

T-1 3/4 PACKAGE PIN PHOTODIODE

MID-54A19

Description

The MID-54A19 is a photodiode mounted in special dark end look plastic package and suitable for the IRED (940nm) type.

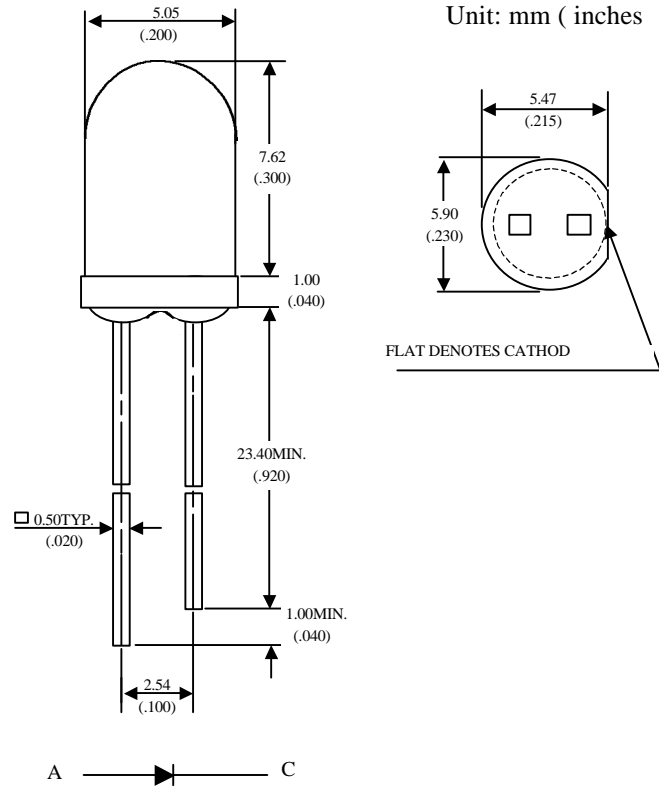
Features

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

Application

- Data communication

Package Dimensions



Notes :

1. Tolerance is ± 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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Optical-Electrical Characteristics

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

Parameter	Test Conditions	Symbol	Min.	Type	Max.	Unit
Reverse Break Down Voltage	$I_R=100\mu\text{A}$ $E_e=0$	$V_{(BR)R}$	30			V
Reverse Dark Current	$V_R=10\text{V}$ $E_e=0$	I_D			30	nA
Open Circuit Voltage	$\lambda=940\text{nm}$ $E_e=0.1\text{mW}/\text{cm}^2$	V_{OC}		350		mV
Rise Time	$V_R=10\text{V}$ $\lambda=940\text{nm}$ $R_L=1\text{K}\Omega$	T_r		30		nS
Fall Time		T_f		30		
Light Current	$V_R=5\text{V}$, $\lambda=940\text{nm}$ $E_e=0.1\text{mW}/\text{cm}^2$	I_L	7	12		μA
Total Capacitance	$V_R=3\text{V}$, $f=1\text{MHz}$ $E_e=0$	C_T		25		pF

Typical Optical-Electrical Characteristic Curves

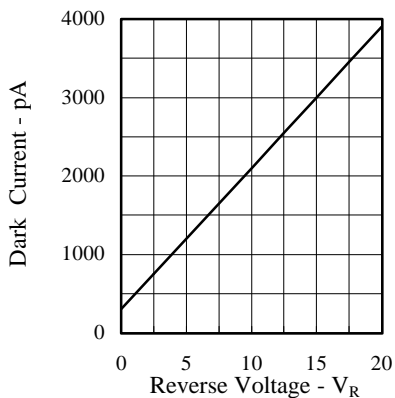


FIG.1 DARK CURRENT VS REVERSE VOLTAGE
 $T_A=25^\circ\text{C}$, $E_e=0\text{ mW}/\text{cm}^2$

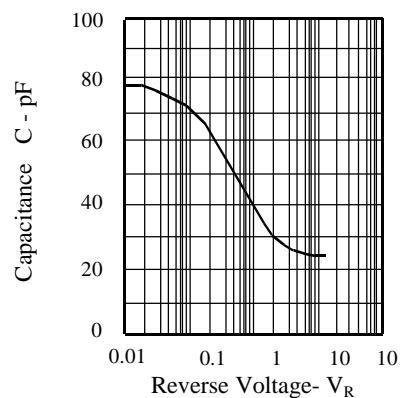


FIG.2 CAPACITANCE VS. REVERSE VOLTAGE
 $F=1\text{MHz}$, $E_e=0\text{mW}/\text{cm}^2$

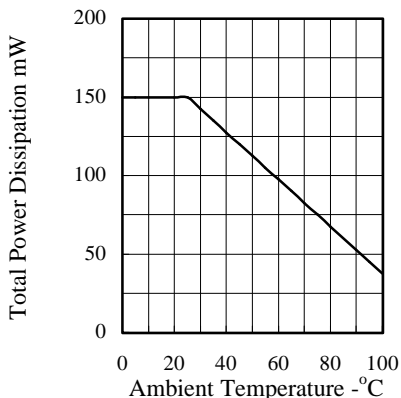


FIG.3 TOTAL POWER DISSIPATION
VS. AMBIENT TEMPERATURE

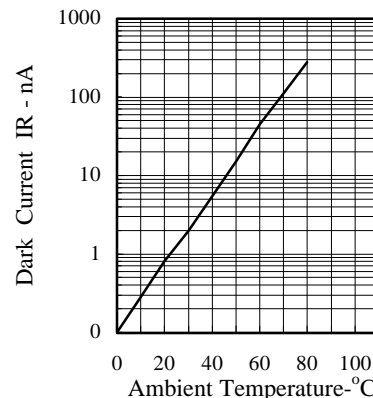


FIG.4 DARK CURRENT VS AMBIENT
TEMPERATURE
 $V_R=10$, $E_e=0\text{ mw}/\text{cm}^2$

Typical Optical-Electrical Characteristic Curves

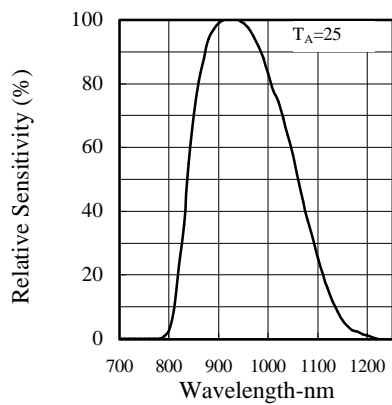


FIG.5 RELATIVE SPECTRAL SENSITIVITY VS. WAVELENGTH

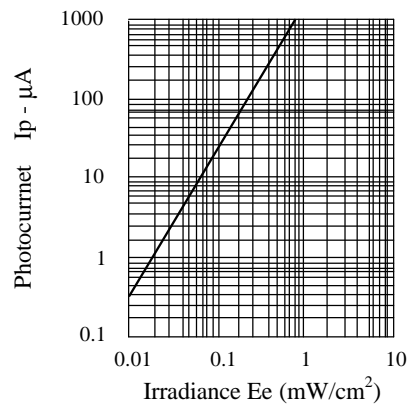


FIG.6 PHOTOCURRENT VS. IRRADIANCE =940 nm

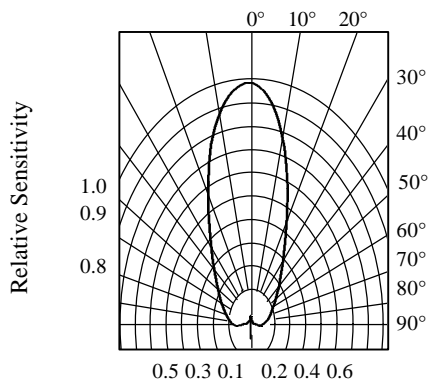


FIG.7 SENSITIVITY DIAGRAM