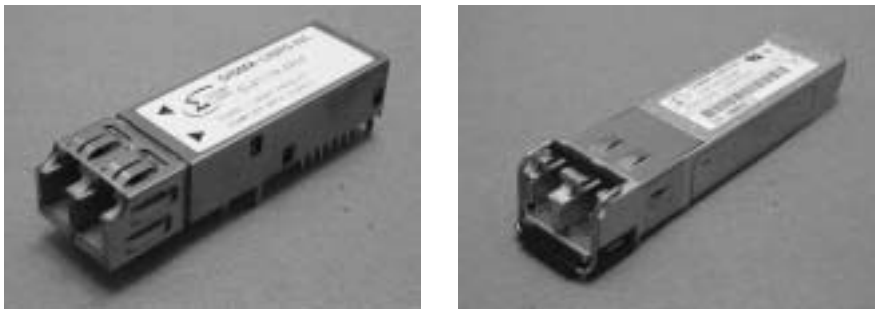
RoHS-Compliant 4Gb/s Multi-rate SFF and SFP Optical Transceivers

We have released high-speed optical transceivers in the Small Form Factor (SFF) and the Small Form-factor Pluggable (SFP) Multi Source Agreement (MSA) package. These transceivers can operate at multirates of 1.0625/2.125/4.25 Gb/s (Fibre Channel) and 1.25Gb/s (Gigabit Ethernet). A short wavelength (850 nm) Vertical Cavity Surface Emitting Laser (VCSEL) is utilized as the light source, which is driven by a thoroughly designed peaking circuit to improve the rise and fall time of the transmitter optical output waveform. They have excellent transmitter and receiver performances to satisfy Fibre Channel and Gigabit Ethernet specifications with enough margins.

These transceivers are compliant with the requirements of European Union Restriction of Hazardous Substances (RoHS) directives. Among other features is Digital Diagnostic Monitoring (DDM) function that adds real-time intelligence to the transceiver, which enables the host system to query key parameters such as optical received power, transmitter output power, supply voltage, laser bias current, and module temperature in real-time via a two-wire serial interface.

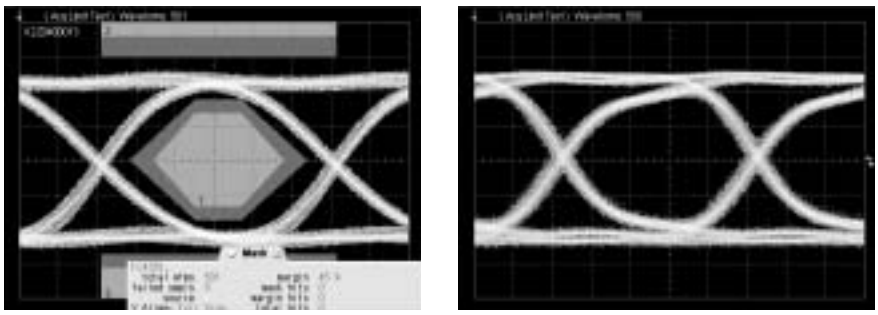
Table 1. Basic feaures of SFF and SFP transceivers.

Tranceiver style	SFF (SL9117A-2202)	SFP (SL9114A-2202)
Optical connector	Duplex LC	
Bit rate (Gb/s)	1.0625 / 1.25 / 2.125 / 4.25	
Electrical interface	2 × 7 pins	20 pins card edge connector
Supply voltage	+3.3 + / – 0.3 V	
Light source	850 nm VCSEL	
Applicable fiber	MMF	



(a) SFF transceiver SL9117A-2202 (b) SFP transceiver SL9114A-2202

Fig. 1. External views of the SFF and SFP transceivers.



(a) Transmitter optical eye pattern (b) Receiver electrical eye pattern

Fig. 2. Transmitter and receiver output waveform (4.25 Gb/s, PRBS 2^7-1).

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