

## Semtech GN7152

Multi-Rate CDR with EML Driver

The GN7152 is an integrated CDR and EML laser driver for PON OLT, 10GBase-ER/ZR Ethernet and 8.5Gb/s Fibre Channel applications. It is a highly-integrated, low-power, small-footprint device, that is ideal for small form factor optical modules.

The GN7152 includes optional input equalization, a multi-rate CDR and an EML laser driver. The GN7152 offers a highly-configurable eye shaping feature, including independently programmable rise and fall pre-emphasis, which allows for an optimal electrical and optical output. The GN7152 also offers the option for polarity-invert and output mute.

### Features

- CDR with 8.5Gb/s, 9.95 to 11.3Gb/s, and 10.3 to 11.7Gb/s reference-free operation
- Integrated laser bias and driver for electro-absorption modulators (EAMs) and modulated lasers (EMLs)
- Differential input amplitudes as small as 120mVppd
- Digital control through I2C or SPI interface
- Programmable jitter transfer bandwidth
- On-chip Automatic Power Control (APC) loop
- Polarity invert and output mute available
- Programmable output pre-emphasis
- Mission-mode eye monitor
- PRBS Generator and Checker
- Programmable input equalization
- Programmable LOS with adjustable threshold and hysteresis
- Programmable sampling phase adjust
- Programmable fault signalling
- Integrated analog to digital converter, which provides access to digital diagnostic information on supply voltage, die temperature, and transmit optical power
- Single 3.3V supply (+5%/-10%)
- Power dissipation:
  - 730mW typical, with 1.9Vpp single-ended modulation voltage and 90mA bias current
- Integrated laser safety features
- 5x5 32-pin QFN package
- 40°C to 95°C case operation

### Applications

- PON OLT transceivers
- XFP & SFP+ 10GBase-ER/ZR optical transceivers
- XFP & SFP+ extended-reach 8.5 Gb/s Fibre Channel



XFP DWDM optical transceivers

### Order Codes

GN7152-INE3: 32-pin QFN

GN7152-INTE3D: 32-pin QFN (500pc tape and reel)

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