

T-1 PACKAGE NPN PHOTOTRANSISTOR

MID-33422

Description

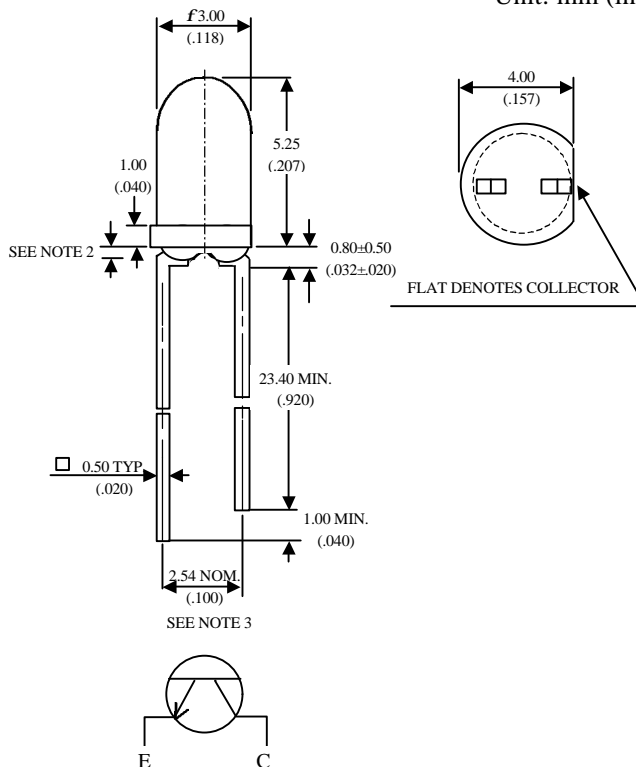
The MID-33422 is a NPN silicon phototransistor mounted in a lensed, water clear plastic package and suitable for the variety wavelength.

Features

- Wide range of collector current
- Lensed for high sensitivity
- Low cost plastic package
- Suitable for the variety wavelength
- Acceptance view angle : 30°

Package Dimensions

Unit: mm (inches)



Notes :

1. Tolerance is ± 0.25 mm (.010") unless otherwise noted .
2. Protruded resin under flange is 0.5 mm (.019") 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	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	

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02/04/2002

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	$I_e=0.1\text{mA}$ $E_e=0$	$V_{(BR)ECO}$	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	$V_{CC}=5\text{V}$, $R_L=1\text{K}\Omega$	T_r		15		μS
Fall Time	$I_C=1\text{mA}$	T_f		15		
Collector Dark Current	$V_{CE}=10\text{V}$ $E_e=0$	I_{CEO}			100	nA
On State Collector Current	$V_{CE}=5\text{V}$ $E_e=0.1\text{mW/cm}^2$	$I_{C(ON)}$		2.4		mA

Typical Optical-Electrical Characteristic Curves

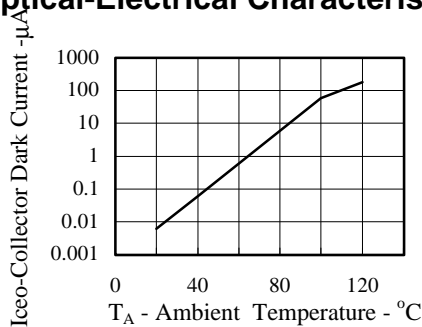


FIG.1 COLLECTOR DARK CURRENT VS AMBIENT TEMPERATURE

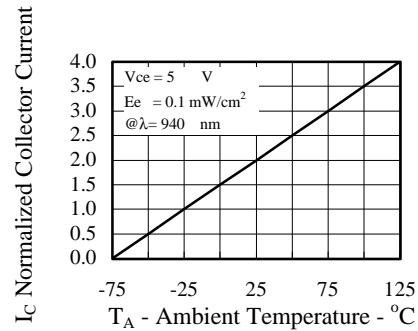


FIG.2 NORMALIZED COLLECTOR CURRENT

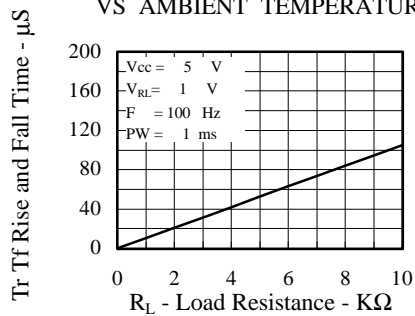


FIG.3 RISE AND FALL TIME VS LOAD RESISTANCE

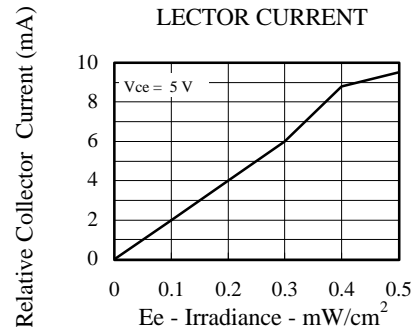


FIG.4 RELATIVE COLLECTOR CURRENT VS IRRADIANCE

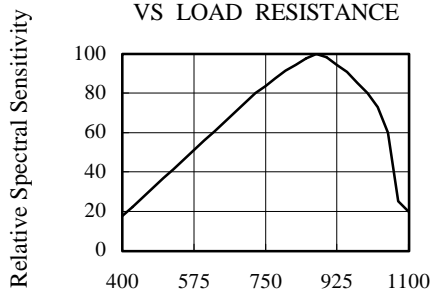


FIG.5 RELATIVE SPECTRAL SENSITIVITY $S_{REL}=f(\lambda)$

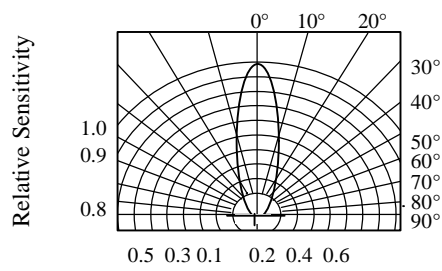


FIG.6 SENSITIVITY DIAGRAM