61058	**SILICON PHOTOTRANSISTOR (TYPE GS4021)**	**Mii** OPTOELECTRONIC PRODUCTS DIVISION

Features:

- Hermetically sealed
- High sensitivity
- Base lead provided for conventional transistor biasing
- Narrow viewing angle
- Spectrally matched to the 62033 series LED.

Applications:

- Incremental encoding
- Reflective sensors
- Position sensors
- Level sensors

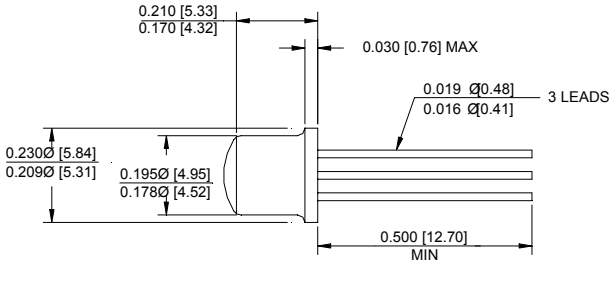
DESCRIPTION

The ***61058*** is an N-P-N Planar 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. Available custom binned to customer specifications or screened to MIL-PRF-19500.

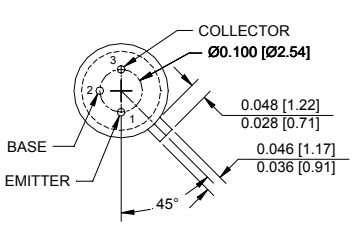
ABSOLUTE MAXIMUM RATINGS

Storage Temperature.....-65°C to +150°C
Operating Temperature (See part selection guide for actual operating temperature) .....-65°C to +125°C
Collector-Emitter Voltage.....50V
Emitter-Collector Voltage.....7V
Continuous Collector Current 50mA
Power Dissipation (Derate at the rate of 2.5 mW/°C above 25°C) 250mW
Lead Soldering Temperature (1/16" from case for 10 seconds)..... 240°C

Package Dimensions

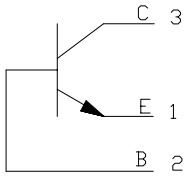


ALL DIMENSIONS ARE IN INCHES [MILLIMETERS]



THE COLLECTOR IS IN ELECTRICAL CONTACT WITH THE CASE

Schematic Diagram



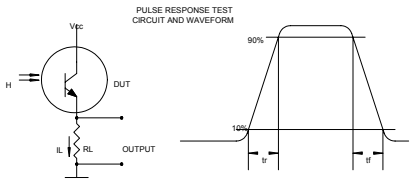
ELECTRICAL CHARACTERISTICS

T_A = 25°C unless otherwise specified.

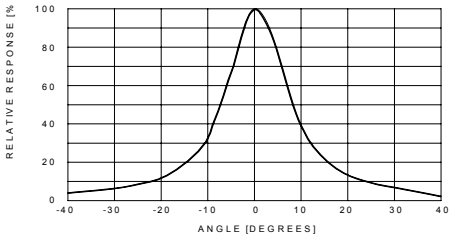
PARAMETER		SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS	NOTE
Light Current	61058-X01	I_L	1		5	mA	V_{CE} = 5.0V, H = 5 mW/cm^2	1
	61058-X02		4		9			
	61058-X03		8		16			
	61058-X04		15		--			
Dark Current	61058-XXX	I_D			100	nA	V_{CE} = 10V, H = 0	
Collector-Emitter Breakdown Voltage	61058-XXX	BV_{CEO}	30			V	I_C = 100µA	
Emitter-Collector Breakdown Voltage	61058-XXX	BV_{ECO}	7			V	I_E = 100µA	
Light Current Rise Time	61058-X01	t_r		3.0		µs	R_L = 1KΩ, V_{CC} = 5V, I_L = 1.0mA	
	61058-X02			4.0				
	61058-X03			5.0				
	61058-X04			7.0				
Saturation Voltage	61058-XXX	$V_{CE\ (sat)}$		0.2		V	I_C = 0.4mA, H = 5 mW/cm^2	
Angular Response	61058-XXX	θ		10		degrees		2

NOTES:

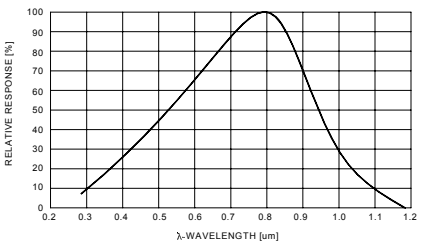
1. Irradiance in mW/cm^2 from a tungsten source at a color temperature of 2870K..
2. The angle between incidence for peak response and incidence for 50% of peak response.



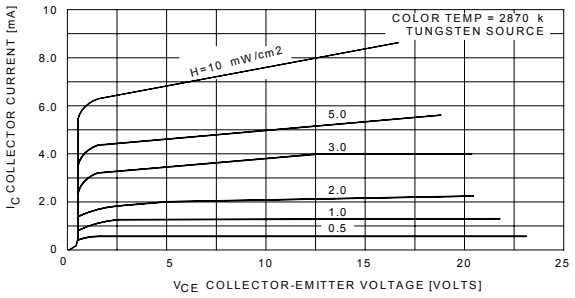
ANGULAR RESPONSE



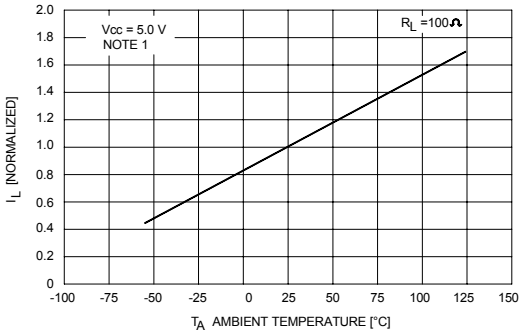
RELATIVE SPECTRAL RESPONSE



COLLECTOR-EMITTER CHARACTERISTICS



NORMALIZED LIGHT CURRENT versus TEMPERATURE



RECOMMENDED OPERATING CONDITIONS:

PARAMETER	SYMBOL	MIN	MAX	UNITS
Bias Voltage-Collector/Emitter	I_F	5	10	mA
Irradiance (H)	H	15	25	mW/cm^2

SELECTION GUIDE

PART NUMBER	PART DESCRIPTION	I_L Range
61058-001	Silicon Phototransistor in TO-46 package, commercial version	1 to 5mA
61058-101	Silicon Phototransistor in TO-46 package (-55° to +125°C) with 100% screening	1 to 5mA
61058-002	Silicon Phototransistor in TO-46 package, commercial version	4 to 9mA
61058-102	Silicon Phototransistor in TO-46 package (-55° to +125°C) with 100% screening	4 to 9mA
61058-003	Silicon Phototransistor in TO-46 package, commercial version	8 to 16mA
61058-103	Silicon Phototransistor in TO-46 package (-55° to +125°C) with 100% screening	8 to 16mA
61058-004	Silicon Phototransistor in TO-46 package, commercial version	15+ mA
61058-104	Silicon Phototransistor in TO-46 package (-55° to +125°C) with 100% screening	15+ mA