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## M02097



### 500 Mbps, 3.3/5 V LED Driver/Limiting Amplifier

The M02097 is an integrated LED driver and limiting amplifier for applications to 500 Mbps. The LED driver modulation output can be AC or DC coupled to an LED. The device can operate from a 3.3V or 5 V supply. The M02097 includes monitors for bias and modulation current. Integrated safety circuitry provides latched bias and modulation current shutdown if a fault condition is detected and provides an internal VCC switch. The limiting amplifier also includes a programmable signal-level detector, allowing the user to set thresholds at which the logic outputs are enabled. The M02097-11 features a PECL LOS-ST output while the M02097-21 features a CMOS (external pull-up required) LOS-ST output. PECL outputs are available on the limiting amplifier. Configuration logic provides flexibility in setting data path polarity, safety logic configuration, and LOS behavior.

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## Features

- High-speed operation; suitable for applications to 500 Mbps
- Polarity control for both the driver and limiting amplifier data paths
- Limiting amplifier includes integrated DC offset cancellation circuit
- PECL limiting amplifier outputs
- 6 mV input limiting amp sensitivity at 500 Mbps
- SFP compliant safety circuitry (configurable)
- Pre-bias adjustment to improve LED edge speed
- Temperature compensation for modulation current
- Integrated power supply switch for redundant shutdown under a fault condition
- Programmable modulation current to 120 mA
- 200 ps typical rise/fall time into 50
- Powers 3.3 V ROSAs from its receiver regulator output enabling true 3.3/5 V designs using all 3.3 V Mindspeed TIAs
- Operates with 3.3 V or 5 V supply with an internal auto-sensing regulator that enables with 5 V supplies and is bypassed with 3.3 V supplies

## Applications

- Enterprise Solutions
- Optical Networking

## Specifications

- Max Data Rate: 0.5 Gbps
- Limiting Amplifier Input Sensitivity: 2 mV
- Max Output Mod Current: 120 mA
- Driver Input Sensitivity: 300 mV
- Limiting Amplifier Output Swing Voltage: 800 mV

## Datasheet

- [02097-DSH-001-D.pdf](#)

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## Part Number Package MACOM

**M02097-12EVM**

M02097-12 Evaluation Kit

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**M02097G-12**

500 Mbps Laser Driver + Limiting Amp.

5X5MM QFN-32LD [Inquire](#)

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