

# SIDE LOOK PACKAGE NPN PHOTOTRANSISTOR

## MID-14H22

### Description

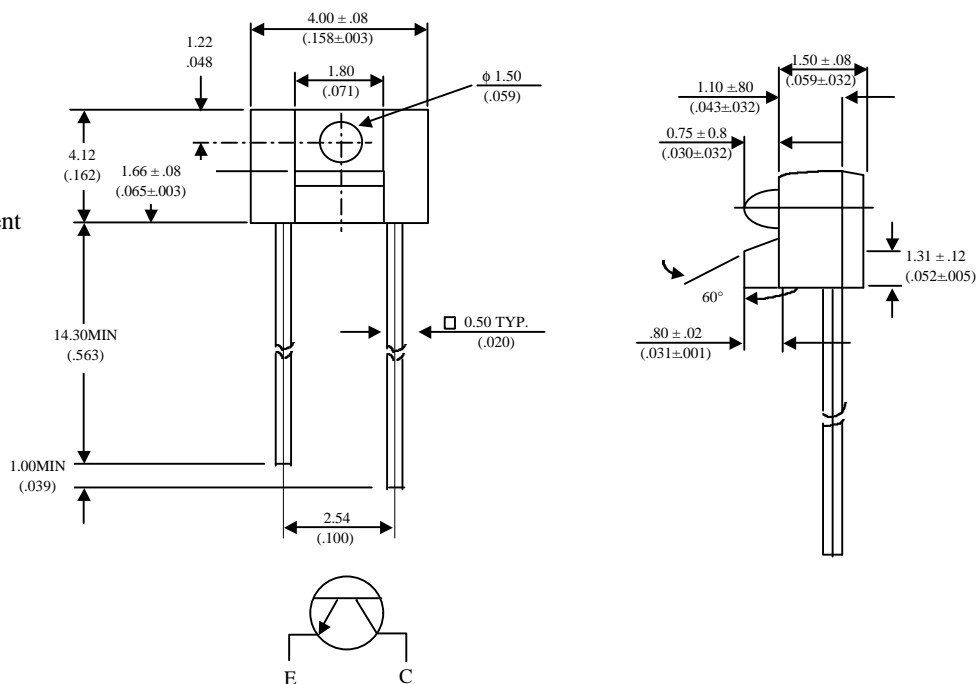
The MID-14H22 is a NPN silicon phototransistor mounted in a lensed, black plastic and side looking package.

### Package Dimensions

Unit: mm ( inches )

### Features

- Wide range of collector current
- Lensed for high sensitivity
- Low cost plastic package
- For 850nm 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

Parameter	Maximum Rating	Unit
Power Dissipation	100	mW
Collector-Emitter Voltage	30	V
Emitter-Collector Voltage	5	V
Operating Temperature Range	$-55^\circ\text{C}$ to $+100^\circ\text{C}$	
Storage Temperature Range	$-55^\circ\text{C}$ to $+100^\circ\text{C}$	
Lead Soldering Temperature	260°C for 5 seconds	

**Optical-Electrical Characteristics**

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**

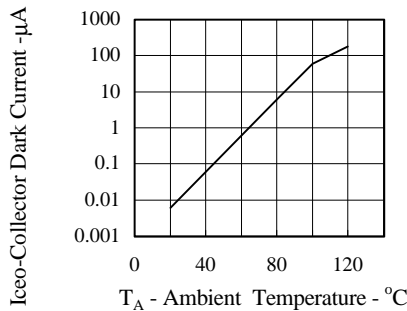


FIG.1 COLLECTOR DARK CURRENT VS AMBIENT TEMPERATURE

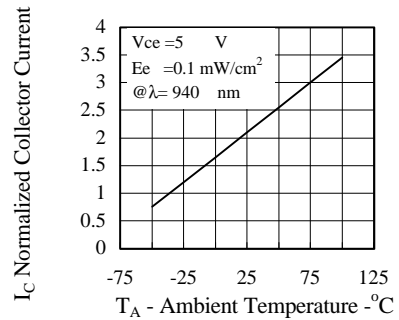


FIG.2 NORMALIZED COLLECTOR CURRENT VS AMBIENT TEMPERATURE

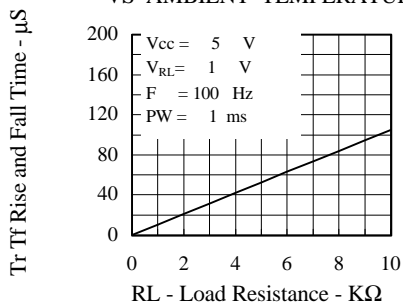


Fig.3 RISE AND FALL TIME VS LOAD RESISTANCE

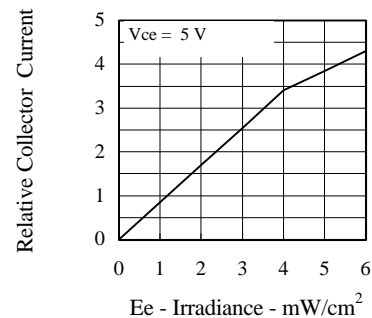


FIG.4 RELATIVE COLLECTOR CURRENT VS IRRADIANCE

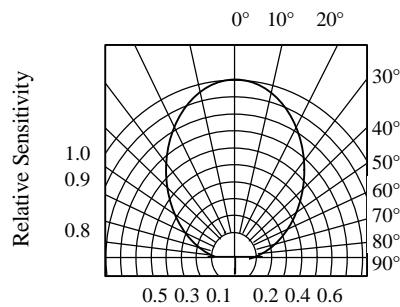


FIG.5 SENSITIVITY DIAGRAM