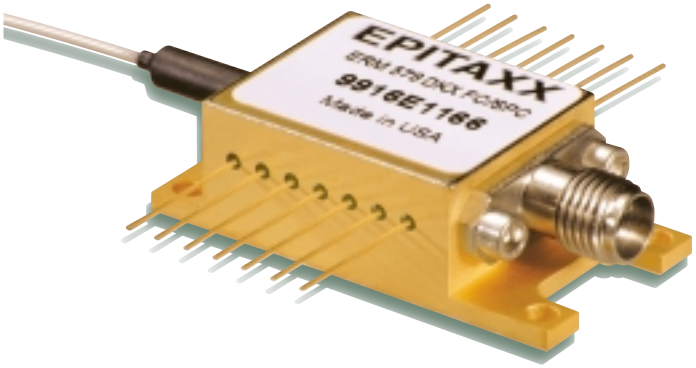
JDS Uniphase

Product Bulletin



ERM 578DKX

10 Gb/s High Sensitivity Avalanche Photodiode Optical Receiver Module

Preliminary Specifications

Conditions (unless noted):
Temperature = 25°C, λ = 1550 nm, R_L = 50Ω, V_{dd} = +5.7V
All specifications without connector.

Parameter	Measurement Conditions	Min	Typ	Max	Units
APD Breakdown Voltage, V_b	I_d = 10 µA	20		40	V
Bandwidth	APD gain 3 ≤ M ≤ 9	7.0			GHz
Low Frequency Cut-off				60	KHz
Output Return Loss	130 kHz to 6 GHz		-10		dB
Sensitivity	APD gain M = 9 BER = 10^{-12} PRBS = 2^{31} -1 NRZ		-26	-25	dBm
Overload	APD gain M = 3 BER = 10^{-12} PRBS = 2^{31} -1 NRZ	-8	-6		dBm
Optical Return Loss				-27	dB
Transimpedance		1100	1900		Ω
Thermistor	T = 25 °C	9.9		10.1	kΩ
Power Dissipation				0.6	W

1. RF output is internally AC coupled.
2. RF output is non-inverted.

ERM 5x8 series are high speed receivers designed to meet the requirements of long and short haul 10Gb/s backbone and metro network architecture. The ERM 578 DKX is designed to provide extremely high sensitivity for single channel SONET/SDH transmission systems.

Key Features

Electro-optical

- Low dark current, low capacitance, InGaAs avalanche photodiode
- Low noise GaAs transimpedance amplifier
- High bandwidth

Packaging

- 14-pin butterfly
  - 50 Ω SMA compatible output connector
  - single mode 900 µm jacketed fiber pigtail
  - available with LC, SC and FC connectors

Applications

- Long haul, single channel SONET/SDH/ETSI

DC/Electrical Characteristics

Parameter	Min	Typ	Max	Units
Supply Voltage	5.4	5.7	6.0	V
APD Supply Voltage	20		40	V

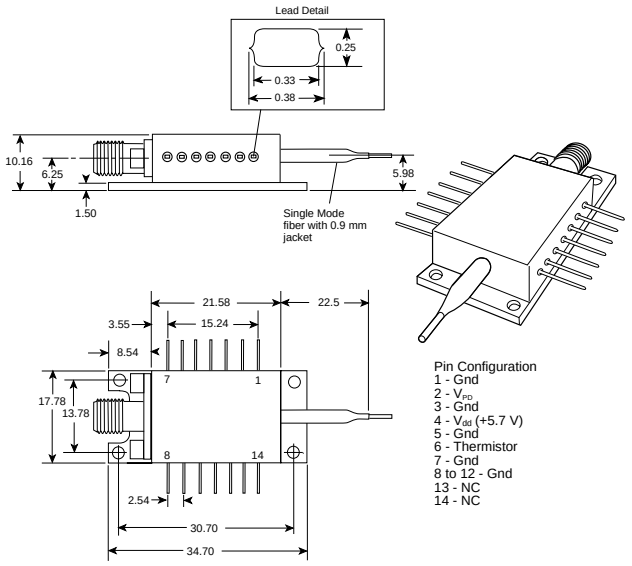
Maximum Ratings

Parameter	Min	Typ	Max	Units
Supply Voltage V_{dd}	0		6.5	V
Supply Voltage V_{APD}	0		V_b	V
Maximum Optical Input Power			0	dBm
Operating Case Temperature	0		70	ºC
Storage Temperature	-40		85	ºC

Note: APD breakdown voltage is equal to V_b

Mechanical Dimensions

All dimensions in mm (nominal)



Ordering Information

Product Model	Fiber Description
ERM 578DKX FC/SPC	900 µm buffer with FC/SPC connector
ERM 578DKX SC/SPC	900 µm buffer with SC/SPC connector
ERM 578DKX LC/SPC	900 µm buffer with LC/SPC connector

Precautions for Use

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

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

Fiber feed through tube temperature should not exceed 120 ºC.

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

Quality Vision

We have a leadership position in the optoelectronic industry with a vision for excellence in quality. The company 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. We obtained ISO 9001 certification in 1996. In addition, the company maintains a strict quality control program to ensure that all products meet or surpass customer requirements.

JDS Uniphase

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