EPITAXX
OPTOELECTRONIC DEVICES

ETX 10LIN24-T5
ETX 20LIN22-T5

Large Area InGaAs PIN Photodiodes

Linear above 20 dBm Input Power

Features

– Electro-optical

- InGaAs photodiode with high responsivity at 1300 and1550 nm
- 17 dB attenuation neutral density filter
- ± 0.15 dB linearity to powers > 20 dBm
- Proprietary, low noise PIN diode structure
- 1 and 2 mm active diameters

– Packaging

- Hermetically sealed TO package
- Absorption filter on internal side of TO window
- Chip centered to ± 125 µm relative to header

Applications

- Optical power meters: 1300 & 1550 nm
- YAG laser test equipment
- Fiber amplifier test gear
- Optical bench instrumentation

Specifications

Conditions (unless noted):25°C, V_R = 0V

MODEL	ETX 10LIN24-T5			ETX 20LIN22-T5			
Parameter	**Min.**	**Typ.**	**Max.**	**Min.**	**Typ.**	**Max.**	**Units**
Active Diameter		1.0			2.0		mm
Responsivity @ 1300 nm[1]	9	18	27	9	18	27	µA / mW
Responsivity @ 1550 nm[2]	9.5	19.0	28.5	9.5	19.0	28.5	µA / mW
Saturation power @ 1300 nm[3,4]	24.0	26.0	29.0	22.2	24.0	27.0	dBm
Saturation power @ 1550 nm[3,5]	24.2	26.2	29.2	22.4	24.2	27.2	dBm
Shunt Resistance[6]	2.0	50		0.8	3.0		M Ω
Dark Current[7]		50			900		nA
Total Capacitance		100	150		400	600	pF
Bandwidth[8]		35			5.3		MHz
Field of View[9]		15			15		degrees
Reflectance			10			10	%

Notes:

1) Measured @ 300 µW nominal input power.

2) Can be measured as an option.

3) Saturation power is defined in accordance with Bellcore advisory #TA-NWT-001092. Saturation power is the upper optical power limit at which the deviation from the median linear range of the L - I curve (see Figure 1) is greater than ± 0.15 dB.

4) Value given for shipped device computed from measured values of power at which unfiltered photodiode saturates and of absorption of filter.

5) Computed value available as an option.

6) V_R = 10 mV.

7) V_R = 5 V for ETX 10LIN24-T5; V_R = 1 V for ETX 20LIN22-T5.

8) -3dB point into a 50Ω load.

9) Angle of incidence at which responsivity decreases 10% relative to normal.