

# SILICON PHOTOTRANSISTOR 61058 (TYPE GS 4021)

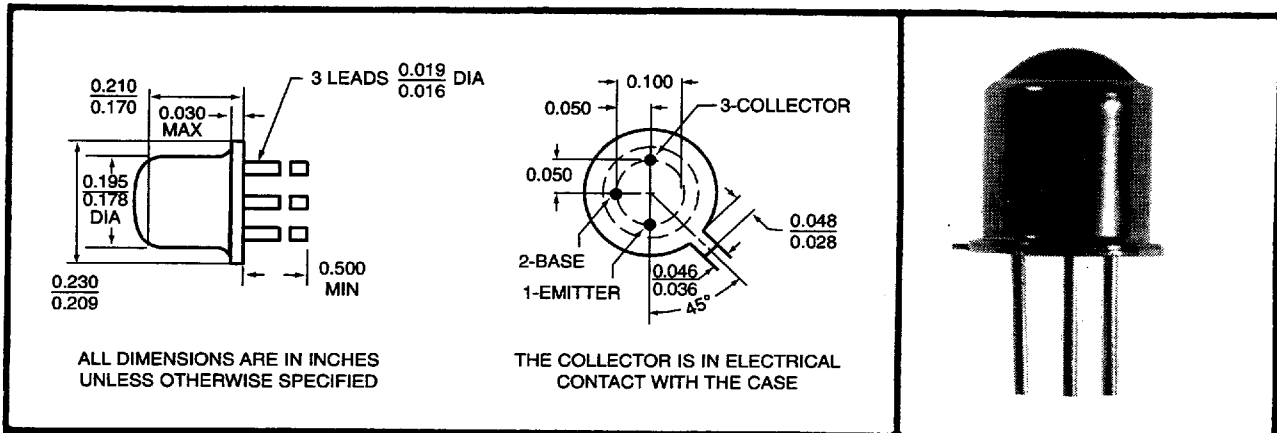


## GENERAL DESCRIPTION (REPLACES TIL 81)

**HIGH SENSITIVITY  
TO-46 HERMETIC PACKAGE**

Mii 61058 is an N-P-N Silicon Phototransistor in a lensed TO-46 three-lead package. It is available in a range of sensitivities and is ideal for use wherever high response, low dark current leakage, and low saturation characteristics are required. The base lead of this device is available if needed in order to provide additional control. Available screened to MIL-S-19500.

## PHYSICAL DESCRIPTION



## OPTICAL/ELECTRICAL CHARACTERISTICS AT 25°C

PARAMETER	LIGHT CURRENT		DARK CURRENT	COLLECTOR BREAKDOWN	EMITTER BREAKDOWN	LIGHT CURRENT RISE TIME	SATURATION VOLTAGE	ANGULAR RESPONSE
TEST CONDITION	$V_{CE} = 5.0V$ $H = 5 \text{ mW/cm}^2$		$V_{CE} = 10V$ $H = 0$	$I_C = 100 \mu A$	$I_E = 100 \mu A$	$I_L = 1 \text{ mA}$ $R_L = 100 \Omega$ $V_{CC} = 5V$	$I_C = 0.4 \text{ ma}$ $H$ as shown	Note 1
SYMBOL	$I_L$		$I_D$	$BV_{CEO}$	$BV_{ECO}$	$t_r$	$V_{CE}(\text{sat})$	$\theta$
UNIT	mA		nA	VOLTS	VOLTS	$\mu \text{ sec}$	VOLTS	degrees
	MIN	MAX	MAX	MIN	MIN	TYP	TYP	TYP
GS 4021-1	1.0	5.0	100	30	7	3.0	0.2	10
GS 4021-2	4.0	9.0	100	30	7	4.0	0.2	10
GS 4021-3	8.0	16.0	100	30	7	5.0	0.2	10
GS 4021-4	15.0	-	100	30	7	7.0	0.2	10

\* Irradiance in  $\text{mW/cm}^2$  from a tungsten source at a color temperature of 2870K

1 The angle between incidence for peak response and incidence for 50% of peak response

# SILICON PHOTOTRANSISTOR, TYPE GS 4021, *Continued*

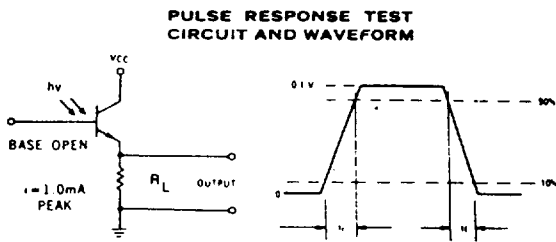
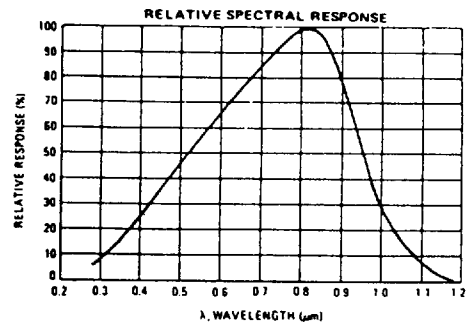
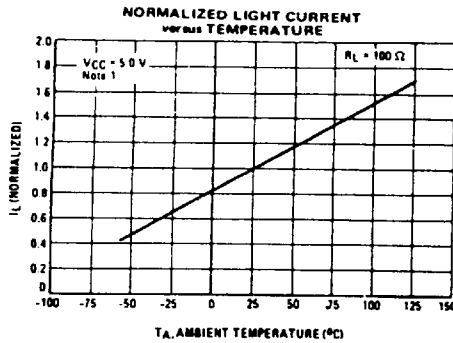
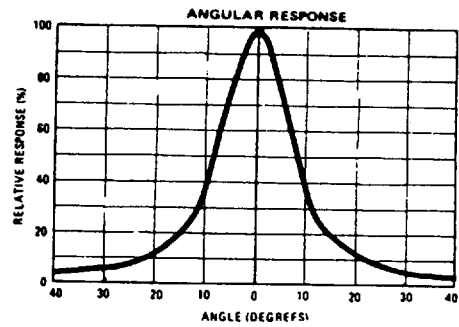
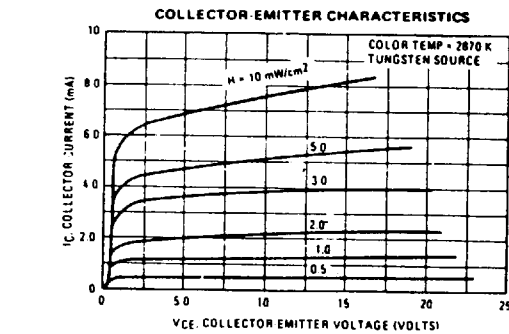
## 61058 SILICON PHOTOTRANSISTOR

### ABSOLUTE MAXIMUM RATINGS 25°C FREE AIR TEMPERATURE UNLESS NOTED

Collector-Emitter Voltage	50 V
Emitter-Collector Voltage	7 V
Continuous Collector Current	50 mA
Continuous Device Dissipation at (or below) 25°C Free-Air Temperature (See Note)	250 mW
Operating Free-Air Temperature Range	-55°C to 125°C
Storage Temperature Range	-55°C to 150°C
Lead Temperature 1/16 inch from Case for 10 Seconds	240°C

NOTE: Derate linearly to 125°C free-air temperature at the rate of 2.5 mW/°C.

### TYPICAL CHARACTERISTICS



For unsaturated rise time measurements, radiation is provided by a pulsed GaAs (gallium-arsenide) LED ( $\lambda = 0.9 \mu\text{m}$ ) with a pulse width equal to or greater than 200 microseconds.

