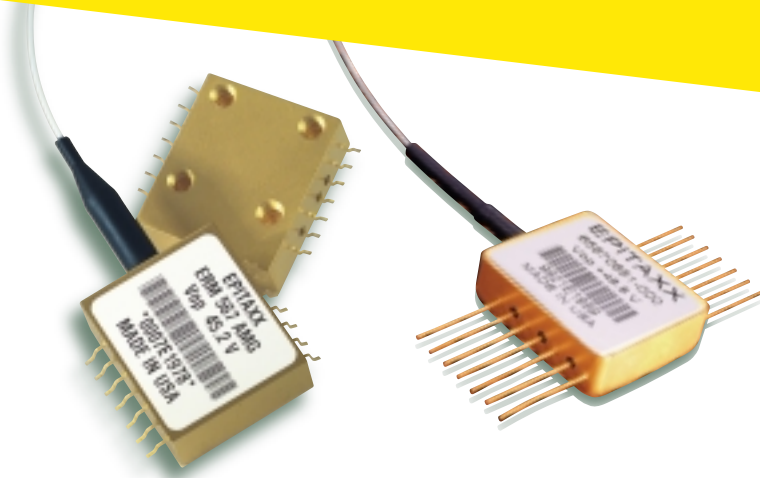


# Product Bulletin



## ERM 567 2.5 Gb/s Short Haul, High Gain SONET/SDH PIN-TIA Optical Receiver Modules

### Specifications

Conditions (unless noted):

Temperature = 25°C,  $\lambda = 1550 \text{ nm}$ ,  $R_L = 50\Omega$ ,  $V_{SS} = -5.2\text{V}$ ,  $V_{PD} = +5\text{V}$

All specifications without connector.

Parameter	Measurement Conditions	Min	Typ	Max	Units
Sensitivity	2.5 Gb/s 1E-10 BER		-24	-22	dBm
Small Signal Gain	Single-ended	3000	5000		V/W
Bandwidth		1.5	1.8		GHz
Overload		1			dBm
Optical Back Reflection			-40	-30	dB
Output Impedance	Single-ended		50		$\Omega$
Total Dark Current ( $I_d$ )			0.5	2.0	nA
Total Dark Current ( $I_d$ )	T = 70 °C		11	23	nA
Maximum Output Voltage	Single-ended Voltage (p-p)		550		mV (p-p)

EPITAXX ERM 567 series are high gain, high bandwidth, differential output PIN photodiode receivers with GaAs transimpedance amplifiers. The high gain of the receivers provides system designers with a large output at low optical power levels. Also, the differential output can be used for added gain or for signal monitoring.

### Key Features

Electro-optical

- InGaAs PIN photodiode with Transimpedance Amplifier (TIA)
- High gain: 5000 V/W typical
- High dynamic range: 25 dB typical
- Low dark current: 0.5 nA typical

Packaging

- 14-pin butterfly with single mode 900  $\mu\text{m}$  loose jacketed fiber pigtail

**or**

AMG package with single mode 900  $\mu\text{m}$  loose jacketed fiber pigtail

- Both packages available with LC, SC or FC connectors

### Applications

- High sensitivity, short haul digital receivers
- Short haul SONET/SDH receivers
- Digital receivers in transponders

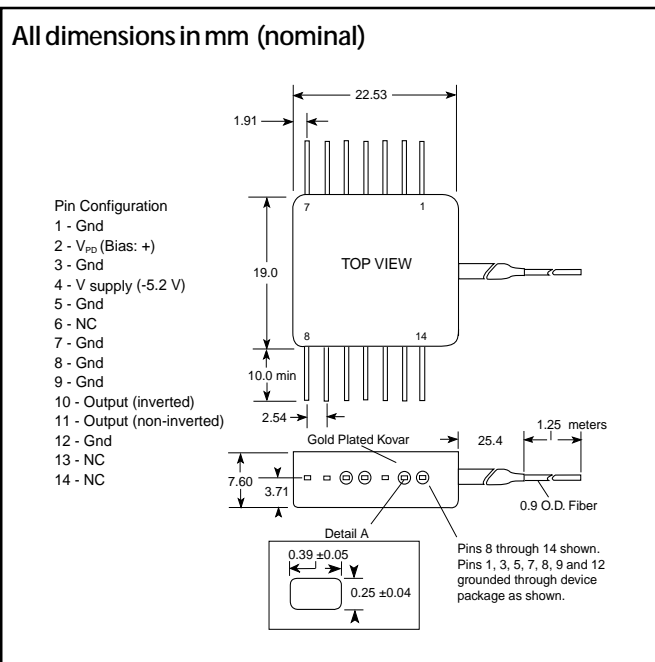
DC Electrical Characteristics

Parameter	Measurement Conditions	Min	Typ	Max	Units
Supply Voltage (-)		-4.95	-5.2	-5.45	VDC
PD Supply Voltage		+4.95	+5.0	+25.0	VDC
Supply Current			130		mA

Maximum Ratings

Parameter	Min	Typ	Max	Units
Supply Voltage (-)	-6			VDC
PD Supply Voltage			+25.0	VDC
Optical Input Power			5.0	mW
Operating Temperature	0		70	°C
Storage Temperature	-40		85	°C

Mechanical Dimensions - ERM 567



Ordering Information

Product Model	Description
ERM 567	2.5 Gb/s PIN-TIA, 14-pin Butterfly 900 $\mu$ m buffer without connector
ERM 567AMG	2.5 Gb/s PIN-TIA, AMG Package 900 $\mu$ m buffer without connector

ERM 567xxx FJS LC/SPC	900 $\mu$ m buffer with LC/SPC connector
ERM 567xxx FJS SC/SPC	900 $\mu$ m buffer with SC/SPC connector
ERM 567xxx FJS SC/APC	900 $\mu$ m buffer with SC/APC connector
ERM 567xxx FJS FC/SPC	900 $\mu$ m buffer with FC/SPC connector
ERM 567xxx FJS FC/APC	900 $\mu$ m buffer with FC/APC connector

Mechanical Dimensions - ERM 567AMG

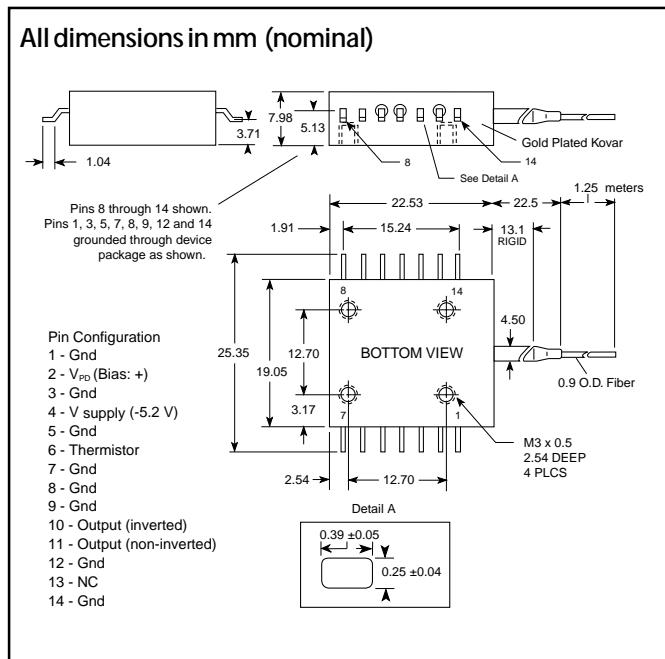


Figure 1

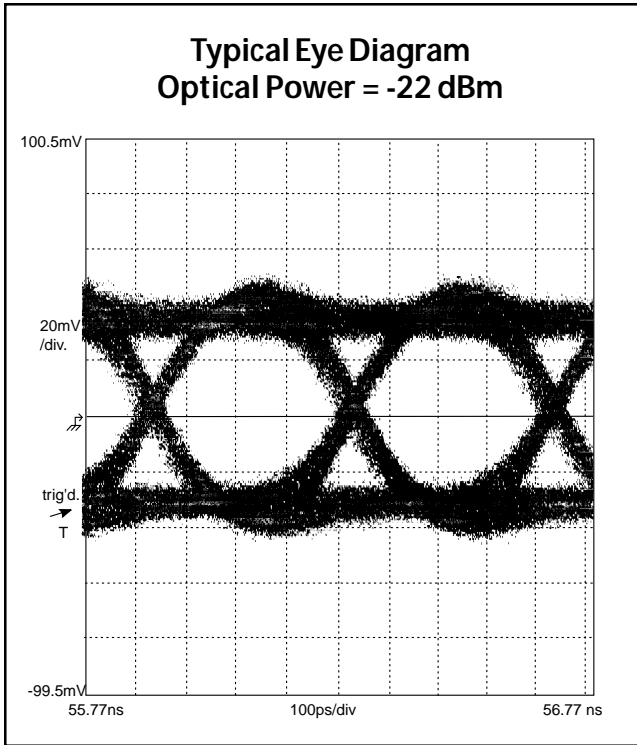


Figure 2

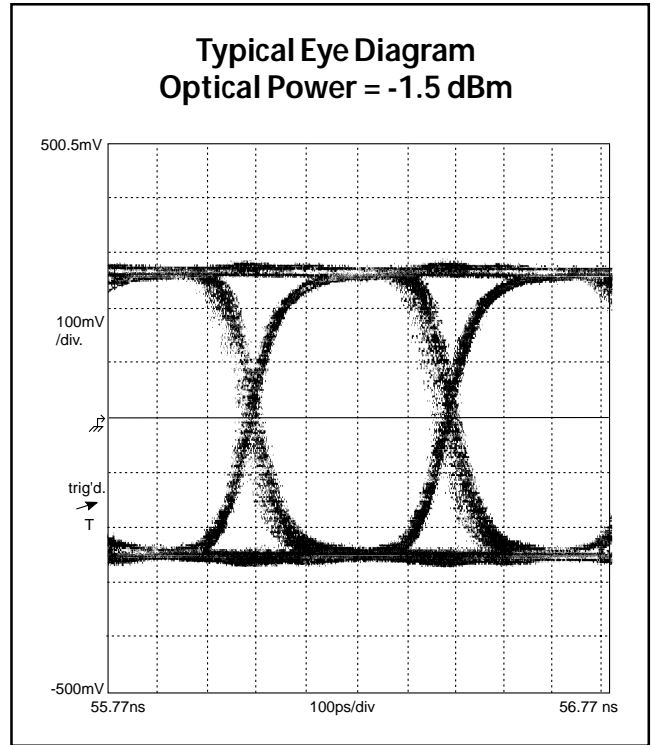
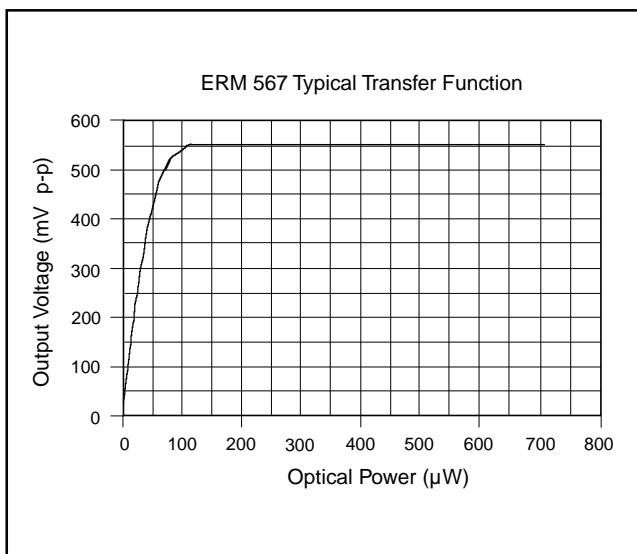
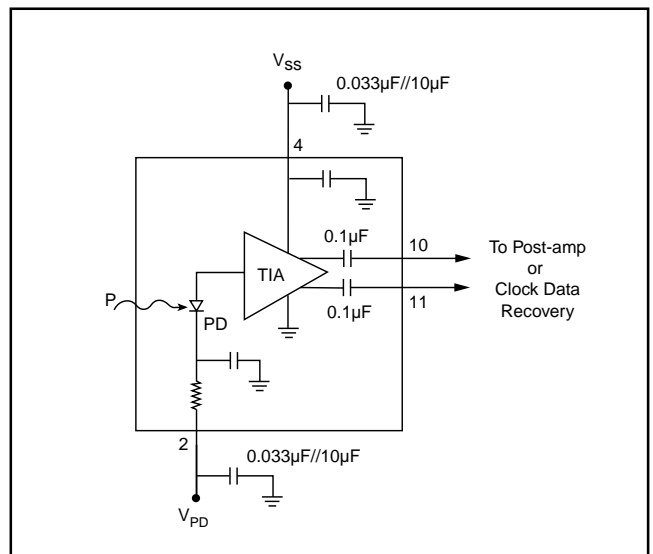


Figure 3



ERM 567 Application Circuit



### **Precautions for Use**

ESD protection is imperative. Use of grounding straps, anti-static mats, and other standard ESD protective equipment is recommended when handling or testing an InGaAs PIN or any other junction photodiode.

Soldering temperature of the leads should not exceed 260 °C for more than 10 seconds.

Fiber feed through tube temperature should not exceed 120 °C.

Fiber pigtailed should be handled with less than 10 N pull and with a bending radius greater than 1".

### **Quality Vision**

EPITAXX has a leadership position in the optoelectronic industry with a vision for excellence in quality. The division is committed to providing customers with the highest levels of quality and reliability in design and manufacturing. The top priorities remain continuous process improvement and total customer satisfaction. EPITAXX obtained ISO 9001 certification in 1996 for both design and manufacturing operations. In addition, EPITAXX maintains a strict quality control program to ensure that all products meet or surpass customer requirements.



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