

# SIDE LOOK PACKAGE NPN PHOTOTRANSISTOR

## MID-14A22

### Description

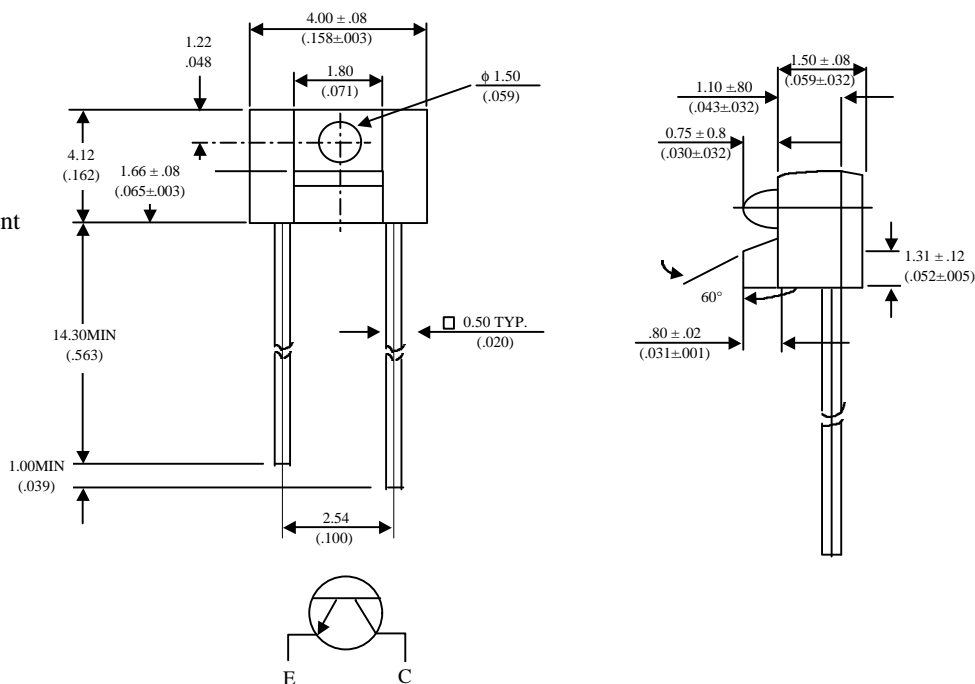
The MID-14A22 is a NPN silicon phototransistor mounted in a lensed, black plastic and side looking package.

### Package Dimensions

Unit: mm ( inches )

### Features

- Wide range of collector current
- Lensed for high sensitivity
- Low cost plastic package
- For 940nm IR



### Notes :

1. All dimensions are in millimeters. (inches).
2. LED die vertical & horizontal placement tolerance is  $\pm 0.12$  mm.
3. Protruded resin under flange is 1.5 mm (.059") max.
4. 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	100	mW
Collector-Emitter Voltage	30	V
Emitter-Collector Voltage	5	V
Operating Temperature Range	-55°C to +100°C	
Storage Temperature Range	-55°C to +100°C	
Lead Soldering Temperature	260°C for 5 seconds	

## Optical-Electrical Characteristics

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

Parameter	Test Conditions	Symbol	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage	$I_c=0.1\text{mA}$ $E_e=0$	$V_{(BR)CEO}$	30			V
Emitter-Collector Breakdown Voltage	$I_c=0.1\text{mA}$ $E_e=0$	$V_{(BR)ECO}$	5			V
Collector-Emitter Saturation Voltage	$I_c=0.5\text{mA}$ $E_e=0.1\text{mW/cm}^2$	$V_{CE(SAT)}$			0.4	V
Rise Time	$V_R=30\text{V}$ , $0=1\text{K}\Omega$	$T_r$		15		$\mu\text{S}$
Fall Time	$I_C=1\text{mA}$	$T_f$		15		
Collector Dark Current	$V_{CE}=10\text{V}$ $E_e=0.1\text{mW/cm}^2$	$I_{CEO}$			100	nA
On State Collector Current	$V_{CE}=5\text{V}$ $E_e=0.1\text{mW/cm}^2$	$I_{C(ON)}$	0.25			mA

## Typical Optical-Electrical Characteristic Curves

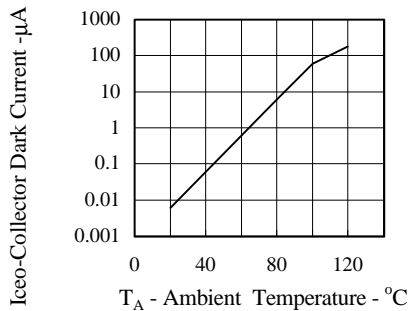


FIG.1 COLLECTOR DARK CURRENT VS AMBIENT TEMPERATURE

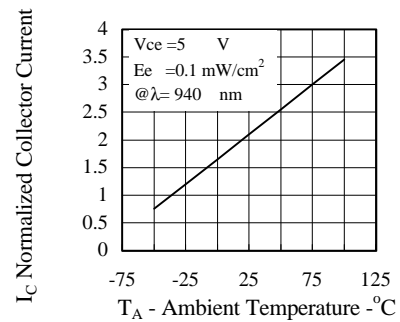


FIG.2 NORMALIZED COLLECTOR CURRENT VS AMBIENT TEMPERATURE

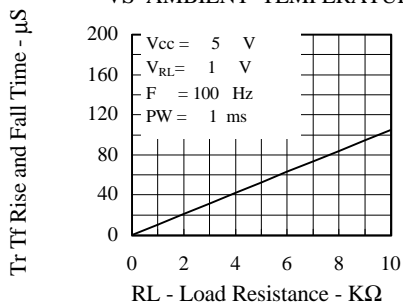


Fig.3 RISE AND FALL TIME VS LOAD RESISTANCE

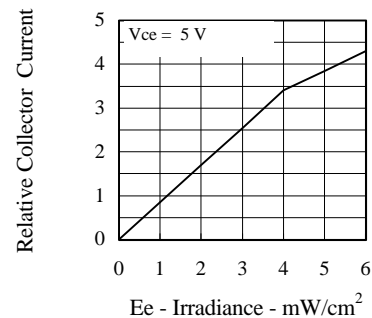


FIG.4 RELATIVE COLLECTOR CURRENT VS IRRADIANCE

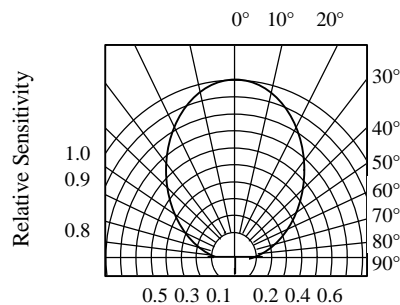


FIG.5 SENSITIVITY DIAGRAM