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Laser Modulator Drivers

> **GN1158**
1.0 to 11.3Gb/s Multi-Rate SR Transceiver Chip

> **GN1160**
1.0 to 11.3Gb/s Multi-Rate Laser Driver Chip

> **GN1153B/C**
11.3 Gbps DFB/FP Laser Driver

> **GN1155**
Multi-rate VCSEL Driver with Integrated Limiting Amplifier

> **GN1411**
11.3G DML driver with integrated limiting amplifier

> **GN1412**
11.3G EML driver with integrated limiting amplifier

> **GN7355**
Single-Chip Burst Mode 10G EPON Transceiver with Integrated CDR

> **NT20042**
OC-3/300Mbps LED Driver



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Semtech GN1157

1.0 to 11.3Gb/s Multi-Rate LR Transceiver Chip

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Overview



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The GN1157 is a multi-rate transceiver IC designed specifically for datacom and telecom applications. The transmit DFB/FP laser driver is an advanced design that is focused on delivering excellent optical performance while still achieving low power. Programmable equalisation is available to optimise jitter. The Tx output has programmable rise/fall times to allow optimization for different bit rates. The GN1157 features an integrated automatic power control loop that adjusts bias current to compensate for laser aging and environment change. The GN1157 is compatible with an external microcontroller look-up table to control modulation current and extinction ratio over temperature and life.

Contact your local Sales Representative for full product specifications.

Features

- > Power Dissipation 185mW typical (IBIAS = 0 mA, IMOD = 0mAppd)
- > DFB/FP Laser Driver:
 - > Maximum bias current = 120mA
 - > Maximum modulation current into 15? differential TOSA = 92mApp
 - > Tx DJ = 5pspp; Tx RJ = 0.5psrms
 - > Integrated closed-loop Automatic Power Control (APC)
 - > Compatible with microcontroller-based modulation current/temperature look-up table
 - > Programmable Tx eye shaping features and input equalization
 - > Programmable rise/fall times
 - > Laser safety features
 - > Switchable Tx polarity invert
- > Limiting Amplifier Receiver:
 - > Rx sensitivity at 11.317Gb/s = 5mVppd
 - > Rx DJ = 4pspp, Rx RJ = 0.7psrms
 - > Programmable bandwidth
 - > Rx output pre-emphasis and squelch
 - > Programmable Rx output swing
 - > Programmable rise/fall times
 - > Adjustable loss of signal detect threshold
 - > Switchable Rx polarity invert
- > Measurement of digital diagnostic and monitoring parameters
- > 2-wire serial interface for host communication
- > Software-selectable power-down modes
- > 3.3V or 2.5V CMOS inputs and open-drain outputs for control and status lines

Applications

- > This specification defines a multi-rate transceiver IC for use in a wide range of LR Ethernet and Fibre Channel applications from 1.0Gb/s to 11.3Gb/s. This includes 1Gb/s and 10Gb/s Ethernet data rates as defined by IEEE 802.3 and 1,2,4,8 and 10Gb/s Fibre Channel data rates.

Order Codes

- > GN1157-INE3
- > GN1157-INTE3Z - Tape and Reel, 2500/reel

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