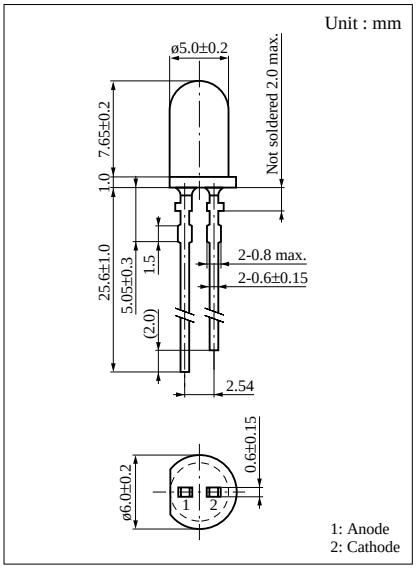
LN77L

GaAlAs Infrared Light Emitting Diode

For optical control systems



Features

- High-power output, high-efficiency : P_O = 18 mW (typ.)
- Fast response and high-speed modulation capability : f_C = 20 MHz (typ.)
- Wide directivity : θ = 20 deg. (typ.)
- Transparent epoxy resin package

Absolute Maximum Ratings (Ta = 25˚C)

Parameter	Symbol	Ratings	Unit
Power dissipation	P_D	190	mW
Forward current (DC)	I_F	100	mA
Pulse forward current	I_{FP}*	1	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

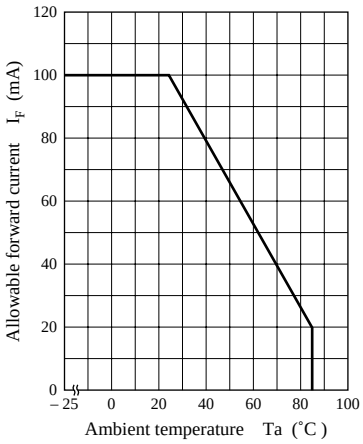
* t_w = 10 µs, Duty cycle = 0.1 %

Electro-Optical Characteristics (Ta = 25˚C)

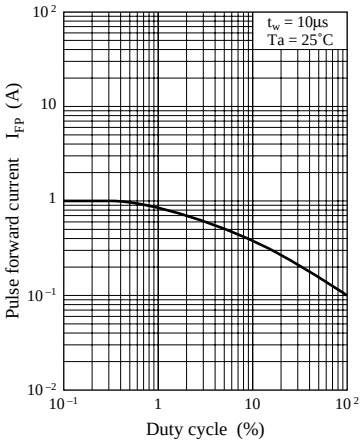
Parameter	Symbol	Conditions	min	typ	max	Unit
Radiant power	P_O	I_F = 50mA	10	18		mW
Peak emission wavelength	λ_P	I_F = 50mA		860		nm
Spectral half band width	$\Delta\lambda$	I_F = 50mA		40		nm
Forward voltage (DC)	V_F	I_F = 100mA		1.6	1.9	V
Reverse current (DC)	I_R	V_R = 3V			10	µA
Half-power angle	θ	The angle in which radiant intencity is 50%		20		deg.
Cutoff frequency	f_C*	I_{FP} = 50mA + 10m$A_{p\text{-}p}$		20		MHz

* Frequency when modulation optical power decreases by 3dB from 1MHz $\left(10 \log \frac{P_O(f_C MHz)}{P_O(1MHz)} = -3\right)$

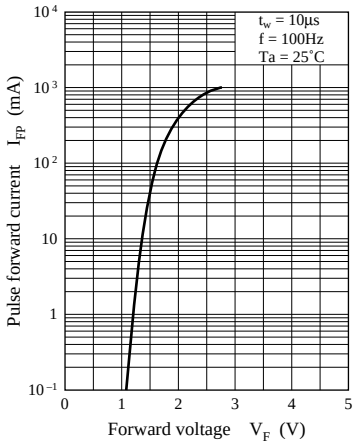
I_F — Ta



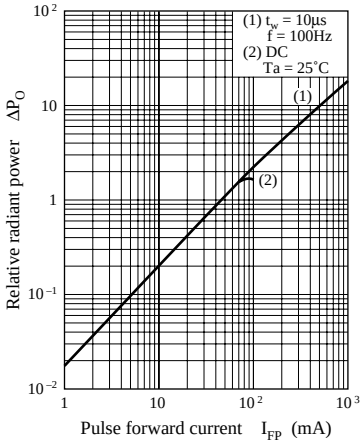
I_{FP} — Duty cycle



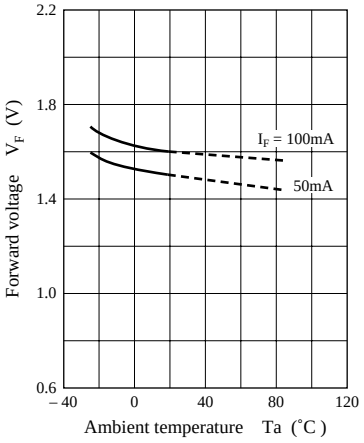
I_{FP} — V_F



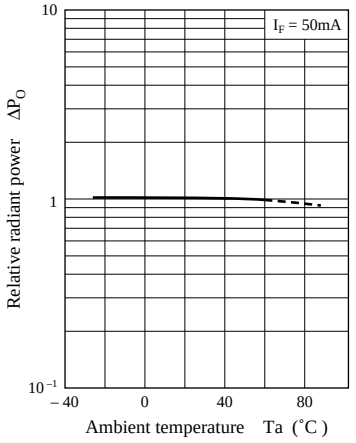
ΔP_O — I_{FP}



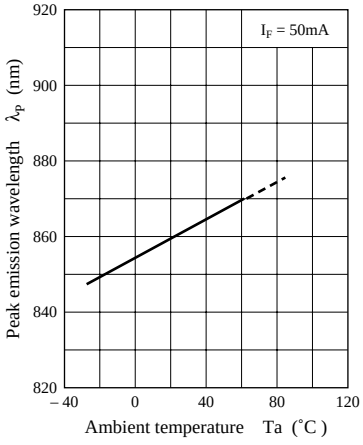
V_F — Ta



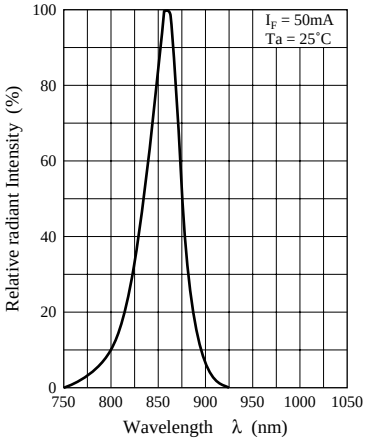
ΔP_O — Ta



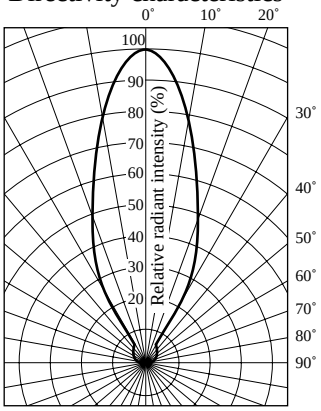
λ_P — Ta



Spectral characteristics



Directivity characteristics



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⚠ DANGER

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