HE8811

GaAlAs Infrared Emitting Diode

HITACHI

ADE-208-999 (Z)
1st Edition
Dec. 2000

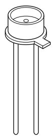
Description

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

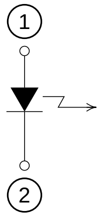
Features

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

Package Type
- HE8811: SG1



Internal Circuit



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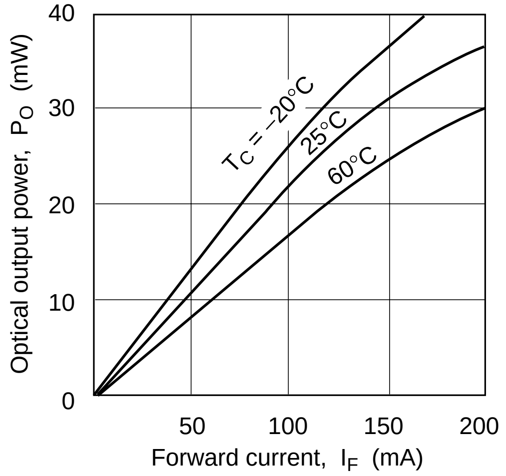
Absolute Maximum Ratings (T_C = 25°C)

Item	Symbol	Value	Unit
Forward current	I_F	200	mA
Reverse voltage	V_R	3	V
Operating temperature	Topr	–20 to +60	°C
Storage temperature	Tstg	–40 to +90	°C

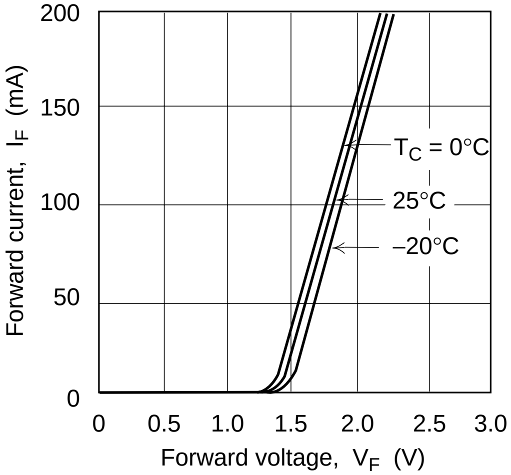
Optical and Electrical Characteristics (T_C = 25°C)

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

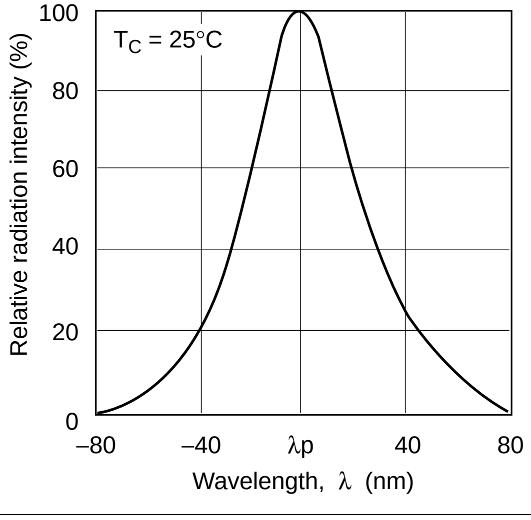
Typical Characteristic Curves



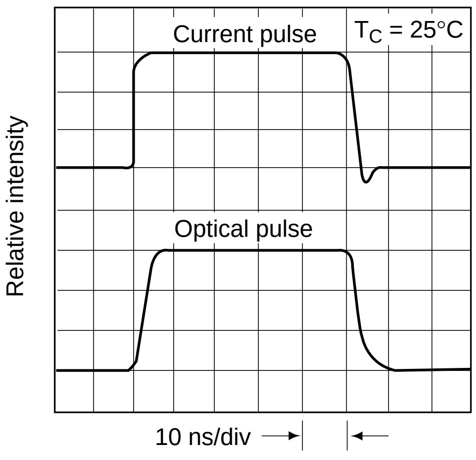
Optical Output Power vs. Forward Current



Forward Current vs. Forward Voltage

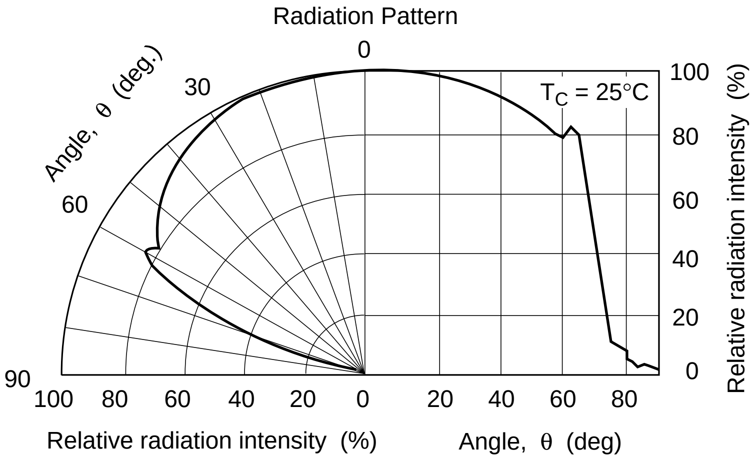


Spectral Distribution



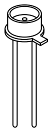
Pulse Response

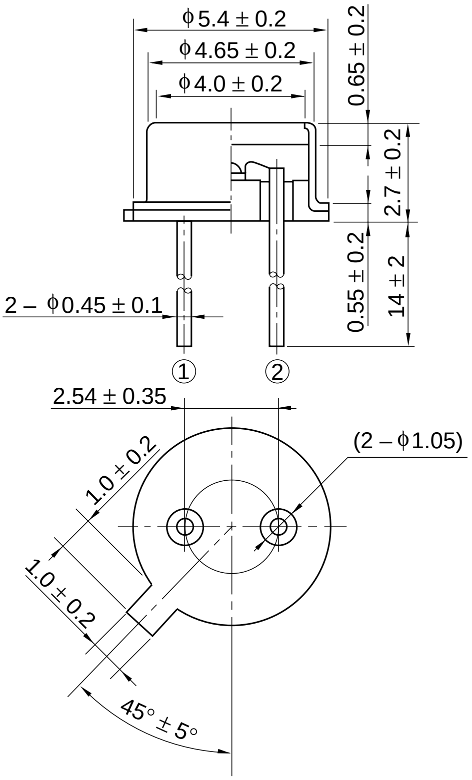
Typical Characteristic Curves (cont)



Package Dimensions

Unit: mm





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

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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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