

# 1203 APD (Avalanche Photo Diode)

1319MR



## APD 2.5 Gb/s Receiver Module, -34 dBm Sensitivity

The high-speed APD receiver consists of a wideband linear preamp followed by a limiting amplifier buffer stage. It is designed for use in singlemode, high-speed applications at the SONET<sup>®</sup>C-48 and STM-16 data rate of 2488.32 Mbits/s. The receiver is built with an APD photodetector. At 2.5 Gbits/s, the typical room temperature receiver sensitivity measured at 3 x 10<sup>-11</sup> bit-error rate is -34 dBm. The receiver is manufactured in a 14-pin butterfly lead package with a single-mode optical fiber pigtail. The fiber in the 1319MR is internally beveled for low optical return loss.

### FEATURES

- High Data Rate Capability: 2.5 Gbits/s
- APD or PIN Photodetector
- Fully Operational through the 1.3 μm to 1.55 μm Wavelength Range
- Typ. Sensitivity: -34 dBm with APD, -25 dBm with Pin
- 25 dB typ. min. Dynamic Range
- High-performance GaAs Preamplifier
- Operating Case Temperature Range: 0 °C to 65 °C with APD
- -40 °C to +85 °C with PIN
- Compact, Butterfly Package
- Single-ended or Differential Outputs

### USE IN

- Line Terminal Equipment
- High-speed Networks Up to 2.5 Gbits/s
- SONET<sup>®</sup>C-48 and SDH STM-16 Telecommunications Applications
- Extended Reach Datacomm and Telecomm Applications
- Digital Video

Photodiode Type	InGaAs APD+Pre-Amp+Limiting Amp
Spectral Response Range	1250 nm to 1625 nm
Responsivity	Small Signal Transimpedance 10 k typ.
Frequency Response	2 GHz typ.
Overload	-1 dBm typ.
Sensitivity	-34 dBm typ.
APD Breakdown Voltage	60 V typ.
Optical Return Loss	27 dB min.

**Order notes to our customers:** The default parameters are as follows. For special needs, please contact sales.

**1) Connector FC/APC, 900 μm, 1 m by default for all devices except for high power devices.**

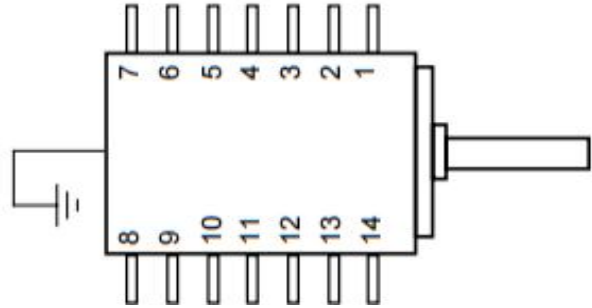
**2) Slow axis working, fast axis blocked, connector key is aligned to slow axis by default for PM devices.**

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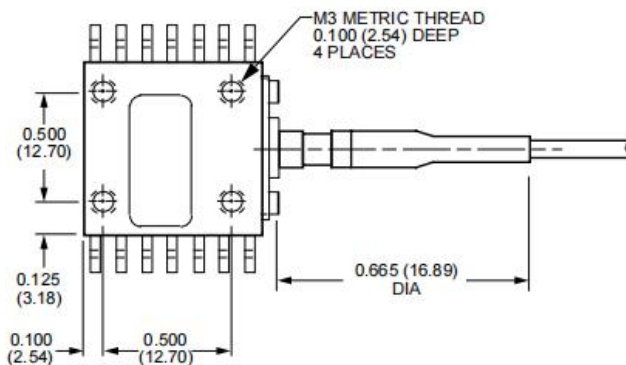
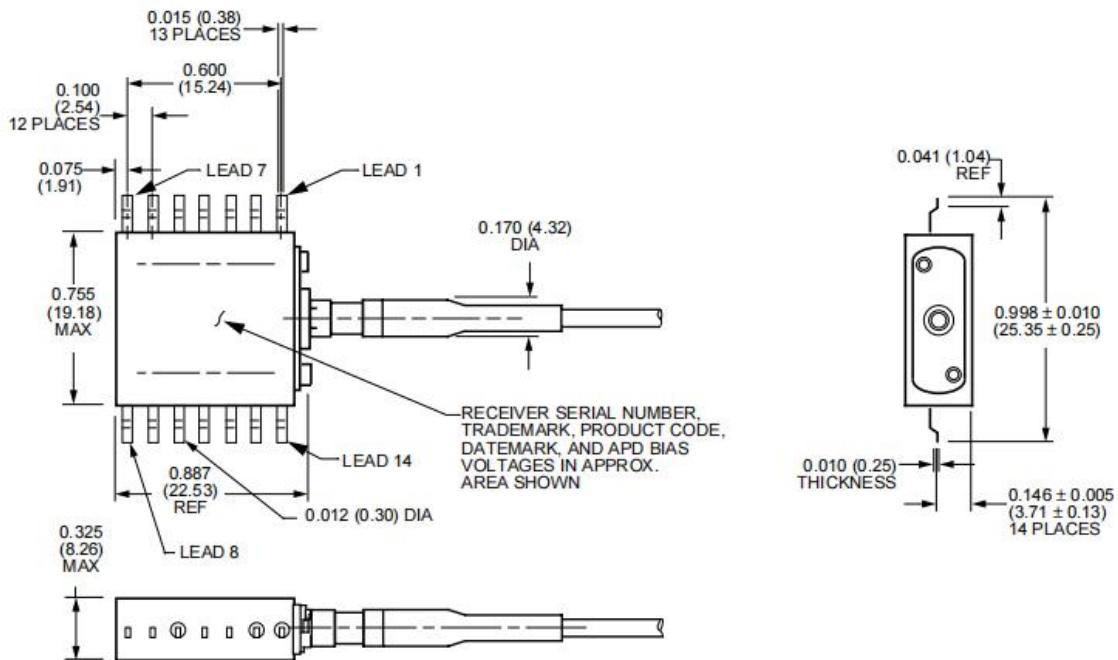
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## FUNCTIONAL DIAGRAM

Pin#	Desc	Pin#	Desc
1	Ground	8	Ground
2	Photodiode bias	9	Ground
3	Ground	10	DATA
4	VEE (-5.2 V)	11	APD2-
5	Ground	12	DATA+
6	Thermistor*	13	NC
7	Ground	14	NC



## MECHANICAL DRAWING



Unit: Dimensions are in inches and mm (millimeters)

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