

High Sensitivity, Compact Sonet OC-12 Pin Transimpedance Amplifier Optical Receiver Modules

Preliminary Information

Features

- InGaAs PIN Photodiode and GaAs Transimpedance Amplifier
- Meets Sonet sensitivity and overload requirements
- Automatic gain control
- Integrated 4-pin package
- Connector receptacle and fiber pigtailed versions
- 3 dB higher sensitivity than ERM535 series

Applications

- Sonet receivers
Add/Drop Multiplexers
Digital Crossconnects
Test Equipment
- Fiber Channel receivers
- Digital video
- Fiber optic receivers from 10 Mbps to 650 Mbps

Preliminary Specifications

AC/Optical Electrical Characteristics

($V_{DD} = +5.0\text{ V}$, $V_{PD} = 5.0\text{ V}$, $T_A = 25^\circ\text{C}$, $R_L = 50\Omega$, $\lambda = 1300\text{ nm}$)

Parameter	Min.	Typ.	Max.	Units
Gain ¹	3.0	4.0		V/mW
Bandwidth	400	430		MHz
Sensitivity ²	-34.0	-34.5		dBm
Overload ²	-3	0		dBm
AGC Threshold Power		50		μW
AGC Time Constant		25		μs
Output Resistance	30	50	60	Ω
Optical Back Reflection ³		-40	-27	dB

Maximum Ratings

Parameter	Rating	Units
Supply Voltage V_{DD}	7.0	V
Detector Voltage V_{PD}	-25.0	V
Optical Input Power	3.0	mW
Operating Temp. T_A	-40 / +85	$^\circ\text{C}$
Storage Temp.	-40 / +85	$^\circ\text{C}$

DC / Electrical Characteristics

Parameter	Min.	Typ.	Max.	Units
Supply Voltage V_{DD}	4.5	5.0	6.0	V
Detector Voltage V_{PD}	0	-5.0	-25.0	V
Output Offset Voltage V_{OS}		1.4		V
Supply Current I_D		30	45	mA

Notes:

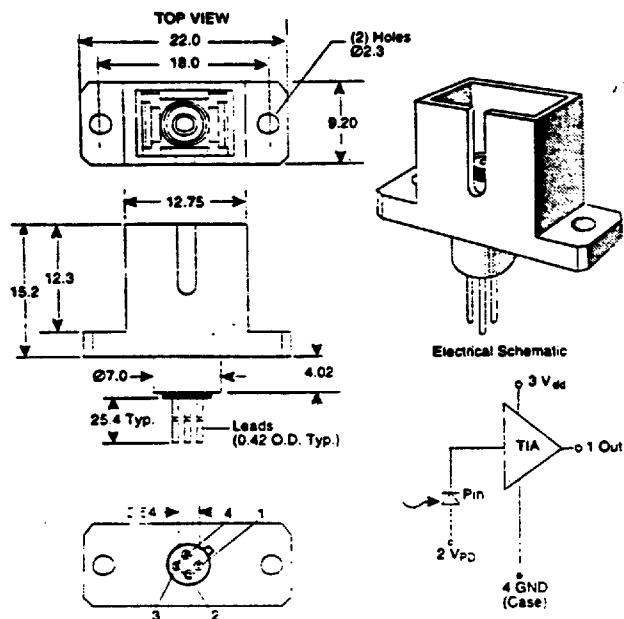
¹ Optical input power below AGC threshold level.

² Bit error rate of $1\text{E-}10$. Noise bandwidth of 415 MHz

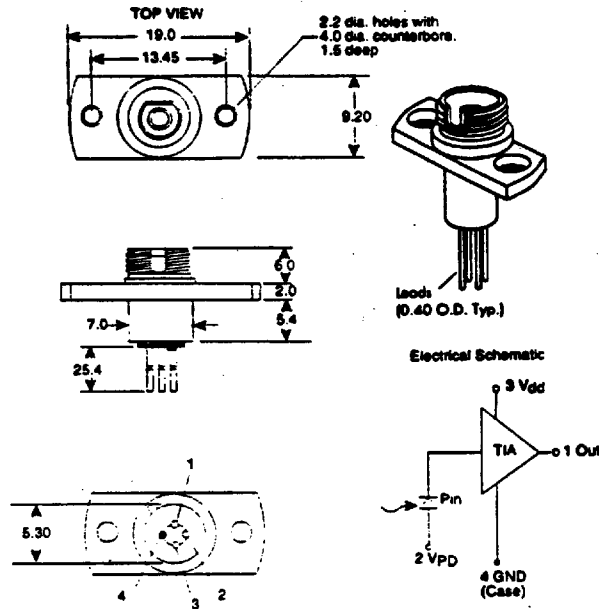
³ FJ-S package only

ERM535A RSC-FM

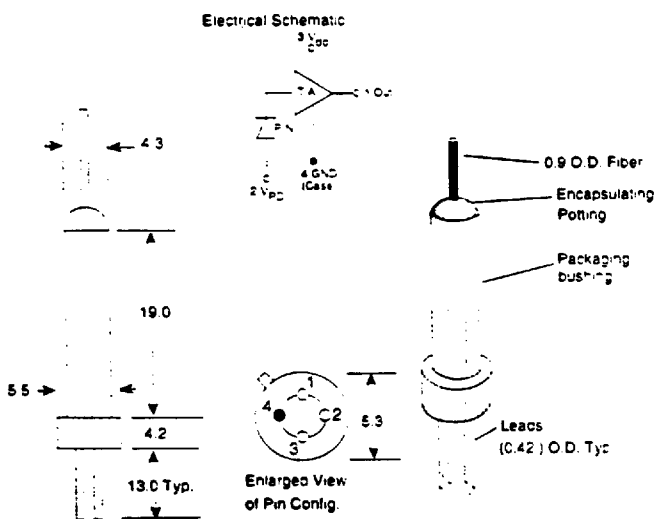
All dimensions in mm

**ERM535A RFC2**

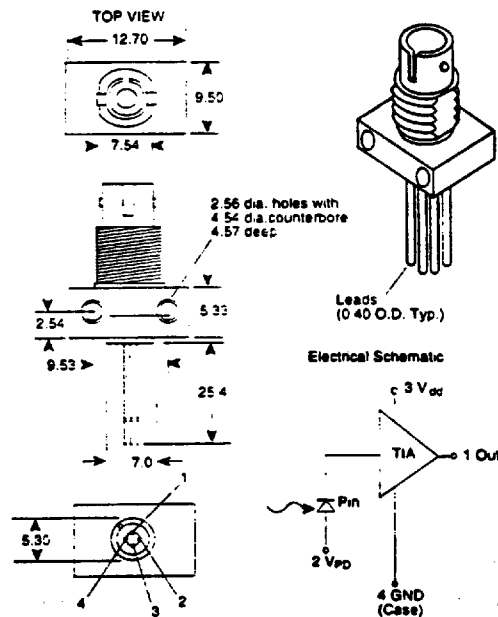
All dimensions in mm

**ERM535A FJ-S**

All dimensions in mm

**ERM535A RST**

All dimensions in mm



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