

**62033 GaAs LIGHT EMITTING DIODE, TO-46 PACKAGE  
(TYPE GS5040)**



**Features:**

- Hermetically sealed
- High output, 940nm
- Small package
- Spectrally matched to the 61058 series detector

**Applications:**

- Touch screen arrays
- Reflective sensors
- Position sensors
- Level sensors

**DESCRIPTION**

The **62033** is a P-N GaAs Infrared Light Emitting Diode in a TO-46 package and is spectrally matched to silicon phototransistors and photodarlington. Available binned to customer specifications and/or screened to MIL-PRF-19500.

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

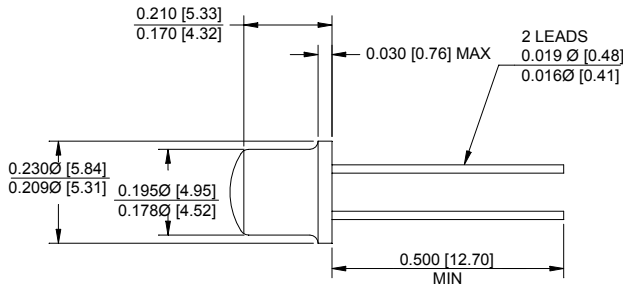
Storage Temperature.....	-40°C to +100°C
Operating Temperature .....	-40°C to +80°C
Reverse Voltage (at 25°C case temperature) .....	(See note 1) 2Vdc
Forward Current-Continuous .....	200mA
Soldering Temperature (1/16 inch from case for 10 seconds).....	240°C

**NOTES:**

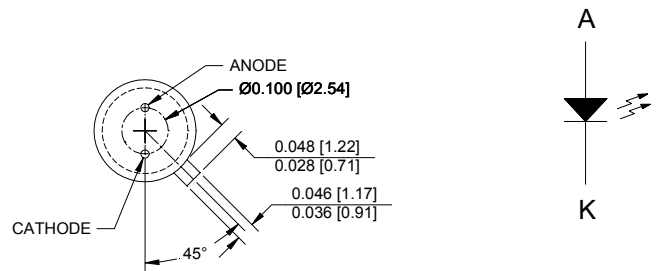
1. Derate linearly to 80°C case temperature at the rate of 3.6mA/°C.

**Package Dimensions**

**Schematic Diagram**



ALL DIMENSIONS ARE IN INCHES [MILLIMETERS]



THE ANODE IS IN ELECTRICAL CONTACT WITH THE CASE

**ELECTRICAL CHARACTERISTICS**

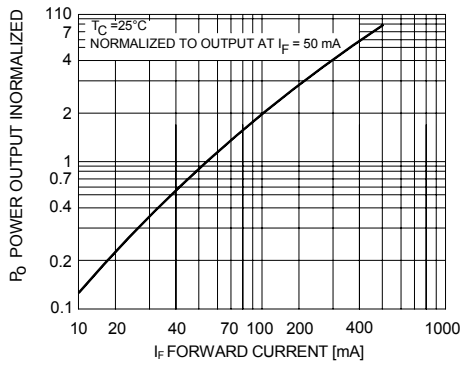
T<sub>A</sub> = 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS	NOTE
Output Power	62033-X01	2.0	2.5			I <sub>F</sub> = 100mA	
	62033-X02	P <sub>O</sub>	3.5	4.2	mW		
	62033-X03		4.8	6.0			
Forward Voltage	62033-XXX	V <sub>F</sub>		1.7	V	I <sub>F</sub> = 100mA	
Reverse Breakdown Voltage	62033-XXX	B <sub>VR</sub>	2		V	I <sub>R</sub> = 10μA	
Radiation Rise Time	62033-XXX	t <sub>R</sub>	0.7		μs		
Peak Wavelength	62033-XXX	λ <sub>P</sub>	940		nm	I <sub>F</sub> = 100mA	
Beam Angle	62033-XXX	θ		20	degrees		1
Forward Max Continuous Current	62033-XXX	I <sub>F(MAX)</sub>		200	mA	25°C Case	

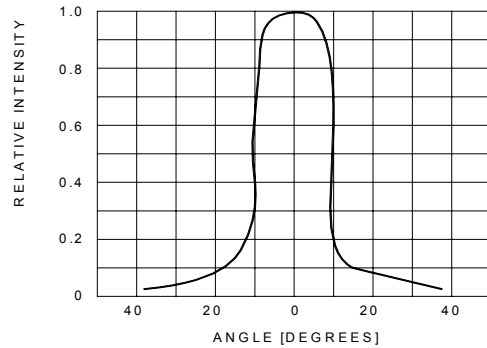
**NOTES:**

1. Angle between half-intensity points.

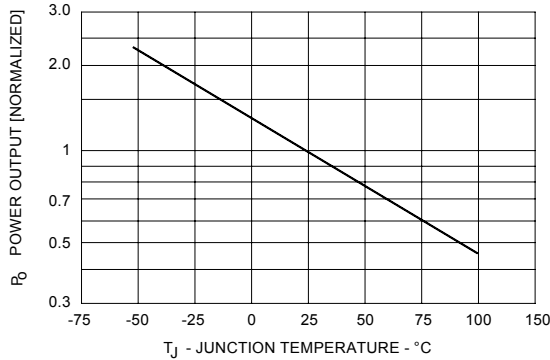
**INSTANTANEOUS POWER OUTPUT versus FORWARD CURRENT**



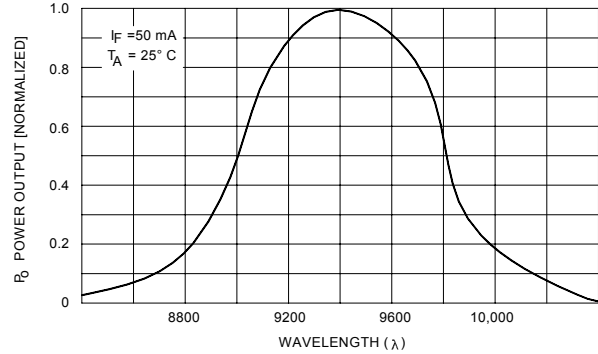
**RADIATION PATTERN**



**POWER OUTPUT versus JUNCTION TEMPERATURE**



**RELATIVE SPECTRAL OUTPUT**



**RECOMMENDED OPERATING CONDITIONS:**

PARAMETER	SYMBOL	MIN	MAX	UNITS
Forward Current	I <sub>F</sub>	50	200	mA

**SELECTION GUIDE**

PART NUMBER	PART DESCRIPTION	P <sub>O</sub> Range
62033-001	GS5040-1, GaAs LED in TO-46 package, commercial version	+2.0 mW
62033-101	GaAsLED in TO-46 package (-55° to +100°C) with 100% screening	+2.0 mW
62033-002	GS5040-2, GaAs LED in TO-46 package, commercial version	+3.5 mW
62033-102	GaAsLED in TO-46 package (-55° to +100°C) with 100% screening	+3.5 mW
62033-003	GS5040-3, GaAs LED in TO-46 package, commercial version	+4.8 mW
62033-103	GaAsLED in TO-46 package (-55° to +100°C) with 100% screening	+4.8 mW