

SILICON PHOTOTRANSISTOR 61052 (TYPE GS 4123)



GENERAL DESCRIPTION

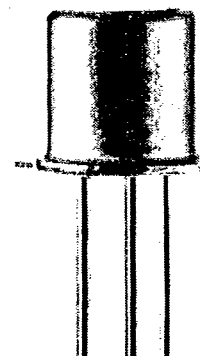
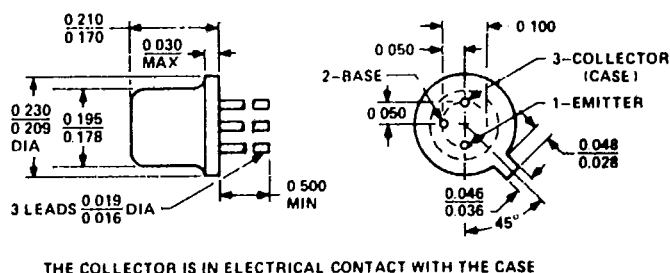
LARGE SENSITIVE AREA

TO-46 HERMETIC PACKAGE

General Sensors' Type GS 4123 is an N-P-N Silicon Phototransistor featuring a large (.060 by .060) sensitive area, mounted in a flat-windowed TO-46 package.

This device is ideal for use wherever system considerations dictate the use of external optics to focus radiation on the sensor.

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	$V_{CE} = 5V$ $H = 20 \text{ mW/cm}^2$		$V_{CE} = 5V$ $H = 0$	$I_C = 100 \mu A$	$I_F = 100 \mu A$	$I_L = 1 \text{ mA}$ $R_L = 100 \Omega$ $V_{CC} = 5V$	$I_C = 0.4 \text{ ma}$ H as shown	Note 1
SYMBOL	I_L		I_D	BV_{CEO}	BV_{ECO}	t_r	$V_{CE(sat)}$	θ
UNIT	mA		nA	VOLTS	VOLTS	$\mu \text{ sec}$	VOLTS	degrees
	MIN	MAX	MAX	MIN	MIN	TYP	TYP	TYP
GS 4123-1	5.0	20.0	50	30	7	8.0	0.2	45
GS 4123-2	20.0	30.0	50	30	7	10.0	0.2	45
GS 4123-3	30.0	50.0	50	30	7	15.0	0.2	45
GS 4123-4	50.0	-	50	30	7	20.0	0.2	45

* Irradiance in mW/cm^2 from a tungsten source at a color temperature of 2870 K
1 The angle between incidence for peak response and incidence for 50% of peak response

SILICON PHOTOTRANSISTOR, TYPE GS 4123, *Continued*

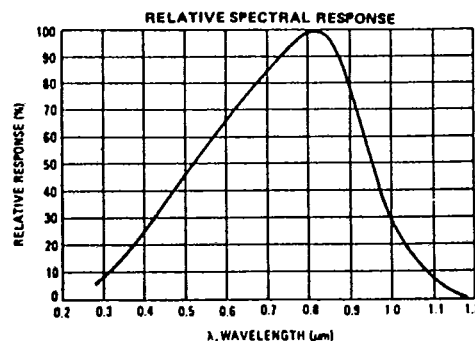
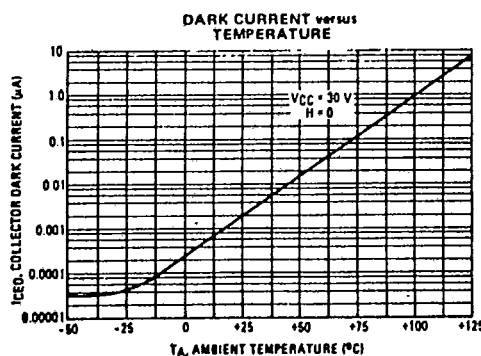
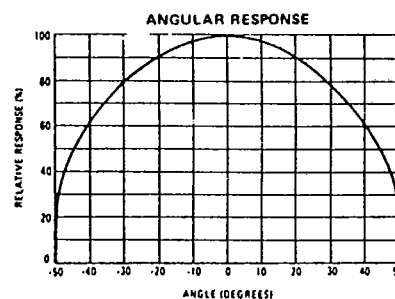
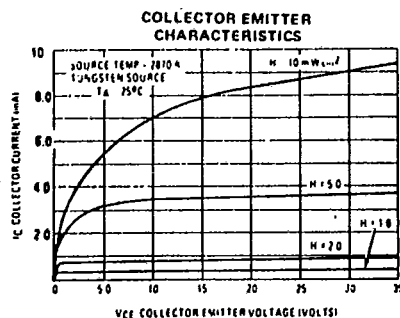
61052 SILICON PHOTOTRANSISTOR

ABSOLUTE MAXIMUM RATINGS 25°C FREE AIR TEMPERATURE UNLESS NOTED

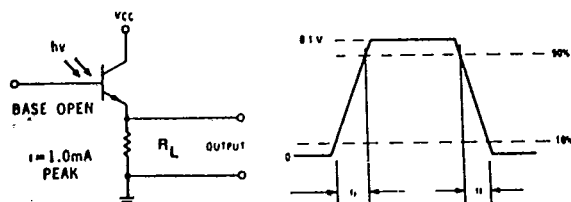
Collector-Emitter Voltage	50 V
Emitter-Collector Voltage	7 V
Continuous Collector Current	50 mA
Continuous Device Dissipation at (or below) 25°C Free-Air Temperature (See Note)	250 mW
Operating Free-Air Temperature Range	-65°C to 125°C
Storage Temperature Range	-65°C to 150°C
Lead Temperature 1/16 inch 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



PULSE RESPONSE TEST CIRCUIT AND WAVEFORM



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