

LN183HK (Tentative)

GaAlAs Infrared Light Emitting Diode

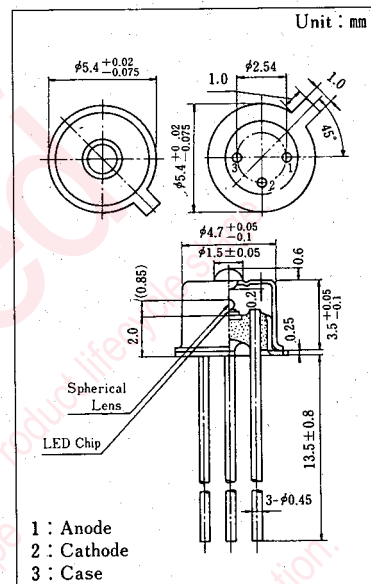
For Optical Fiber Communication

■ Features

- Very high frequency response: $f_c=60\text{MHz}$ (typ.)
- High optical fiber power for GI50: $P_f=50\mu\text{W}$ (typ.)
- Current-optical output characteristics with good linearity
- High reliability

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

Item	Symbol	Value	Unit
Power Dissipation	P_D	250	mW
Forward Current (DC)	I_F	150	mA
Reverse Voltage (DC)	V_R	3	V
Operating Ambient Temperature	T_{opr}	$-40 \sim +85$	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-40 \sim +100$	$^\circ\text{C}$



■ Electro-Optical Characteristics ($T_a=25^\circ\text{C}$)

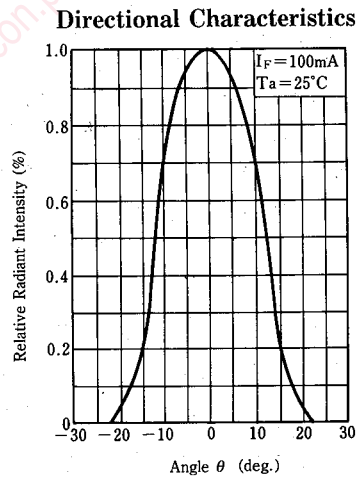
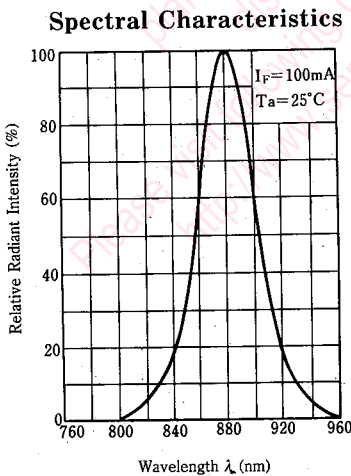
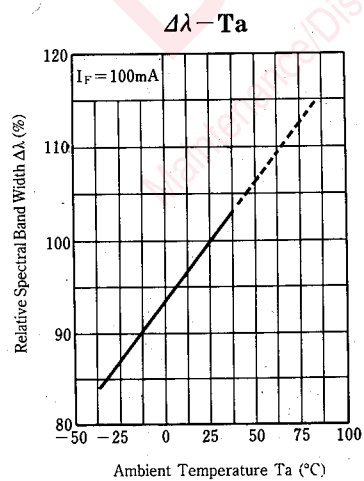
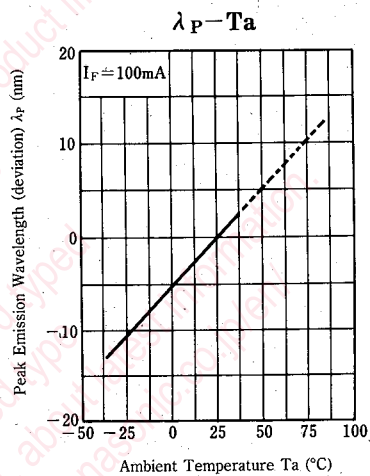
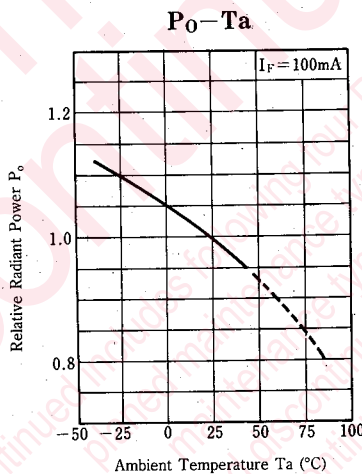
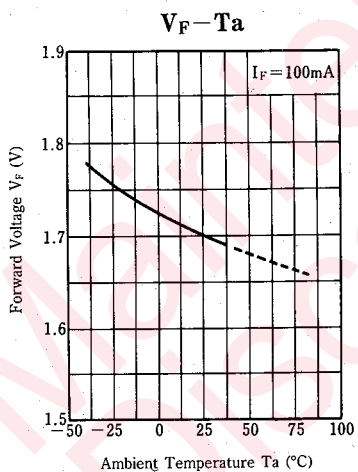
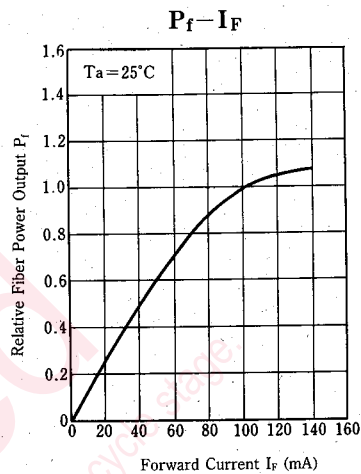
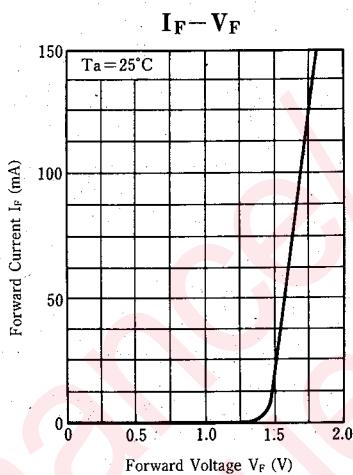
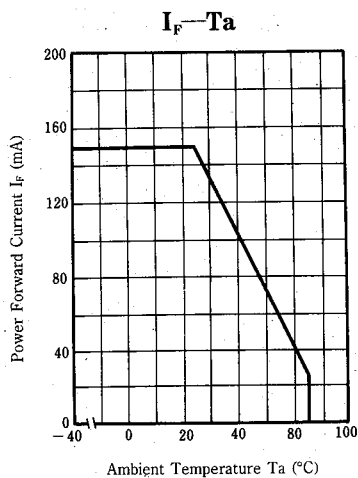
Item	Symbol	Condition	min.	typ.	max.	Unit
Optical Power Output	P_O	$I_F=100\text{mA}$	2	2.5		mW
Peak Emission Wavelength	λ_P	$I_F=100\text{mA}$		880		nm
Spectral Band Width	$\Delta\lambda$	$I_F=100\text{mA}$		45		nm
Forward Voltage (DC)	V_F	$I_F=100\text{mA}$		1.7	2	V
Reverse Current (DC)	I_R	$V_R=3\text{V}$			10	μA
Beam Half Angle	θ^*	$I_F=100\text{mA}$		25		deg.
Cutoff Frequency	f_c^{**}	$I_F=50\text{mA}+17.5\text{mA p-p}$		60		MHz
Fiber Power Output	P_f^{***}	$I_F=100\text{mA}$	40	50		μW

* : Angle measured from the optical axis to the half power point.

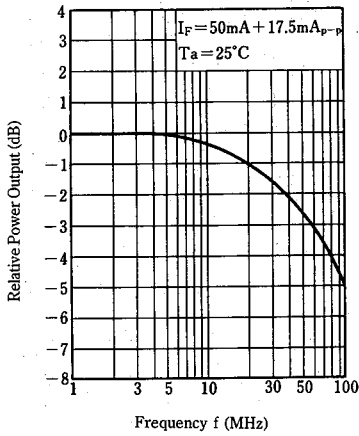
** : Frequency when modulation light power decreases by 3dB from 1MHz.

*** : Light power at GI50/125.

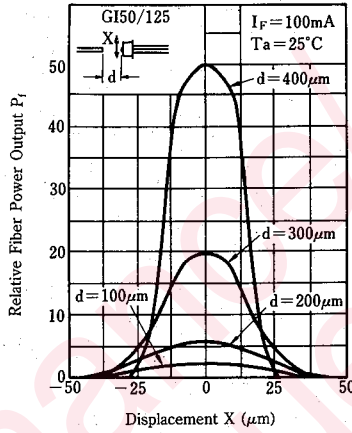
$$\left(10 \log \frac{P_O(f_c \text{ MHz})}{P_O(1 \text{ MHz})} \right) = -3$$



Frequency Characteristics



Coupling Loss Characteristics



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