

# SIDE LOOK PACKAGE NPN PHOTOTRANSISTOR

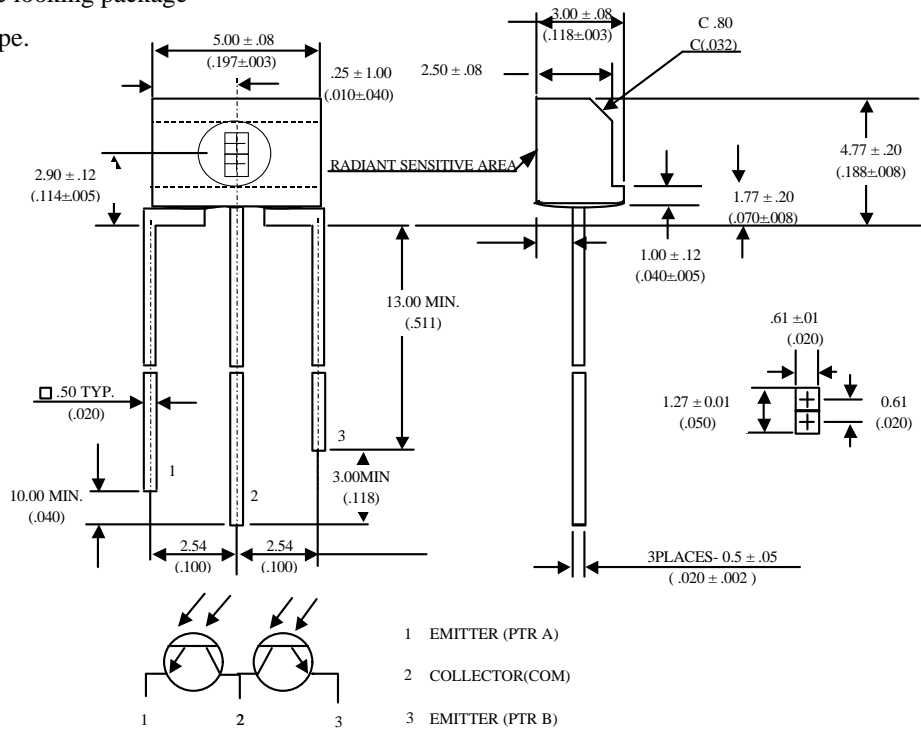
## MID-94A3I

### Description

The MID-94A3L is a TWIN NPN silicon phototransistor mounted in a special dark plastic side looking package and suitable for the IRED (940nm) Type.

### Package Dimensions

Unit : mm



### Features

- Wide range of collector current
- Low cost plastic package

### NOTES :

1. All dimensions are in millimeters.(inches).
2. PTR die vertical & horizontal placement tolerance is  $\pm 0.12$  mm from the center line.  
Allowed die rotation must be 5 or less.
3. Protruded resin under flange is 1.5mm (.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	$-55^\circ\text{C}$ 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	



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Optical-Electrical Characteristics

@ T<sub>A</sub>=25°C

Parameter	Test Conditions	Symbol	Min.	Typ .	Max.	Unit
Collector-Emitter Breakdown Voltage	I <sub>c</sub> =0.1mA E <sub>e</sub> =0	V <sub>(BR)CEO</sub>	30			V
Emitter-Collector Breakdown Voltage	I <sub>e</sub> =0.1mA E <sub>e</sub> =0	V <sub>(BR)ECO</sub>	5			V
Collector-Emitter Saturation Voltage	I <sub>c</sub> =0.5 mA E <sub>e</sub> =0.1mW/cm <sup>2</sup>	V <sub>CE(SAT)</sub>		0.1	0.4	V
Rise Time	V <sub>R</sub> =5V, R <sub>L</sub> =1KΩ	Tr				μS
Fall Time			I <sub>C</sub> =1mA			
Collector Dark Current	V <sub>CE</sub> =10V E <sub>e</sub> =0	I <sub>CEO</sub>			100	nA
On State Collector Current	V <sub>CE</sub> =5V E <sub>e</sub> =0.1mW/cm <sup>2</sup>	I <sub>C(ON)</sub>	0.16	0.4		mA

Typical Optical-Electrical Characteristic Curves

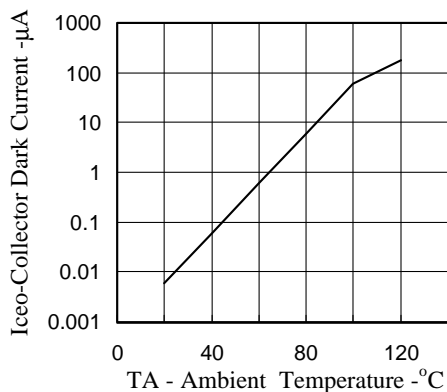


FIG.1 COLLECTOR DARK CURRENT VS AMBIENT TEMPERATURE

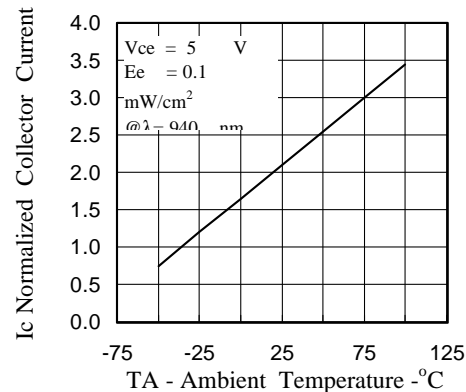


FIG.2 NORMALIZED COLLECTOR CURRENT VS AMBIENT TEMPERATURE

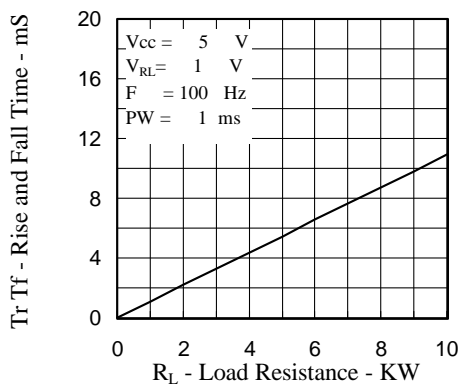


FIG.3 RISE AND FALL TIME VS LOAD RESISTANCE

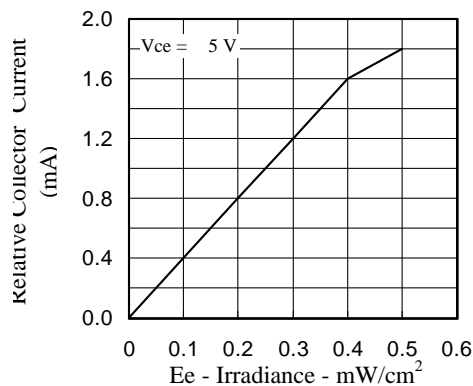


FIG.4 RELATIVE COLLECTOR CURRENT VS IRRADIANCE