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M02098

Burst Mode Laser Driver/Limiting Amplifier

The M02098 is a highly integrated, programmable burst mode laser driver and limiting amplifier intended for ONU/ONT applications to 2.67 Gbps. Using LVDS/PECL/CML differential burst and data inputs, the M02098 laser driver has burst enable/disable times of less than 3.3 ns and will automatically maintain the desired extinction ratio. The laser bias and modulation currents can independently be controlled in one of 3 ways - (1) dual closed loop control where the monitor photodiode dynamic response is held to target values, (2) single closed loop control where the average monitor photodiode output is held to a target value or (3) open loop control where the bias and/or modulation current are controlled by a temperature based look-up table. In the closed loop cases, the bias and modulation current value for the first burst may also use the internal temperature sensor and external look-up table. The M02098 limiting amplifier inputs have a selectable bandwidth and selectable output swing. The input sensitivity is better than 6mV at 1.25Gbps and 10mV at 2.5Gbps. Extra design margin can be achieved if used in conjunction with the Mindspeed M02026 or M02015 TIAs. The CML differential output develops full swing with the minimum specified input signal. The limiting amplifier features a programmable signal level detector with a typical 2dB of optical hysteresis and an internally programmed JAM function which can be used to squelch chatter on the outputs when no signal is present. If the limiting amplifier is not needed, it may be powered down.

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Features

- Auxiliary 9-bit DAC, 12-bit A/D
- Operating temperature -40°C to +100°C, 5x5 QFN package
- Tx system current reduced during Burst-off
- Supports IEC-60825 eye safety, including programmable bias and modulation current limits
- Programmable SPI or 2-wire interface from external EEPROM or optional microcontroller. (Separate slave and master interfaces.)
- Limiting Amplifier 10 mV input sensitivity at 2.67 Gbps, selectable gain and bandwidth, signal

detect and Jam functions

Specifications

- Max Data Rate: 2.5 Gbps
- Max Output Mod Current: 100 mA

Datasheet

- [02098-DSH-001.pdf](#)

Product Bulletins

- [02098-PBD-002 - M02098 SPI Interface and FAIL Pin Behavior Product Bulletin](#)

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Part Number	Package	MACOM	Richardson RFPD	
M02098EVM				Inquire
M02098 Evaluation Kit				
M02098G-11P				Inquire
2.5 Gbps LD + LA + DDMI -RoHS- IC				
M02098G-13				
M02098G-13 Product Record		5x5mm QFN-32LD	Inquire	Buy
M02098G-13A				
Burst Mode Laser Driver		5x5mm QFN-32LD	Inquire	

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Technical Resources

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