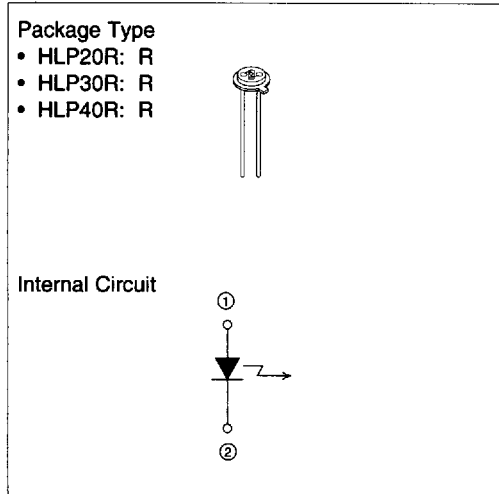


Description

The HLP20R/30R/40R are GaAlAs infrared light emitting diodes with a single heterojunction structure. They are suitable as light sources for a variety of applied optical instruments.

Features

- High efficiency
- Wide selection of wavelength and output power
- Narrow spectral width



Absolute Maximum Ratings ($T_C = 25^\circ\text{C}$)

Item	Symbol	Rated Value	Units
Forward current	I_F	250	mA
		230* ¹	
Reverse voltage	V_R	3	V
Tolerable power dissipation	P_d	600	mW
Operating temperature	T_{opr}	-20 to +40* ²	°C
Storage temperature	T_{stg}	-40 to +60* ²	°C

Note: 1. Value for devices with λ_p from 735 nm to 785 nm.
 2. Value for conditions without condensation.



HLP20R/30R/40R

Optical and Electrical Characteristics ($T_C = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Units	Test Conditions
Optical output power	P_O		*3		mW	$I_F = 200 \text{ mA}$
Peak wavelength	λ_p		*3		nm	$I_F = 200 \text{ mA}$
Spectral width	$\Delta\lambda$	—	30	—	nm	$I_F = 200 \text{ mA}$
Beam divergence	$\theta_{//}$	—	180	—	deg.	$I_F = 200 \text{ mA}$
Forward voltage	V_F	—	1.7	2.3	V	$I_F = 200 \text{ mA}$
		—	2.0*1	2.6*1		
Reverse current	I_R	—	—	30	μA	$V_R = 3 \text{ V}$
Capacitance	C_t	—	30	—	pF	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$
Rise time	t_r	—	12	—	ns	$I_F = 50 \text{ mA}$
		—	20*1	—		
Fall time	t_f	—	12	—	ns	$I_F = 50 \text{ mA}$
		—	20*1	—		

Note: 1. Value for devices with λ_p from 735 nm to 785 nm.
 3. HLP20R – HLP40R are graded according to λ_p and P_O as follows.

Grade	λ_p (nm)			P_O (mW)		
	Min	Typ	Max	15 (Min)	25 (Min)	35 (Min)
A	735	760	785	HLP20R	HLP30R	
B	775	800	825		HLP30R	HLP40R
C	815	840	865		HLP30R	HLP40R
D	855	880	905		HLP30R	HLP40R

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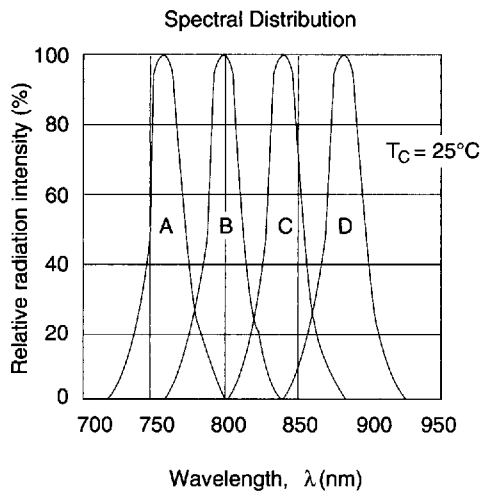
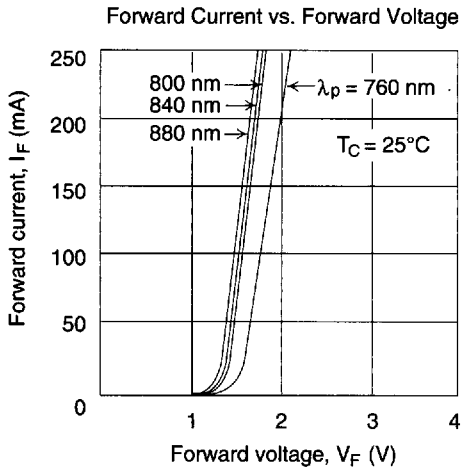
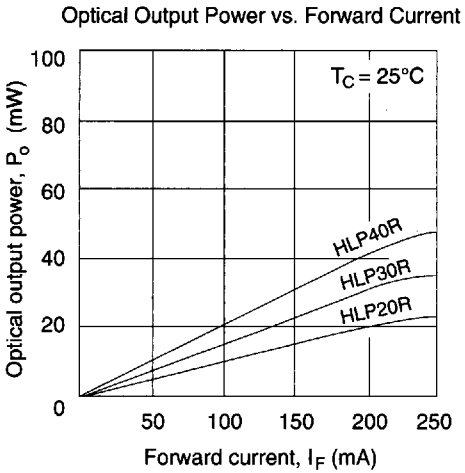
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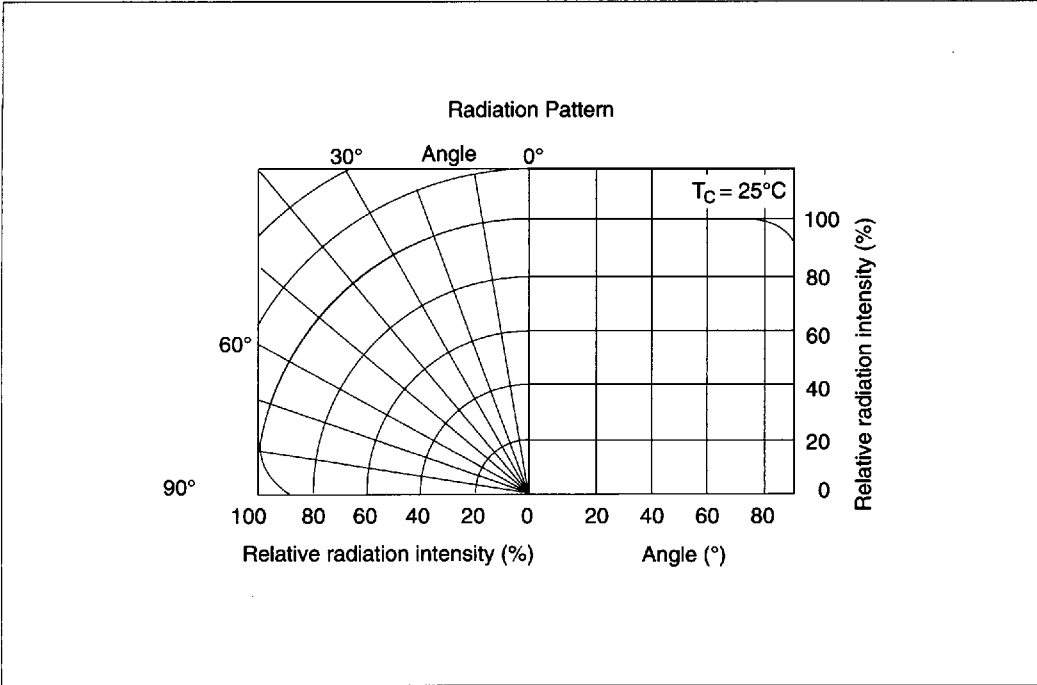
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Typical Characteristic Curves



HLP20R/30R/40R

Typical Characteristic Curves (cont.)



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