
HE8811

GaAlAs Infrared Emitting Diode

HITACHI

ADE-208-999 (Z)

1st Edition
Dec. 2000

Description

The HE8811 is a GaAlAs infrared emitting diode with a double heterojunction structure. Its high brightness, high output power and fast response make it suitable as a light source in measuring instruments and infrared-beam communication equipment.

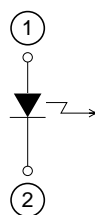
Features

- High-frequency response
- High efficiency and high output power
- Broad radiation pattern

Package Type
• HE8811: SG1



Internal Circuit



HE8811

Absolute Maximum Ratings

($T_c = 25^\circ\text{C}$)

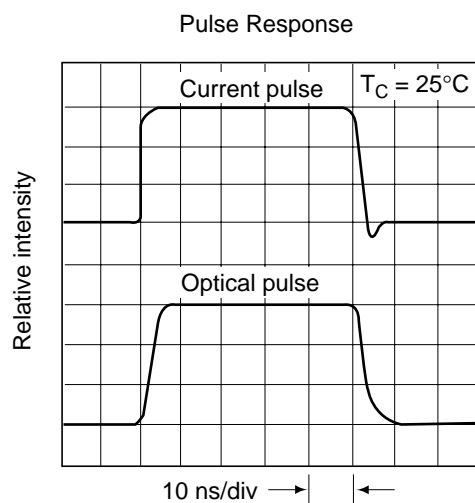
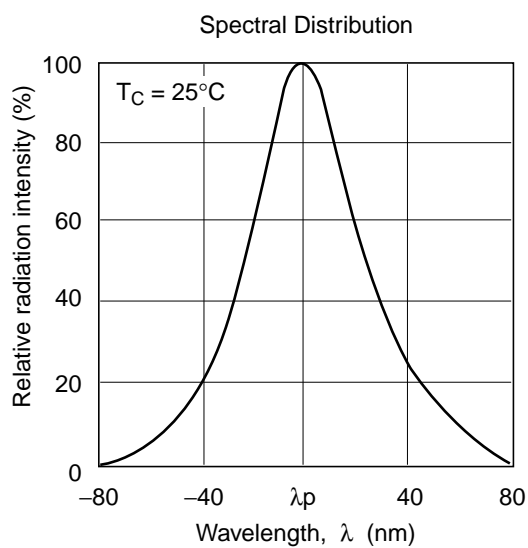
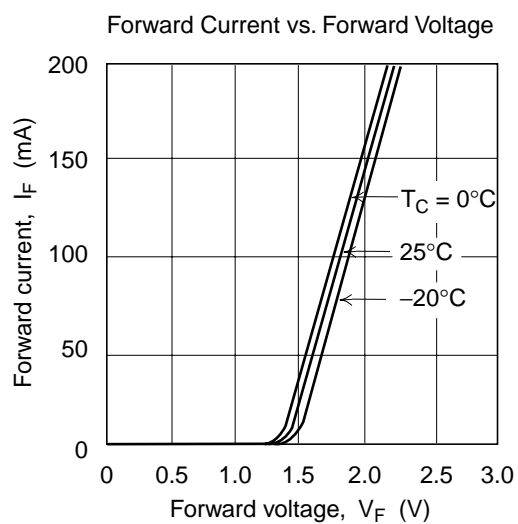
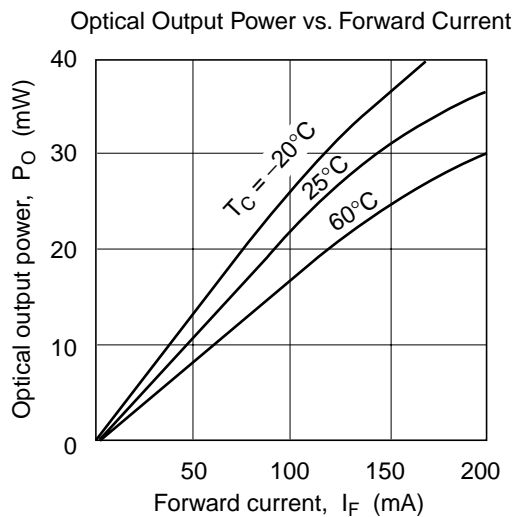
Item	Symbol	Value	Unit
Forward current	I_F	200	mA
Reverse voltage	V_R	3	V
Operating temperature	T_{opr}	-20 to +60	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +90	$^\circ\text{C}$

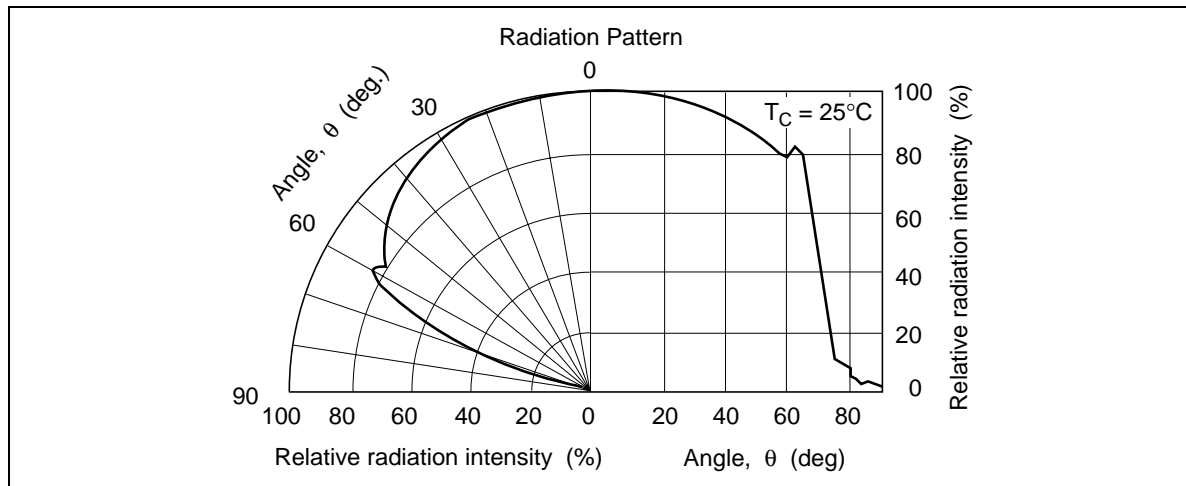
Optical and Electrical Characteristics

($T_c = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test Conditions
Optical output power	P_o	20	30	—	mW	$I_F = 150\text{ mA}$
Peak wavelength	λ_p	780	820	900	nm	$I_F = 150\text{ mA}$
Spectral width	$\Delta\lambda$	—	50	—	nm	$I_F = 150\text{ mA}$
Forward voltage	V_F	—	—	2.5	V	$I_F = 150\text{ mA}$
Reverse current	I_R	—	—	100	μA	$V_R = 3\text{ V}$
Capacitance	C_t	—	10	—	pF	$V_R = 0\text{ V}$, $f = 1\text{ MHz}$
Rise time	t_r	—	5	—	ns	$I_F = 50\text{ mA}$
Fall time	t_f	—	7	—	ns	$I_F = 50\text{ mA}$

Typical Characteristic Curves

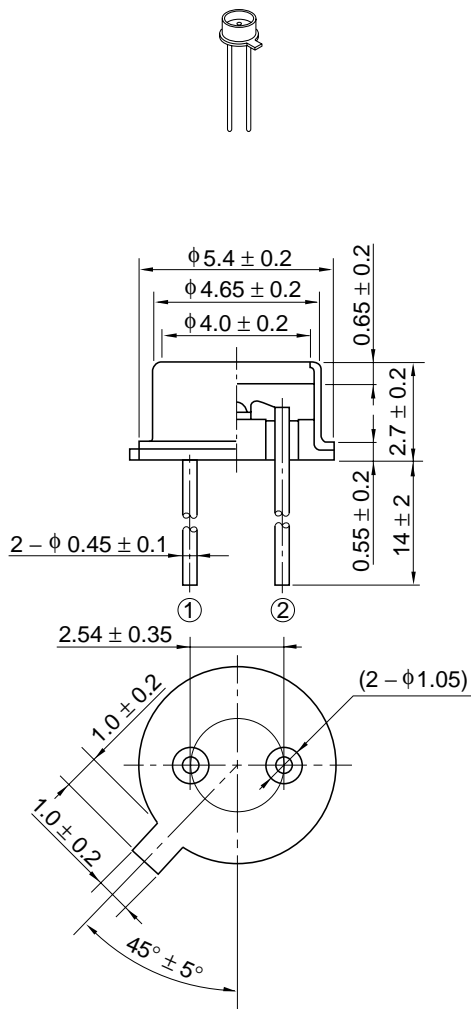


Typical Characteristic Curves (cont)

Package Dimensions

As of January, 2001

Unit: mm



Hitachi Code	IR/SG1
JEDEC	—
EIAJ	—
Mass (reference value)	0.25 g

Cautions

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1. The laser light is harmful to human body especially to eye no matter what directly or indirectly. The laser beam shall be observed or adjusted through infrared camera or equivalent.

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