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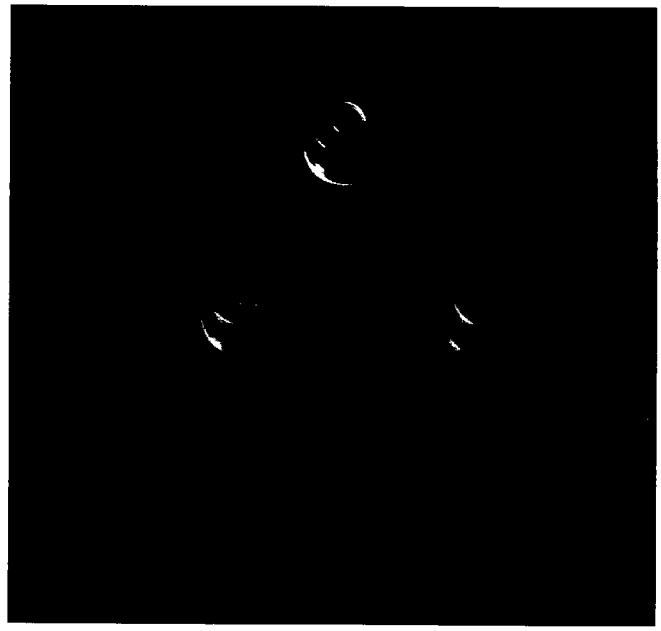
Find the *VIAVI Solutions / JDSU / EPITAXX ETX 300T* at our website: *Click HERE*

EPITAXX
OPTOELECTRONIC DEVICES

ETX 75T
ETX 100T/TL
ETX 300T

High Speed InGaAs Photodiodes

Hermetically Sealed TO Packages



Features

- Photosensitive diameters of 75, 100 or 300 µm
- High responsivity at 1300 and 1550 nm
- Low capacitance, low dark current
- High Reliability
  - Planar, passivated diode
  - Hermetically sealed TO-46 can
- Flat window or lensed cap available

Applications

- Fiber optic receivers to 3 GHz
- Active device mounts (connector receptacles)
- Infrared range finders

Description

The EPITAXX series of high speed TO packaged photodetectors incorporate planar PIN photodiodes made of Indium Gallium Arsenide. Active diameters of these photodiodes are 75, 100, and 300 µm. The detectors are packaged in hermetically sealed TO-46 cans. The cap for the 75 and 300 µm models has a flat window (T version); the 100 µm model is available with either a flat window or a ball lens (TL version).

EPITAXX has designed the TO photodiode series for high speed optical communications and sensing applications. They feature high responsivity between 850 and 1700 nm, low dark current and low capacitance. The ETX 75T provides the highest bandwidth and sensitivity. The ETX 100T offers an increase in the photodetection area; the ETX 100TL affords the same increase in area, plus, its ball lens increases the coupling efficiency. Such increases are beneficial in designing connector receptacle modules. The ETX 300T provides the widest photosensitive area. This larger area permits use of the detector in connector receptacle applications in which the fiber core is at least 100 µm.

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Specifications

Optical / Electrical Characteristics

(V_R = 5 V, T_A = 25°C – unless otherwise noted.)

Model	ETX 75T			ETX 100T			ETX 100TL			ETX 300T			
Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Active Diameter		75			100			100			300		µm
Responsitivity @ 1300 nm	0.80	0.90		0.80	0.90		0.70[1]	0.80		0.80	0.90		A/W
Dark Current		0.15	0.60		0.3	1.0		0.3	1.0		1.0	5.0	nA
Total Capacitance[2]		0.55	0.75		1.0	1.25		1.0	1.25		5.0	8.0	pF
Bandwidth[3]		2.0			1.5			1.5			0.4		GHz
Rise Time[4]		150			180			180			1000		ps

Notes:

[1] Coupled from 50 µm, 0.2 N.A., graded index, bare fiber.

[2] Measured with case grounded.

[3] -3 dB point into a 50Ω load

[4] R_{LOAD} = 50Ω.

Maximum Ratings

High Speed InGaAs Photodiodes - All Models

Parameter	Rating	Units
Reverse Voltage	25	V
Reverse Current [A]	10	mA
Forward Current [B]	10	mA
Power Dissipation	100	mW
Operating Temperature	-40 / +125	°C
Storage Temperature	-40 / +125	°C

Notes:

[A] Under reverse bias, current at which device may be damaged.

[B] Under forward bias, current at which device may be damaged.

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Figure 1

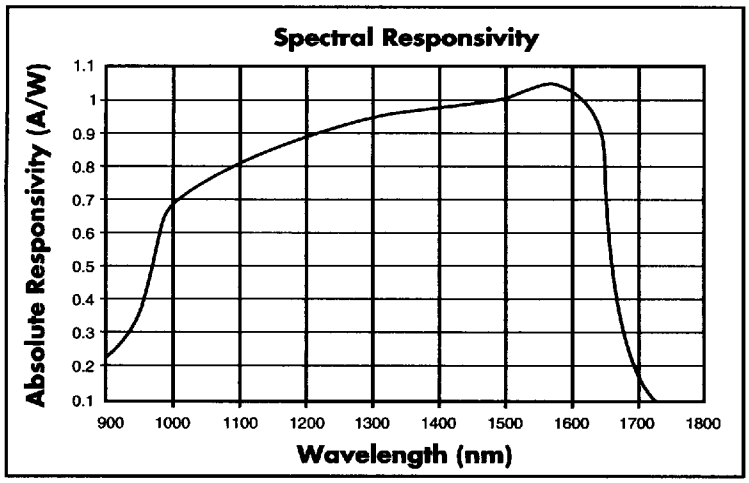


Figure 2

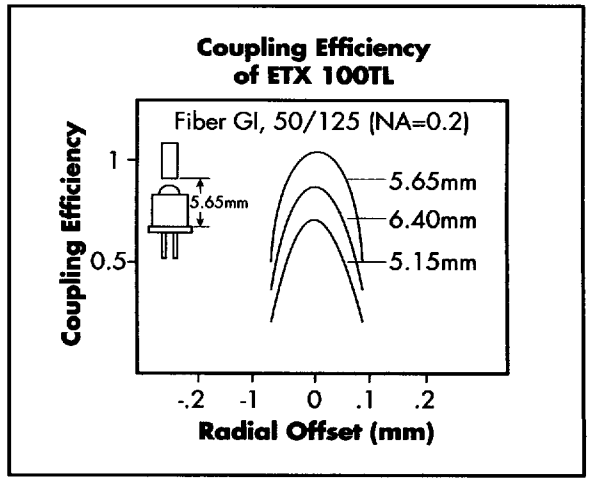


Figure 3

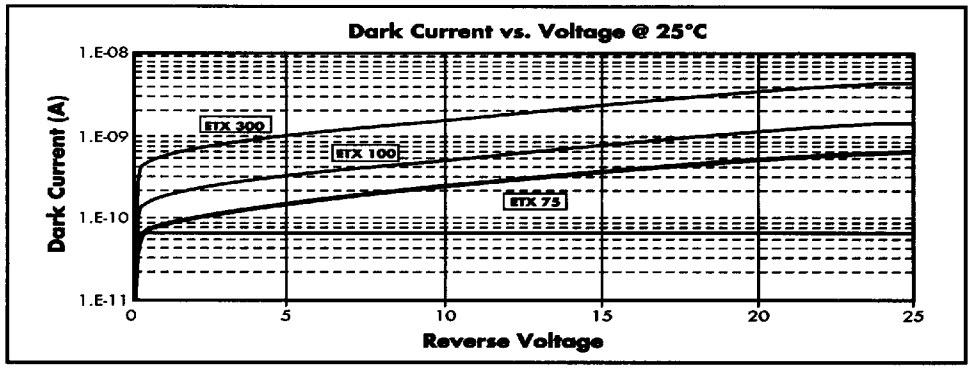


Figure 4

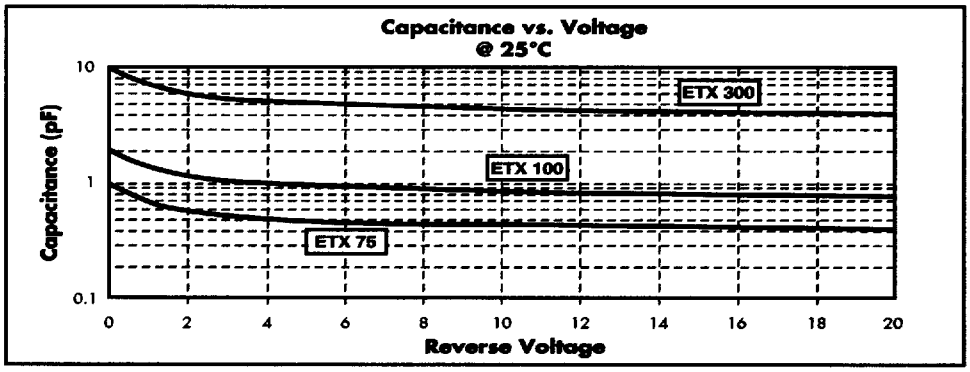
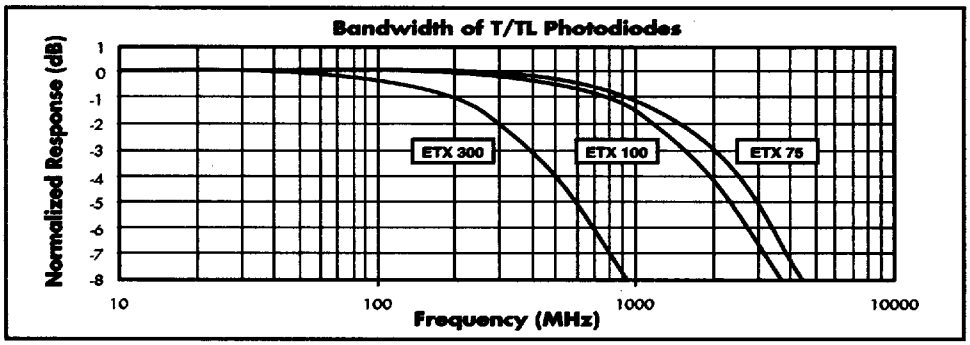


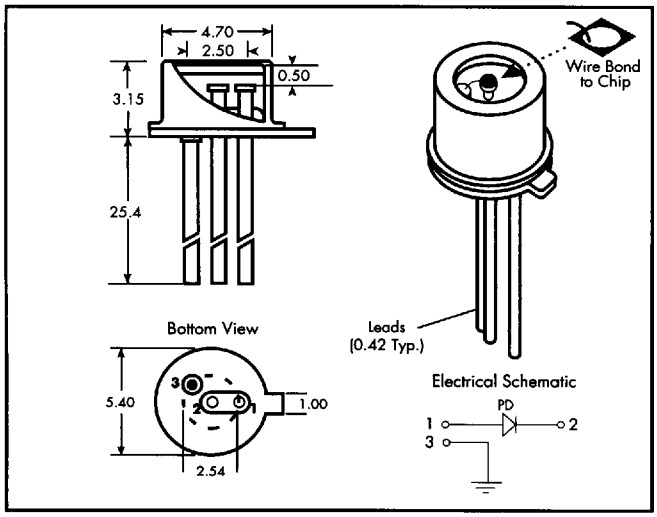
Figure 5



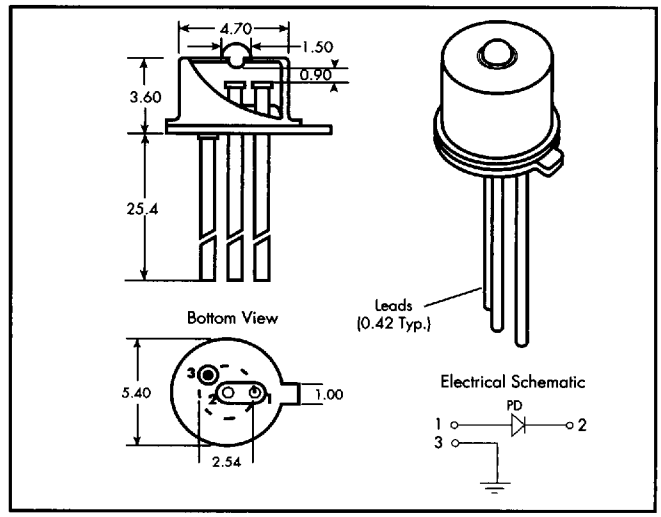
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Mechanical Dimensions - All Dimensions in mm

ETX 75T, ETX 100T, ETX 300T



ETX 100TL



Ordering Information

To order, please specify active diameter and cap configuration.

Designation	Description
ETX 75T	75 µm diameter InGaAs diode with flat window cap
ETX 100T	100 µm diameter InGaAs diode with flat window cap
ETX 100TL	100 µm diameter InGaAs diode with lensed cap
ETX 300T	300 µm diameter InGaAs diode with flat window cap

Quality and Reliability

EPITAXX maintains a strict quality control program throughout the design and manufacture of photodetectors. EPITAXX purges all photodiodes in TO cans at 200°C and -20 V for 20 hours. All TO photodiodes are qualified to Military Standard 883C and Bellcore Standard TA-TSY-000468.

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 InGaAs photodiodes.

Maximum conditions for soldering leads: 260° for no more than 10 seconds.

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