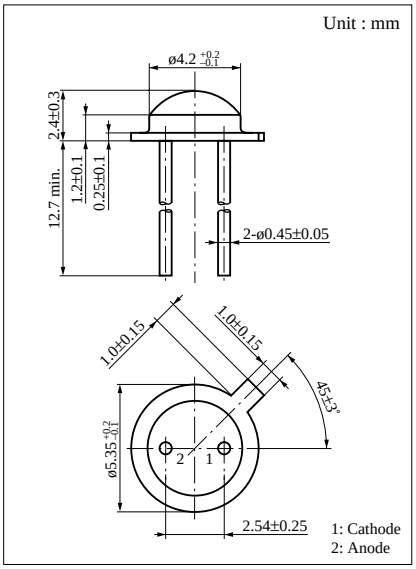
LN172

GaAlAs Infrared Light Emitting Diode

For optical control systems



Features

- High-power output, high-efficiency : P_O = 12 mW (typ.)
- Light emitting spectrum suited for silicon photodetectors : λ_P = 900 nm (typ.)
- Good optical power output linearity with respect to input current
- Wide directivity : θ = 100 deg. (typ.)
- Long lifetime, high reliability

Absolute Maximum Ratings (Ta = 25˚C)

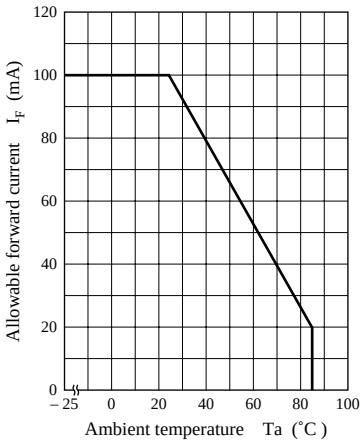
Parameter	Symbol	Ratings	Unit
Power dissipation	P_D	170	mW
Forward current (DC)	I_F	100	mA
Pulse forward current	I_{FP}*	2	A
Reverse voltage (DC)	V_R	3	V
Operating ambient temperature	T_{opr}	–25 to +85	˚C
Storage temperature	T_{stg}	–30 to +100	˚C

* f = 100 Hz, Duty cycle = 0.1 %

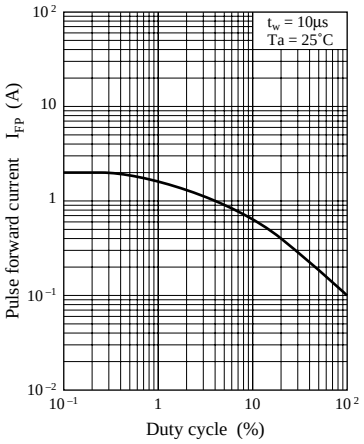
Electro-Optical Characteristics (Ta = 25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Radiant power	P_O	I_F = 100mA	7	12		mW
Peak emission wavelength	λ_P	I_F = 100mA		900		nm
Spectral half band width	$\Delta\lambda$	I_F = 100mA		70		nm
Forward voltage (DC)	V_F	I_F = 100mA		1.4	1.7	V
Reverse current (DC)	I_R	V_R = 3V			10	μA
Capacitance between pins	C_t	V_R = 0V, f = 1MHz		50		pF
Response time	t_r, t_f	I_F = 100mA		700		ns
Half-power angle	θ	The angle in which radiant intencity is 50%		100		deg.

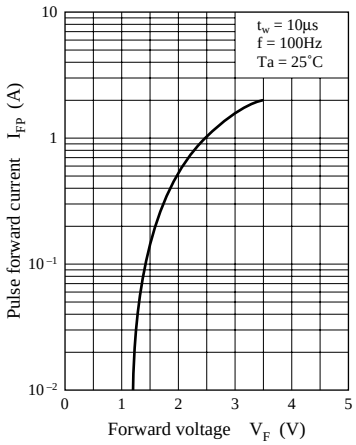
I_F — Ta



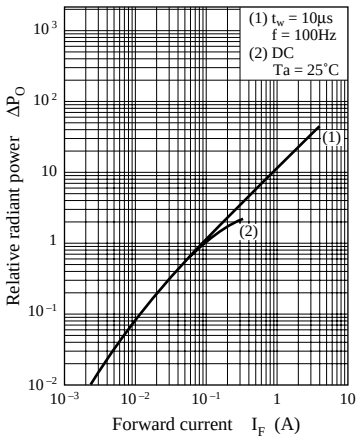
I_{FP} — Duty cycle



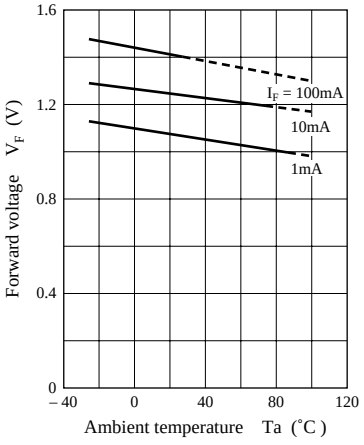
I_{FP} — V_F



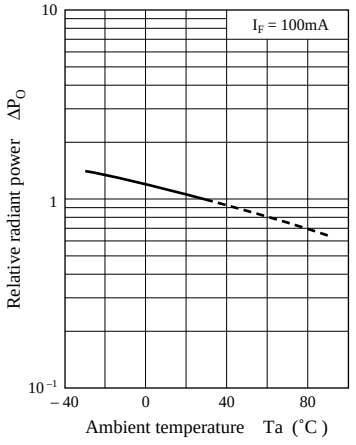
ΔP_O — I_F



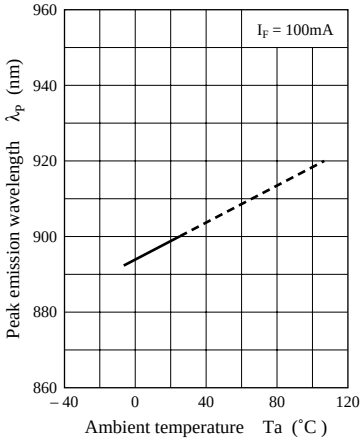
V_F — Ta



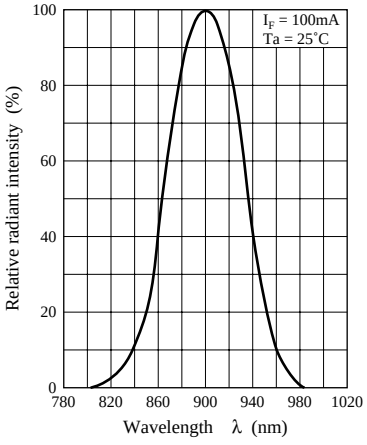
ΔP_O — Ta



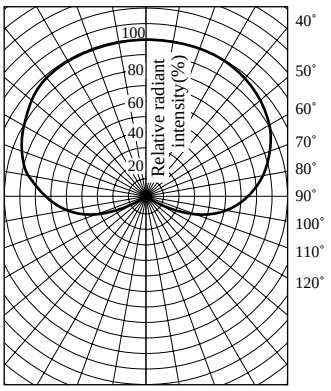
λ_P — Ta



Spectral characteristics



Directivity characteristics



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⚠ DANGER

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