

**62038 GaAs LIGHT EMITTING DIODE, TO-46 PACKAGE**  
**(Replaces TIL 31-34)**



**Features:**

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

**Applications:**

- End-of-tape indicators
- Reflective sensors
- Card readers
- Level sensors

**DESCRIPTION**

The **62038** is a P-N GaAs Infrared Light Emitting Diode in a flat lens TO-46 package. The output is spectrally matched to silicon phototransistors or photodarlington and is a pin compatible replacement for the TIL33B. Available binned to customer specifications and/or screened to MIL-PRF-19500.

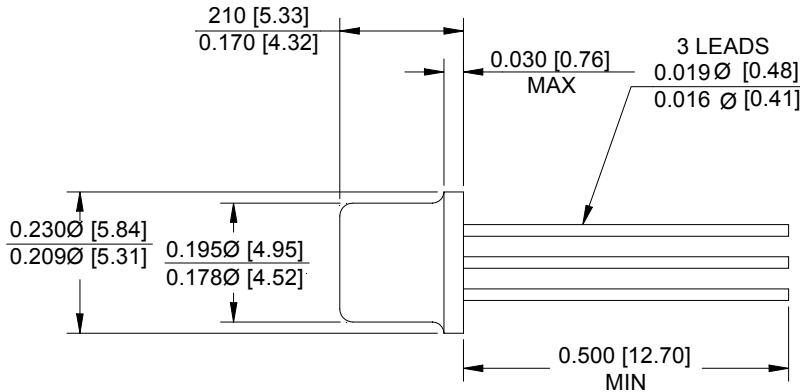
**ABSOLUTE MAXIMUM RATINGS** 25°C FREE AIR TEMPERATURE UNLESS NOTED

Storage Temperature.....	-65°C to +150°C
Operating Temperature .....	-40°C to +80°C
Reverse Voltage( at 25°C case temperature) .....	2Vdc
Forward Current-Continuous..... (See note 1).....	200mA
Soldering Temperature (1/16 inch from case for 10 seconds).....	240°C

**NOTES:**

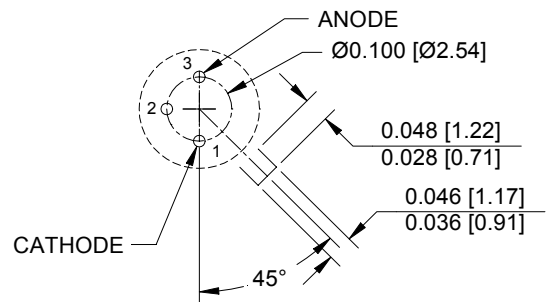
1. Derate linearly to 80°C case temperature at the rate of 3.6 mA/°C.

**Package Dimensions**



ALL DIMENSIONS ARE IN INCHES [MILLIMETERS]

**Schematic Diagram**



THE COLLECTOR 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	62038-X01 62038-X02 62038-X03	3.3 2.5 2.5	5 3 3		mW	I <sub>F</sub> = 100mA	
Forward Voltage	62038-XXX			1.75	V	I <sub>F</sub> = 100mA	
Reverse Breakdown Voltage	62038-XXX	2			V	I <sub>R</sub> = 10μA	
Radiation Rise Time	62038-XXX		0.7		μs	I <sub>F</sub> = 50mA	
Peak Wavelength	62038-XXX		940		nm	I <sub>F</sub> = 100mA	
Beam Angle	62038-X01 62038-X02 62038-X03		50 50 80		degrees		1
Forward Max Continuous Current	62038-XXX			200	mA	25°C Case	

**NOTES:**

- Angle between half-intensity points.

**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
62038-001	TIL31B in TO-46 package w/50°lens, commercial version	+3.3 mW
62038-101	TIL31BHR2 in TO-46 package w/50°lens (-40° to +100°C) with 100% screening	+3.3 mW
62038-002	TIL31B in TO-46 package w/50°lens, commercial version	+2.5 mW
62038-102	TIL31BHR2 in TO-46 package w/50°lens (-40° to +100°C) with 100% screening	+2.5 mW
62038-003	TIL33B in TO-46 package w/80°lens, commercial version	+2.5 mW
62038-103	TIL33BYR2 in TO-46 package w/80°lens (-40° to +100°C) with 100% screening	+2.5 mW