HLP20RG,HLP30RG,HLP40RG GaAlAs IRED

T-41-13

Description

HLP20RG, HLP30RG and HLP40RG are GaAlAs infrared emitting diodes with single heterojunction structure.

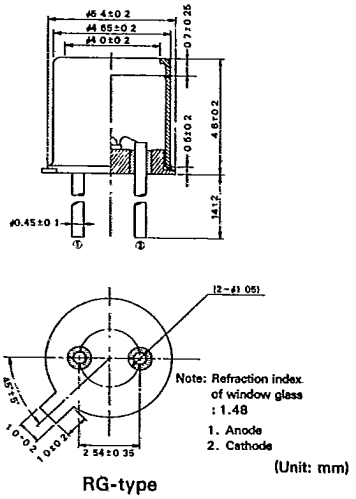
They offer a wide range of wavelength and output power, and are suitable for various types of optical equipment.

Hermetic sealing of the package achieves high reliability.

Features

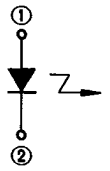
- High efficiency
- Selection from a wide range of wavelength and output power
- Narrow spectral width

Package Dimensions



RG-type

Internal Circuit



Absolute Maximum Ratings ($T_C = 25°C$)

Items	Symbols	Values	Units
Forward current	I_F	250	mA
		230*	mA
Reverse voltage	V_R	3	V
Tolerable power dissipation	P_d	600	mW
Operating temperature	T_{opr}	−20 to +60	°C
Storage temperature	T_{stg}	−40 to +80	°C

* Value for devices with λ_p from 735 nm to 785 nm.

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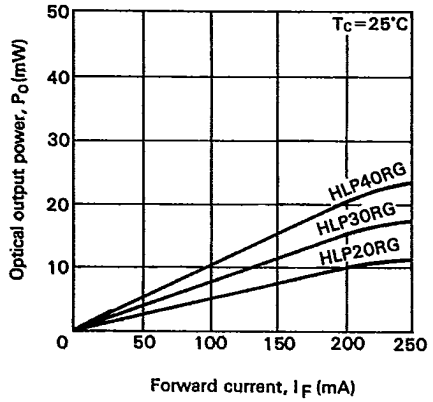
Optical and Electrical Characteristics ($T_C = 25°C$)

Items	Symbols	min.	typ.	max.	Units	Test conditions
Optical output power	P_O		**		mW	I_F = 200 mA
Peak wavelength	λ_p		**		nm	I_F = 200 mA
Spectral width	$\Delta\lambda$		30	60	nm	I_F = 200 mA
Beam divergence	θ_H		120		deg.	I_F = 200 mA
Forward voltage	V_F		1.7	2.3	V	I_F = 200 mA
			2.0*	2.6*	V	I_F = 200 mA
Reverse current	I_R			30	μA	V_R = 3 V
Capacitance	C_t		30		pF	V_R = 0 V, f = 1 MHz
Rise time	t_r		12		ns	I_F = 50 mA
			20*		ns	I_F = 50 mA
Fall time	t_f		12		ns	I_F = 50 mA
			20*		ns	I_F = 50 mA

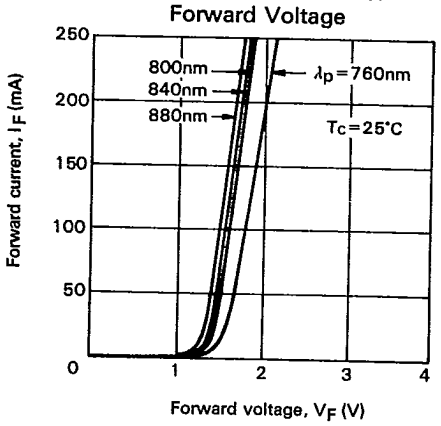
* Value for devices with λ_p from 735 nm to 785 nm.
** HLP20RG-HLP40RG are grouped with λ_p and P_O as follows.

	λ_p (nm)			P_O (mW)		
Grades	min.	typ.	max.	7 (min.)	12 (min.)	17 (min.)
A	735	760	785	HLP20RG	HLP30RG	HLP40RG
B	775	800	825		HLP30RG	HLP40RG
C	815	840	865		HLP30RG	HLP40RG
D	855	880	905		HLP30RG	HLP40RG

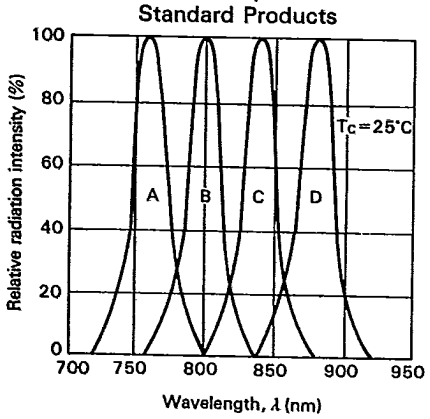
Optical Output Power vs. Forward Current



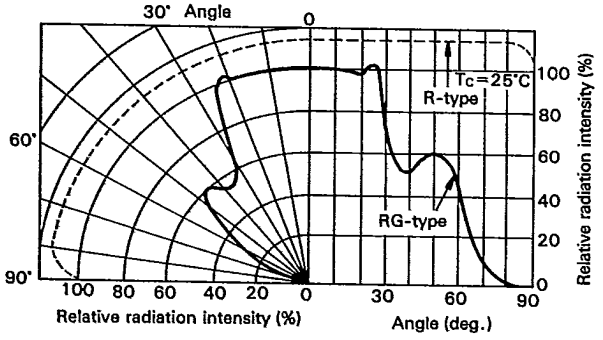
Forward Current vs. Forward Voltage



Emission Spectra of Standard Products



Radiation Pattern



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Hitachi America Ltd. • Hitachi Plaza • 2000 Sierra Point Pkwy. • Brisbane, CA 94005-1819 • (415) 589-8300