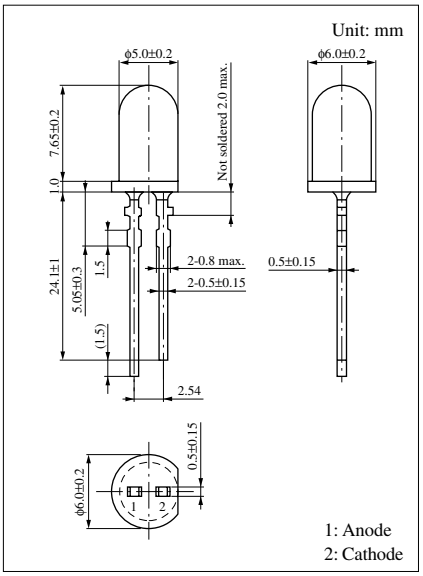
LNA2902L (LN66A(L))

GaAs infrared light emitting diode

For optical control systems



■ Features

- High-power output, high-efficiency: I_e = 9 mW/sr (min.)
- Emitted light spectrum is suited for silicon photodetectors
- Good radiant power output linearity with respect to input current
- Wide directivity: θ = 20° (typ.)
- Transparent epoxy resin package
- Long lead-wire type

■ Absolute Maximum Ratings T_a = 25°C

Parameter	Symbol	Rating	Unit
Power dissipation	P_D	160	mW
Forward current (DC)	I_F	100	mA
Pulse forward current *	I_{FP}	1.5	A
Reverse voltage (DC)	V_R	3	V
Operating ambient temperature	T_{opr}	−25 to +85	°C
Storage temperature	T_{stg}	−40 to +100	°C

Note) *: Less than f = 100 Hz, duty cycle = 0.1%

■ Electro-Optical Characteristics T_a = 25°C ± 3°C

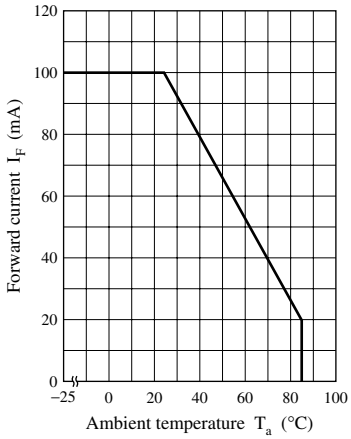
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Radiant intensity	I_e	I_F = 50 mA	9.0			mW/sr
Total power output	P_O	I_F = 50 mA		12.0		mW
Peak emission wavelength	λ_P	I_F = 50 mA		950		nm
Spectral band width	$\Delta\lambda$	I_F = 50 mA		50		nm
Forward voltage	V_F	I_F = 100 mA		1.4	1.6	V
Pulse forward voltage *1	V_{FP}	I_{FP} = 1.0 A			3.0	V
Reverse current	I_R	V_R = 3 V			10	μA
Total capacitance between terminals	C_t	V_R = 0 V, f = 1 MHz		35		pF
Beal angle at 50% axial intensity	θ	The angle when the beam intensity is halved.		20		°
Cut-off frequency *2	f_C			1		MHz

Note) *1: Less than f = 100 Hz, duty cycle = 0.1%

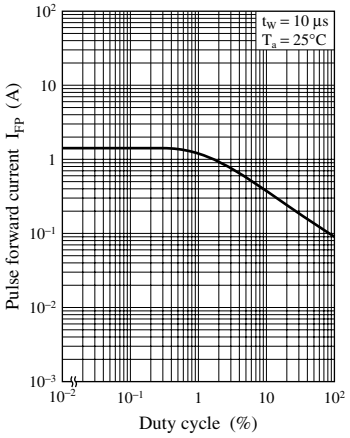
*2: Cut-off frequency f_C: $10 \times \log \frac{P_O \text{ at } f = f_C}{P_O \text{ at } f = 50 \text{ kHz}} = -3$

Note) The part number in the parenthesis shows conventional part number.

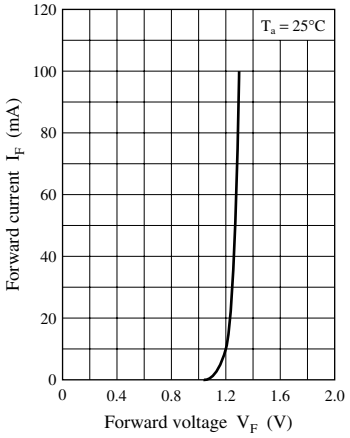
I_F — T_a



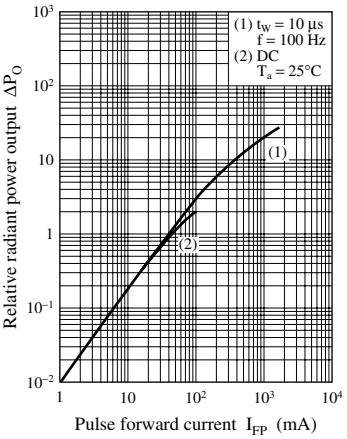
I_{FP} — Duty Cycle



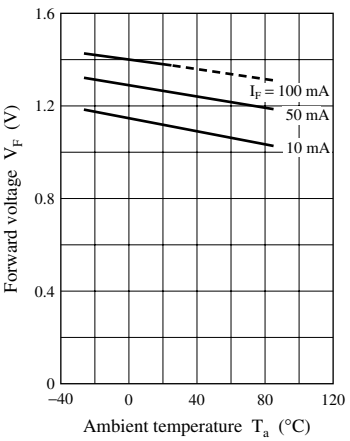
I_F — V_F



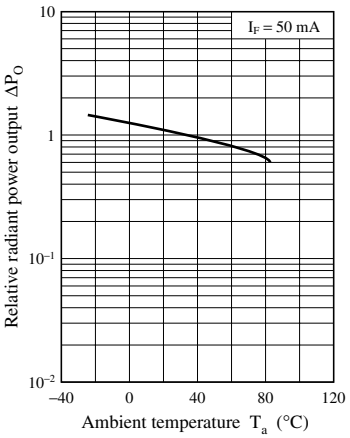
ΔP_O — I_{FP}



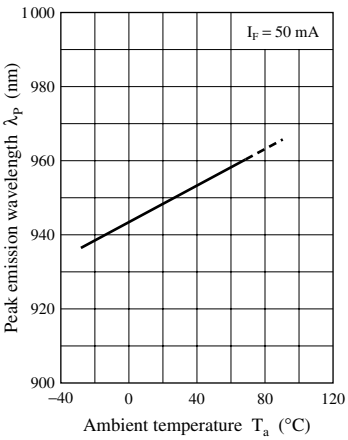
V_F — T_a



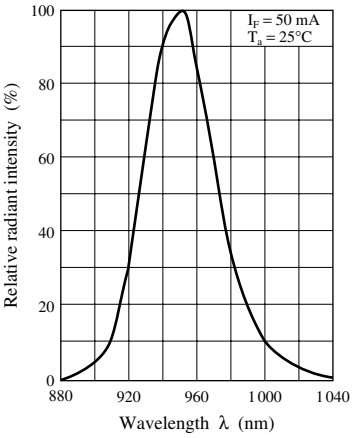
ΔP_O — T_a



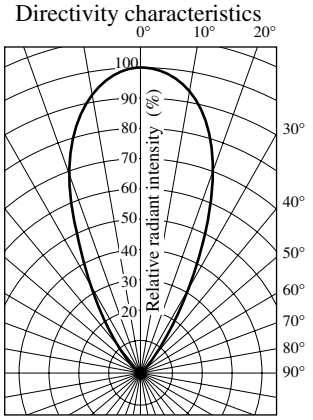
λ_P — T_a



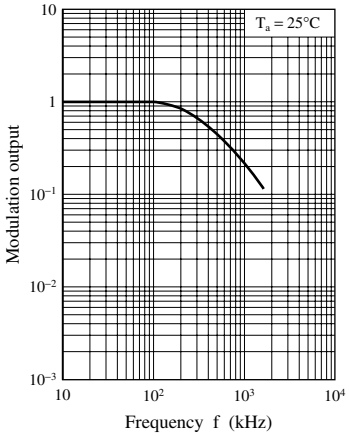
Spectral characteristics



Directivity characteristics



Frequency characteristics



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⚠ DANGER

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