

T-1 3/4 PACKAGE NPN PHOTOTRANSISTOR

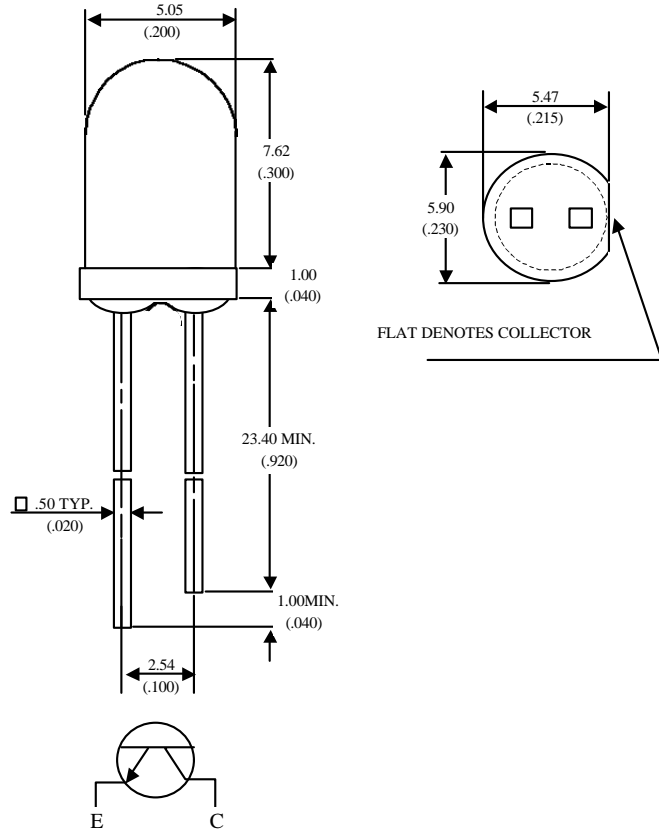
MID-54A22

Description

The MID-54A22 is a NPN silicon phototransistor mounted in a lensed, special dark plastic package. The lensing effect of the package allows an acceptance view angle of 40° so that the product performs a high directional characteristic.

Package Dimensions

Unit: mm (inches)



Features

- Wide range of collector current
- Lensed for high sensitivity
- Low cost plastic package
- Standard T-1 3/4 (5mm) package.
- Good spectral matching IRED (940nm) type.
- Acceptance angle :40°

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
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	

UNI

Unity Opto Technology Co., Ltd.

02/04/2002

Optical-Electrical Characteristics

@ T_A=25°C

Parameter	Test Conditions	Symbol	Min.	Typ .	Max.	Unit
Collector-Emitter Breakdown Voltage	I _c =0.1mA E _e =0	V _{(BR)CEO}	30			V
Emitter-Collector Breakdown Voltage	I _e =0.1mA E _e =0	V _{(BR)ECO}	5			V
Collector-Emitter Saturation Voltage	I _c =0.5mA E _e =0.1mW/cm ²	V _{CE(SAT)}			0.4	V
Rise Time	V _{cc} =5V, R _L =1KΩ	Tr		15		μS
Fall Time	I _C =1mA	Tf		15		
Collector Dark Current	V _{CE} =10V E _e =0	I _{CEO}			100	nA
On State Collector Current	V _{CE} =5V E _e =0.1mW/cm ²	I _{C(ON)}		0.8		mA

Typical Optical-Electrical Characteristic Curves

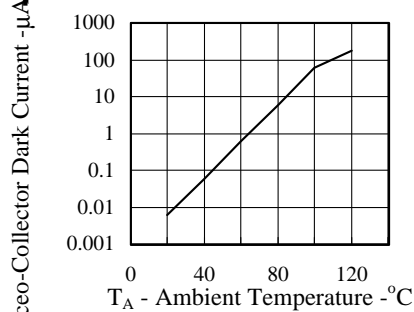


FIG.1 COLLECTOR DARK CURRENT

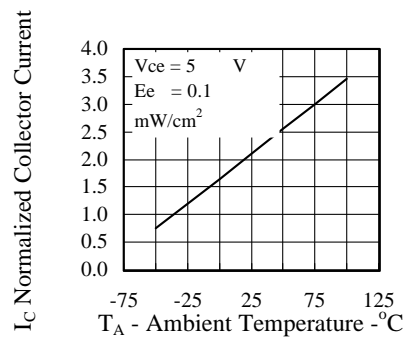


FIG.2 NORMALIZED COLLECTOR CURRENT

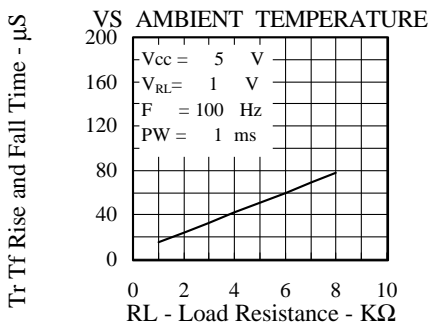


FIG.3 RISE AND FALL TIME VS LOAD RESISTANCE

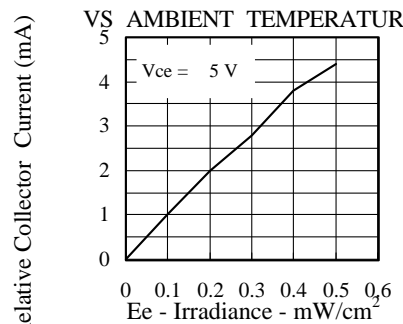


FIG.4 RELATIVE COLLECTOR CURRENT VS IRRADIANCE

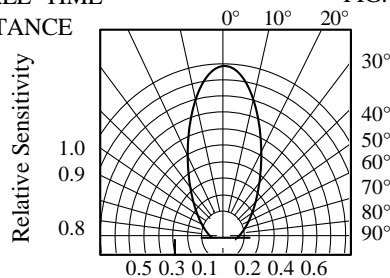


FIG.5 SENSITIVITY DIAGRAM