

GaAlAs Parallel Beam Infrared LED

KED050HQ

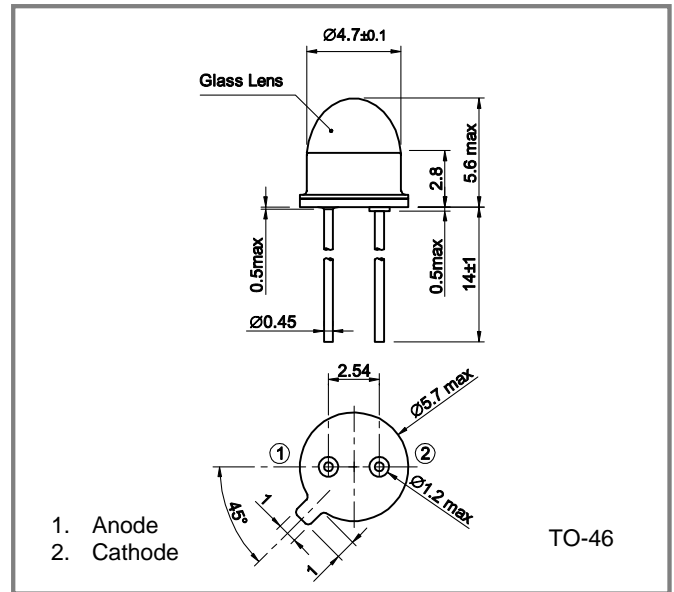
Features

- Parallel beam
- 50 μm dia. emitting area
- Uniform light intensity distribution

Applications

- Optical encoders
- Linear encoders
- Reflective sensors

Dimensions (unit: mm)



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit	Note
Forward current	I_F	80	mA	$T_a=25^\circ\text{C}$
Reverse voltage	V_R	3	V	
Power dissipation	P_D	150	mW	
Operating temperature	T_{opr}	-20 to +100	$^\circ\text{C}$	Avoid dew condensation
Storage temperature	T_{stg}	-30 to +100	$^\circ\text{C}$	Avoid dew condensation

Electrical and Optical Characteristics ($T_a=25^\circ\text{C}$ unless otherwise noted)

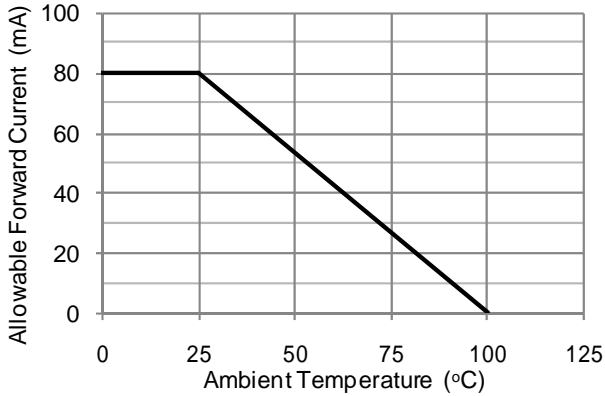
Parameter	Symbol	Min.	Typ.	Max	Unit	Test Conditions
Forward Voltage	V_F	-	1.9	2.4	V	$I_F=50\text{mA}$
Reverse Current	I_R	-	-	10	μA	$V_R=3\text{V}$
Optical Output Power	P_o	-	2.4	-	mW	$I_F=50\text{mA}$
Peak emission wavelength	λ_P	-	850	-	nm	$I_F=50\text{mA}$
Spectral bandwidth at 50%	$\Delta\lambda$	-	50	-	nm	$I_F=50\text{mA}$

Specifications are subject to change without notice.

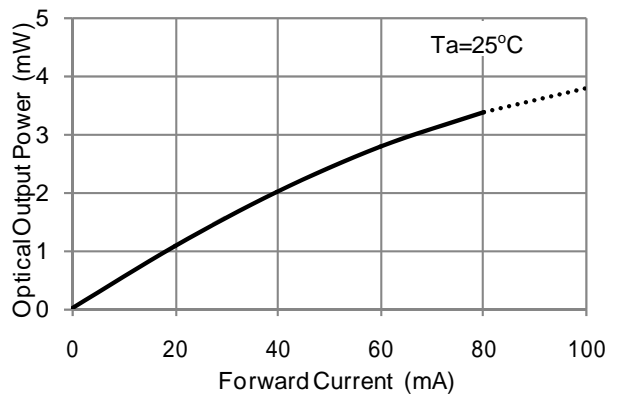
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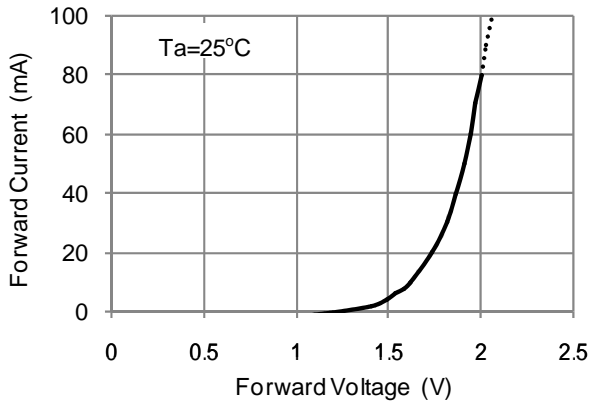
Allowable Forward Current - Ambient Temperature



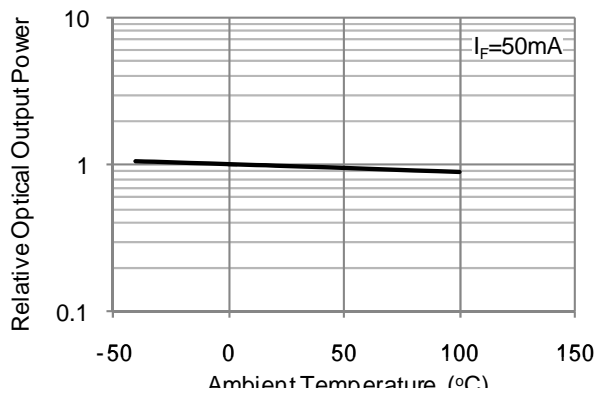
Optical Output Power-Forward Current



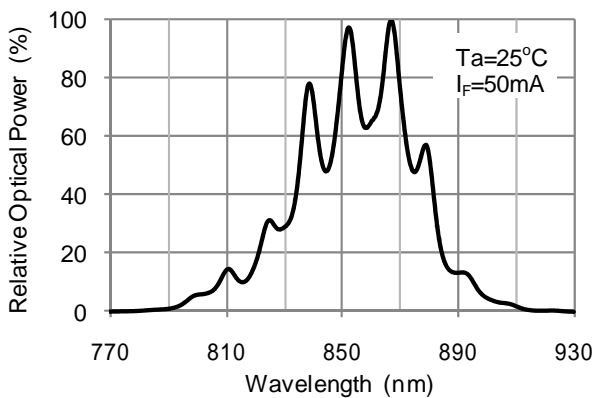
Forward Current - Forward Voltage



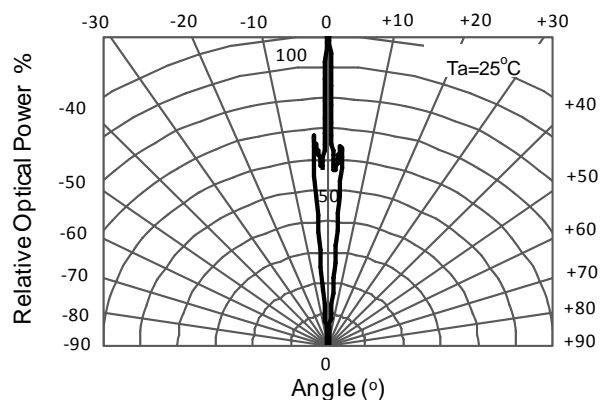
Relative Optical Output Power-Ambient Temperature



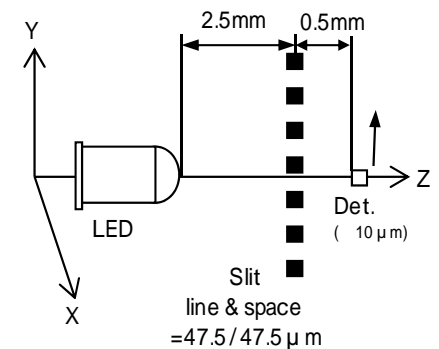
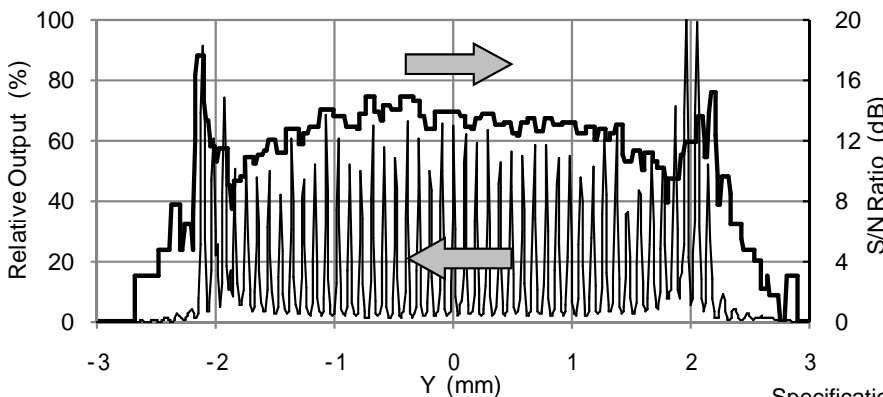
Spectral Distribution



Directivity



Beam parallelism



$$S/N = 10 \log(P_{max}/P_{min})$$

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