

# T-1 3/4 PACKAGE PIN PHOTODIODE

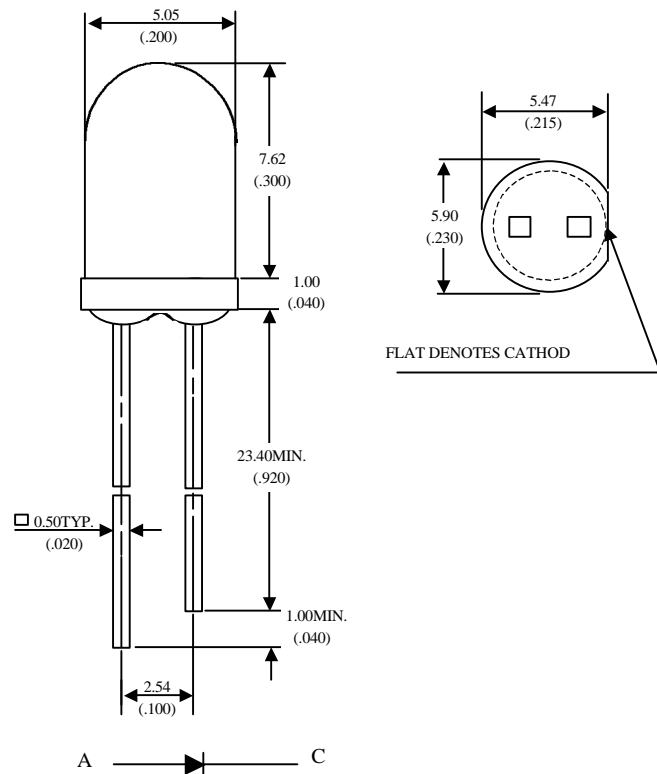
## MID-54H19

### Description

The MID-54H19 is a photodiode mounted in special dark end look plastic package and suitable for the IRED (850nm/880nm) type.

### Package Dimensions

Unit : mm ( inches )



### Features

- High photo sensitivity
- Low junction capacitance
- High cut-off frequency
- Fast switching time
- Acceptance angle : 40°

### Application

- Data communication

Notes :

1. Tolerance is  $\pm 0.25$  mm (.010") unless otherwise noted.
2. Protruded resin under flange is 1.0 mm (.040") max.
3. Lead spacing is measured where the leads emerge from the package.

### Absolute Maximum Ratings

@  $T_A=25^\circ\text{C}$

Parameter	Maximum Rating	Unit
Power Dissipation	150	mW
Operating Temperature Range	-55°C to +100°C	
Storage Temperature Range	-55°C to +100°C	
Lead Soldering Temperature	260°C for 5 seconds	

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02/04/2002

## Optical-Electrical Characteristics

@ T<sub>A</sub>=25°C

Parameter	Test Conditions	Symbol	Min.	Type	Max.	Unit
Reverse Break Down Voltage	I <sub>R</sub> =100μA E <sub>e</sub> =0	V <sub>(BR)R</sub>	30			V
Reverse Dark Current	V <sub>R</sub> =10V E <sub>e</sub> =0	I <sub>D</sub>			30	nA
Open Circuit Voltage	λ=850nm E <sub>e</sub> =0.1mW/cm <sup>2</sup>	V <sub>OC</sub>		350		mV
Rise Time	V <sub>R</sub> =10V λ=850nm R <sub>L</sub> =50Ω	Tr		30		nS
Fall Time		Tf		30		
Light Current	V <sub>R</sub> =5V, λ=850nm E <sub>e</sub> =0.1mW/cm <sup>2</sup>	I <sub>L</sub>	7	12		μA
Total Capacitance	V <sub>R</sub> =3V, f=1MHZ E <sub>e</sub> =0	C <sub>T</sub>		25		pF

## Typical Optical-Electrical Characteristic Curves

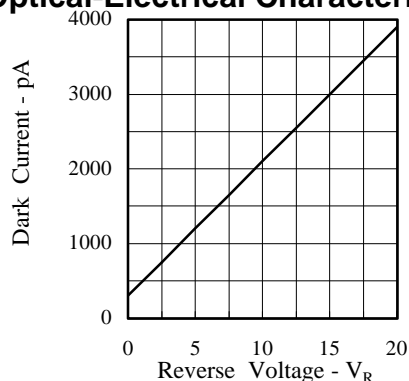


FIG.1 DARK CURRENT VS REVERSE VOLTAGE  
TEMP=25°C, E<sub>e</sub>=0 mW/cm<sup>2</sup>

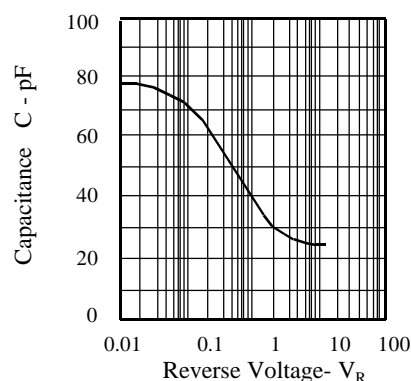


FIG.2 CAPACITANCE VS. REVERSE VOLTAGE  
F=1MHZ, E<sub>e</sub>=0mW/cm<sup>2</sup>

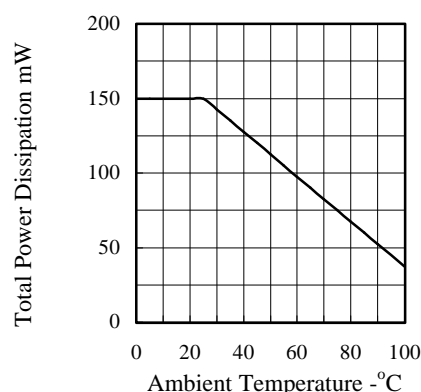


FIG.3 TOTAL POWER DISSIPATION  
VS. AMBIENT TEMPERATURE

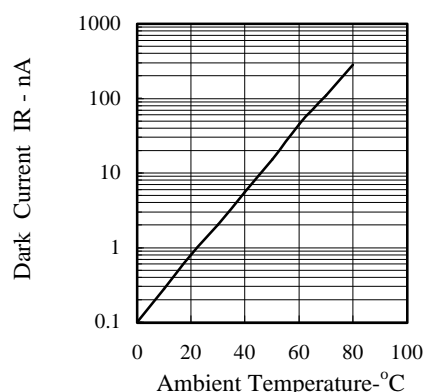


FIG.4 DARK CURRENT VS AMBIENT  
TEMPERATURE  
V<sub>R</sub>=10. E<sub>e</sub>=0 mw/cm<sup>2</sup>

Typical Optical-Electrical Characteristic Curves

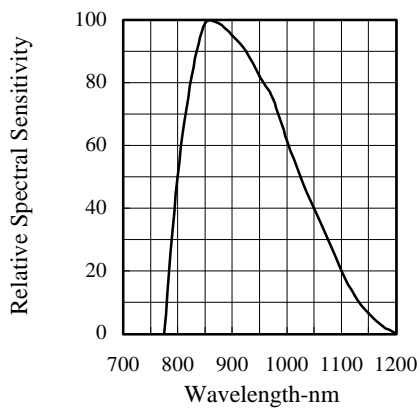


FIG.5 RELATIVE SPECTRAL SENSITIVITY VS. WAVELENGTH

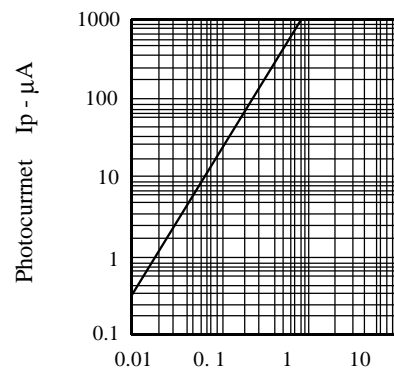


FIG.6 PHOTOCURRENT VS. IRRADIANCE = 850 nm

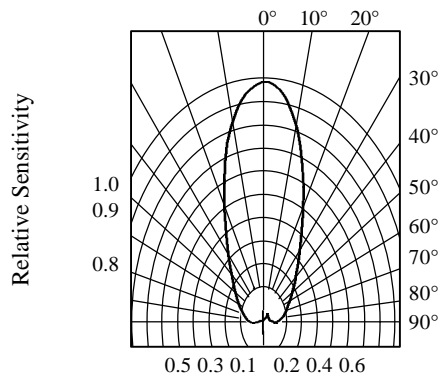


FIG.7 SENSITIVITY DIAGRAM