Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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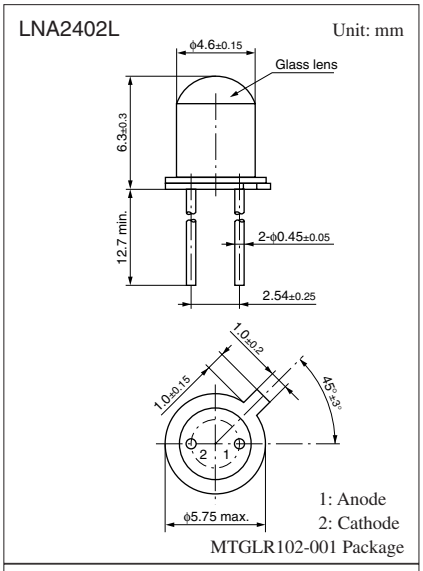
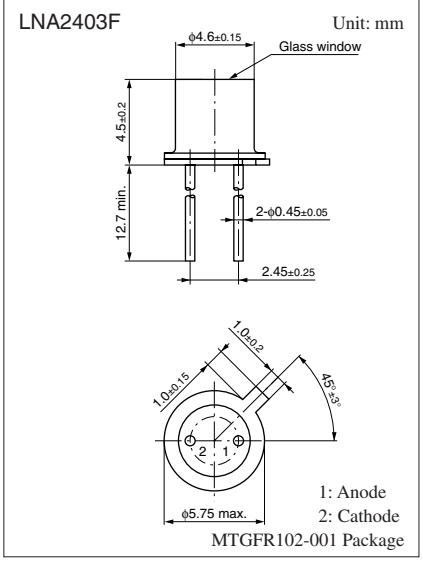
LNA2402L (LN151L), LNA2403F (LN151F)

GaAs Infrared Light Emitting Diodes

For optical control systems





■ Features

- High-power output, high-efficiency: P_O = 5.0 mW (min.)
- Fast response and high-speed modulation capability: t_r, t_f = 1 µs (typ.)
- Infrared light emission close to monochromatic light: λ_P = 950 nm (typ.)
- Narrow directivity, suitable for effective use of radiant power (LNA2402L (LN151L))
- Wide directivity, matched for external optical systems (LNA2403F (LN151F))
- TO-18 standard type package

■ Absolute Maximum Ratings T_a = 25°C

Parameter	Symbol	Rating	Unit
Reverse voltage	V_R	3	V
Forward current	I_F	100	mA
Pulse forward current *	I_{FP}	2	A
Power dissipation	P_D	160	mW
Operating ambient temperature	T_{opr}	−25 to +100	°C
Storage temperature	T_{stg}	−30 to +100	°C

Note) ∗ : f = 100 Hz, Duty Cycle = 0.1%

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

Parameter		Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage		V_F	I_F = 100 mA		1.3	1.6	V
Reverse current		I_R	V_R = 3 V			10	µA
Radiant power *		P_O	I_F = 100 mA	5.0			mW
Peak emission wavelength		λ_P	I_F = 100 mA		950		nm
Spectral half band width		Δλ	I_F = 100 mA		50		nm
Terminal capacitance		C_t	V_R = 0 V, f = 1 MHz		60		pF
Rise time		t_r	I_{FP} = 100 mA		1		µs
Fall time		t_f			1		µs
Half-power angle	LNA2402L	θ	The Angle when the radiant power is halved		8		°
	LNA2403F				32		°

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.

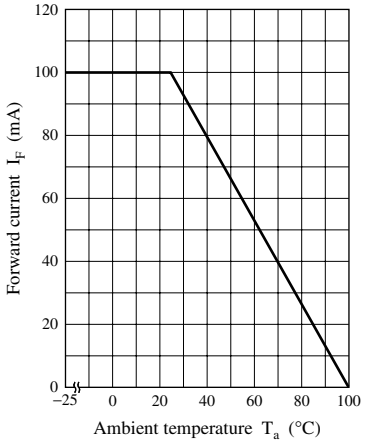
2. Cutoff frequency: 1 MHz

$$f_C: 10 \times \log \frac{P_O \text{ at } f = f_C}{P_O \text{ at } f = 50 \text{ kHz}} = -3$$

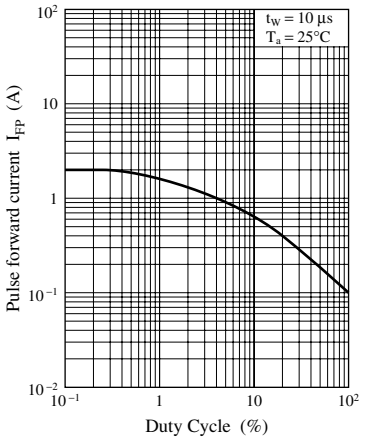
3. ∗: A light detection element uses a silicon diode have proofread a load with a standard device.

Note) The part numbers in the parenthesis show conventional part number.

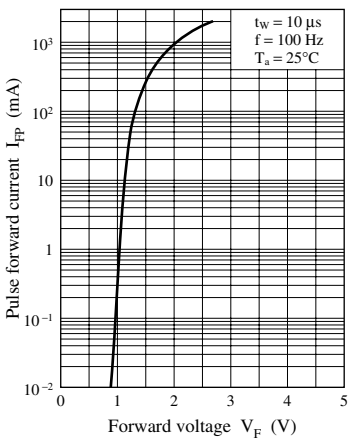
I_F — T_a



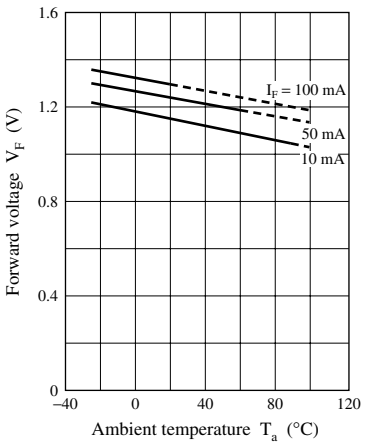
I_{FP} — Duty Cycle



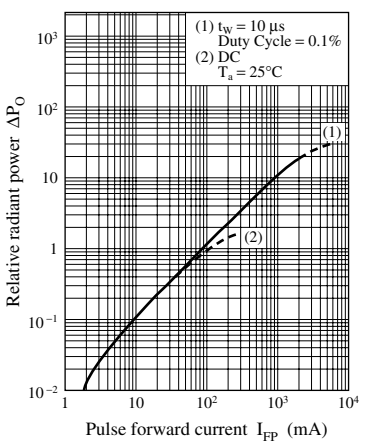
I_{FP} — V_F



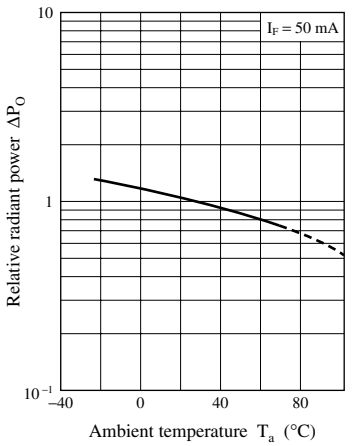
V_F — T_a



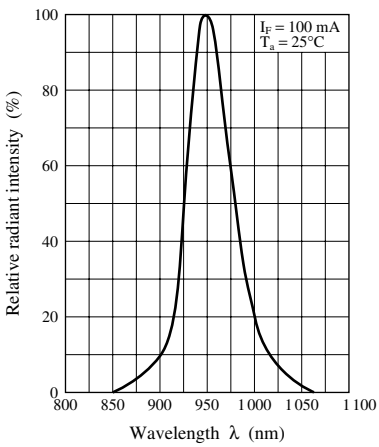
ΔP_O — I_{FP}



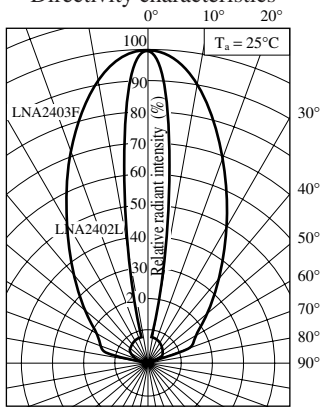
ΔP_O — T_a



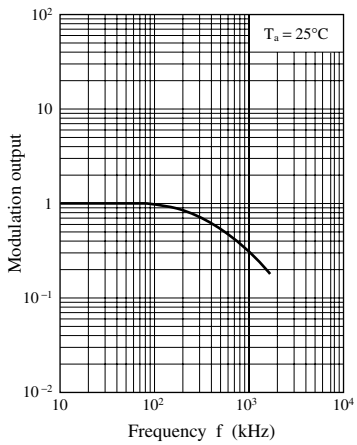
Spectral characteristics



Directivity characteristics



Frequency characteristics



⚠ Caution for Safety

⚠ DANGER

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GaAs powder and vapor are hazardous to human health if inhaled or ingested. Do not burn, destroy, cut, cleave off, or chemically dissolve the product. Follow related laws and ordinances for disposal. The product should be excluded form general industrial waste or household garbage.

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