

Parallel Beam LEDs

KED109Z-N

Characteristics

- Parallel beam
- High efficiency and high power
- Highly reliable hermetic seal
- Uniform light intensity distribution

Applications

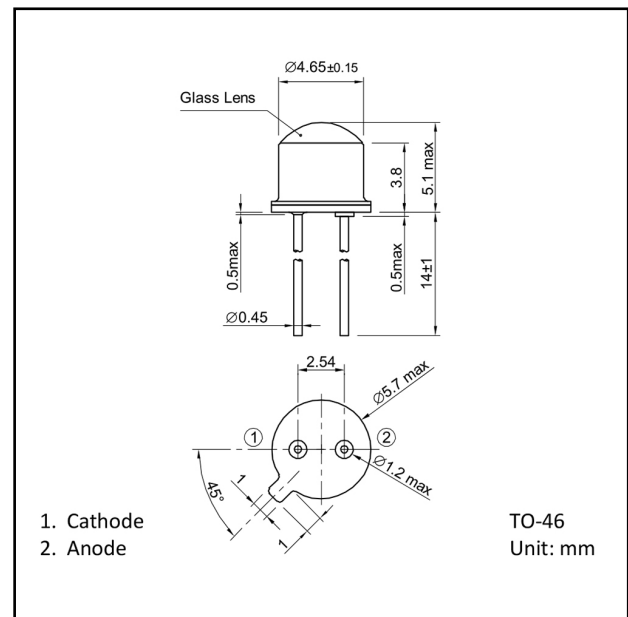
- Optical switches
- Rotary encoders
- Optical sensors

Chip Material

- GaAlAs

Package

- TO-CAN



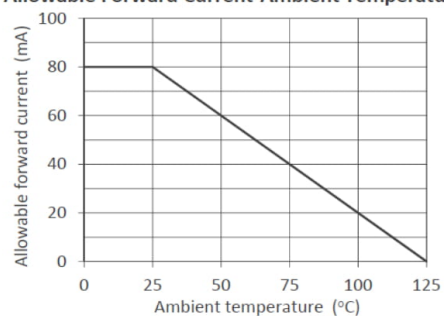
Absolute Maximum Ratings

Parameter	Symbol	Value	Unit	Conditions
Reverse voltage	V_R	6	V	-
			null	
Forward current	I_F	80	mA	$T_a=25$
			null	
Peak forward current	I_{FP}	0.8	A	Pulse width=100μs Duty ratio=0.1%
			null	
Power dissipation	P_D	140	mW	$T_a=25$
			null	
Operating temperature	T_{opr}	-40 to +125		Avoid dew condensation
Storage temperature	T_{stg}	-55 to +125		Avoid dew condensation

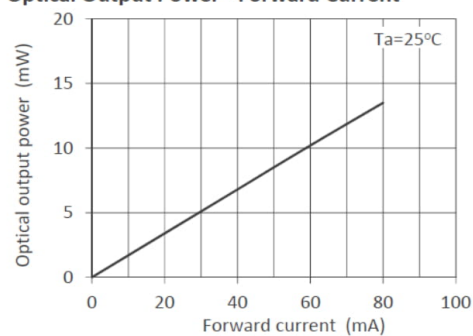
Electrical and Optical characteristics ($T_a=25$ unless otherwise noted)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Reverse Current	I_R	-	-	10	μA	$V_R=6V$
Forward voltage	V_F	-	1.3	1.5	V	$I_F=20mA$
					null	
Optical output power	P_O	-	3.0	-	mW	$I_F=20mA$
					null	
Peak wavelength	λ_p	-	890	-	nm	$I_F=20mA$
					null	
Spectral width		-	50	-	nm	$I_F=20mA$
					null	
Half angle	2	-	18	-	deg.	$I_F=20mA$
					null	

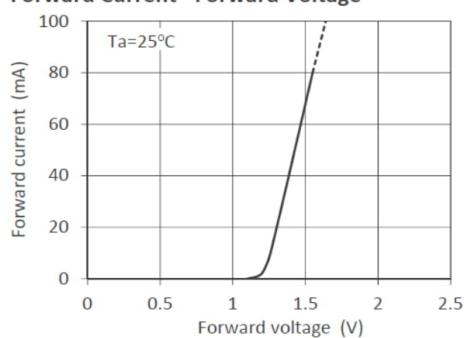
Allowable Forward Current-Ambient Temperature



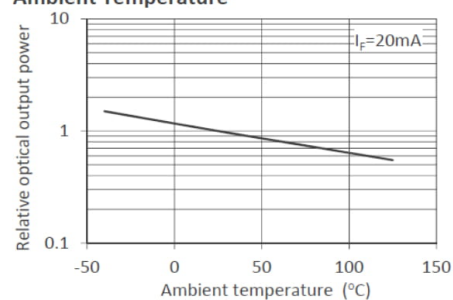
Optical Output Power - Forward Current



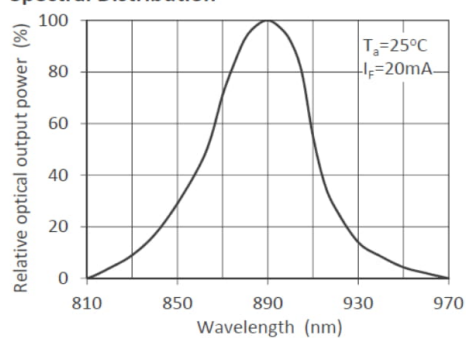
Forward Current - Forward Voltage



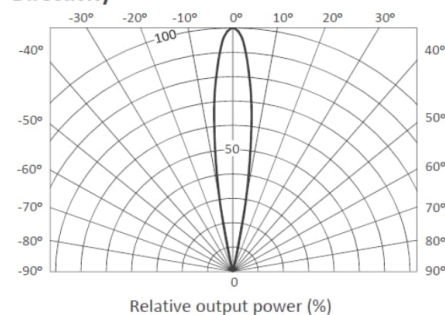
Relative Optical Output Power - Ambient Temperature



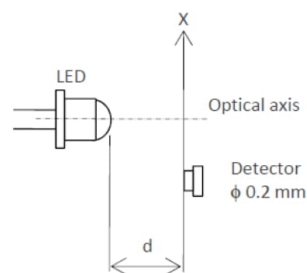
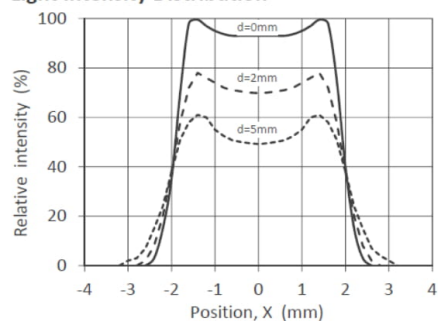
Spectral Distribution



Directivity



Light Intensity Distribution



Measurement setup of light intensity distribution

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