T-1 PACKAGE
NPN PHOTOTRANSISTOR

MID-32A22

Description

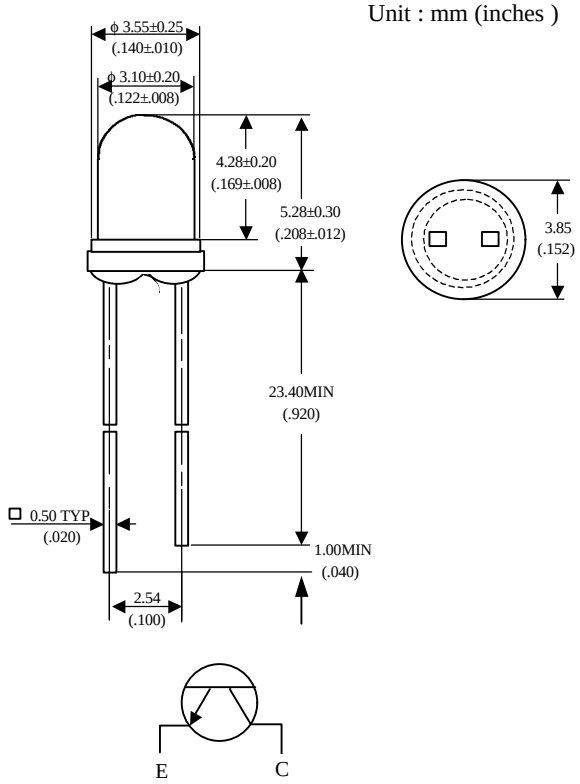
The MID-32A22 is a NPN silicon phototransistor mounted in a lensed , special dark plastic package. The lensing effect of the package allows an acceptance half view angle of 20° that is measured from the optical axis to the half power point .

Features

- Wide range of collector current
- Lensed for high sensitivity
- Low cost plastic package
- Good spectral matching IRED (λp 940 nm) type
- Acceptance view angle : 40°

Package Dimensions

Unit : mm (inches)



Notes :
1. Tolerance is ± 0.25mm (.010") unless otherwise noted .
2. Protruded resin under flange is 1.5 mm (.059") max
3. Lead spacing is measured where the leads emerge from the package.

Absolute Maximum Ratings

@ T_A=25°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°C

Parameter	Test Conditions	Symbol	Min.	Typ.	Max.	Unit
Collector-Emitter Breakdown Voltage	I_c=0.1mA Ee=0	$V_{(BR)CEO}$	30			V
Emitter-Collector Breakdown Voltage	Ie=0.1mA Ee=0	$V_{(BR)ECO}$	5			V
Collector-Emitter Saturation Voltage	I_c=0.5mA Ee=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 Ee=0	I_{CEO}			100	nA
On State Collector Current	V_{CE}=5V Ee=0.1mW/cm^2	$I_{C(ON)}$		0.4		mA

Typical Optical-Electrical Characteristic Curves

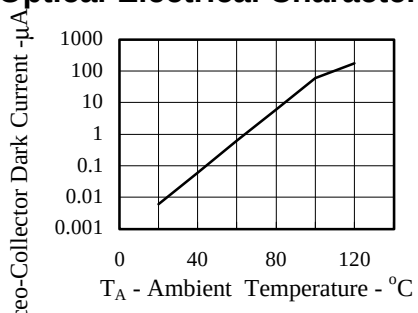


FIG.1 COLLECTOR DARK CURRENT VS AMBIENT TEMPERATURE

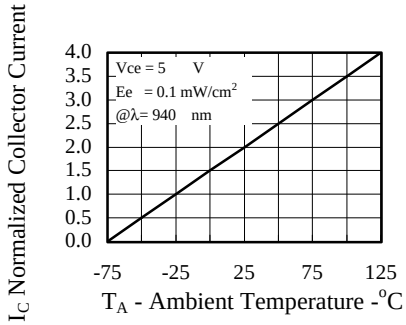


FIG.2 NORMALIZED COLLECTOR CURRENT VS AMBIENT TEMPERATURE

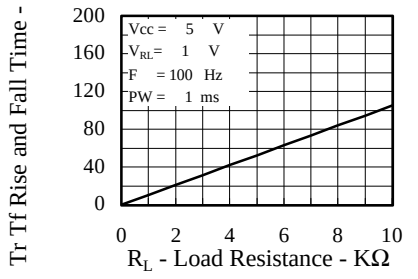


FIG.3 RISE AND FALL TIME VS LOAD RESISTANCE

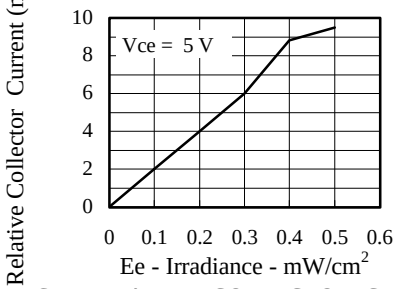


FIG.4 RELATIVE COLLECTOR CURRENT VS IRRADIANCE

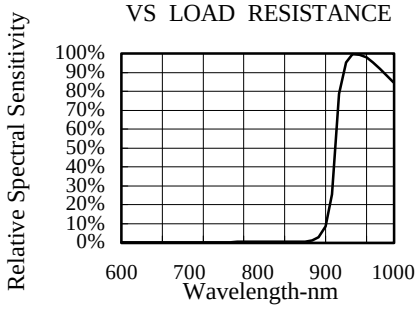


FIG.5 RELATIVE SPECTRAL SENSITIVITY VS. WAVELENGTH

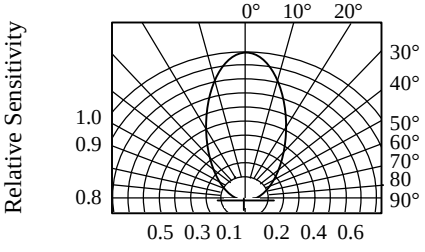


FIG.6 SENSITIVITY DIAGRAM