

MED8P74 is a low failure rate point source LED die designed for high temperature operation(105°C) with high output power. Lambertian distribution of light output can provide parallel beam line. It is well suited for optical encoders, positioning and sensing applications.

Features

- Small-size emitting aperture ($\phi 160\mu\text{m}$)
- High temperature operation
- High reliability

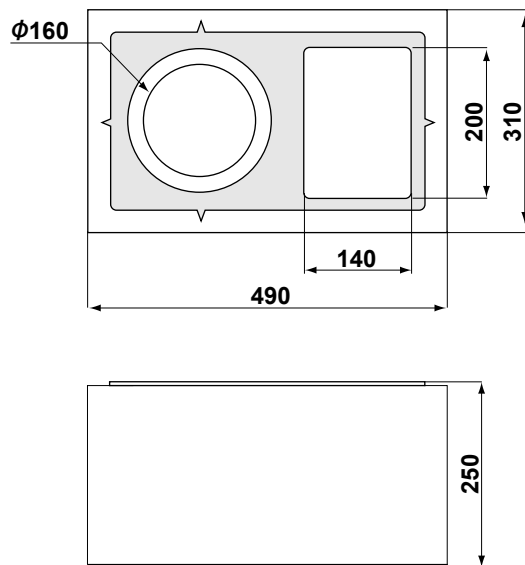
Structure

- Material: AlGaAs/GaAs sub.
- Electrode: Au alloy (p,n)
- Emitting surface: p-side

Applications

- Optical encoders
- Optical switches
- Optical sensors

Dimensional outline drawing(μm)



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

Parameter	Symbol	Rating	Unit
Forward Current	I_F	100	mA
Reverse Voltage	V_R	3	V
Operating Temperature	T_{opr}	-40~105	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40~105	$^\circ\text{C}$

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F=50\text{mA}$	-	1.7	2.2	V
Reverse Current	I_R	$V_R=3\text{V}$	-	-	10	μA
Output Power	P_o	$I_F=50\text{mA}$	1.5	2.4	-	mW
Central Wavelength	λ_c	$I_F=50\text{mA}$	-	855	-	nm
Cutoff Frequency	f_c	$I_F=50\text{mA}+20\text{mA}_{p-p}$	-	25	-	MHz

*As mounted on T018 header and hermetically sealed

Fig.1 I_F / T_a

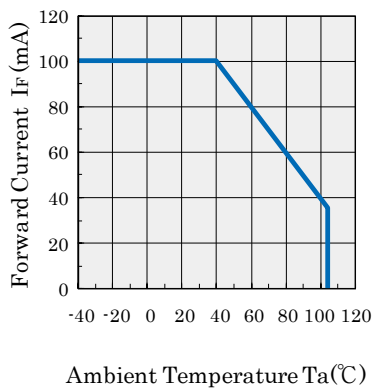


Fig.2 I_F / V_F

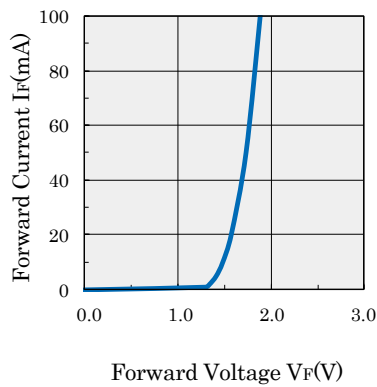


Fig.3 V_F / T_a

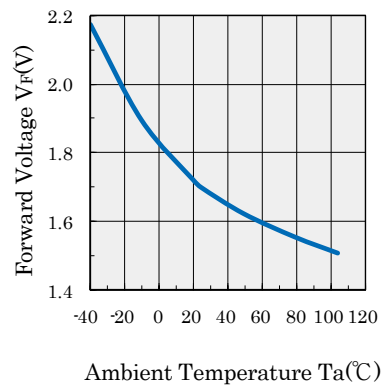


Fig.4 P_O / I_F

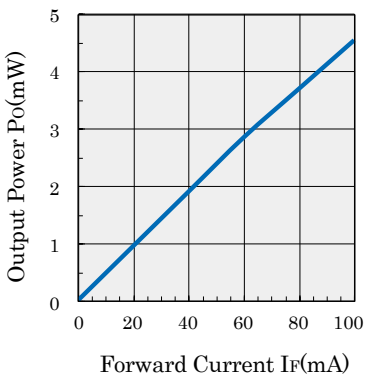


Fig.5 Relative P_O / T_a

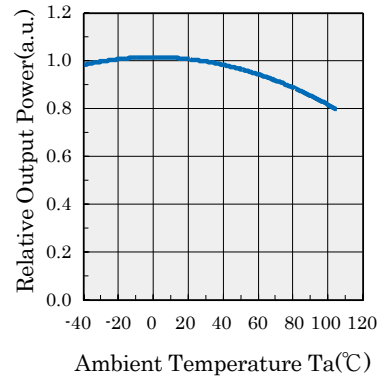


Fig.6 Frequency Response

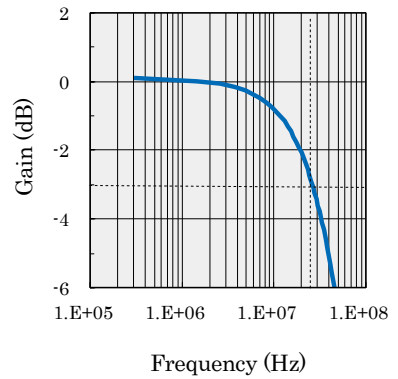


Fig.7 Spectral Characteristics

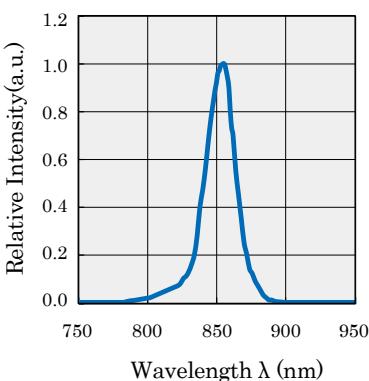


Fig.8 Central Wavelength λ_c / T_a

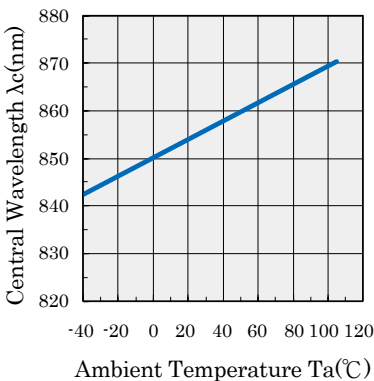
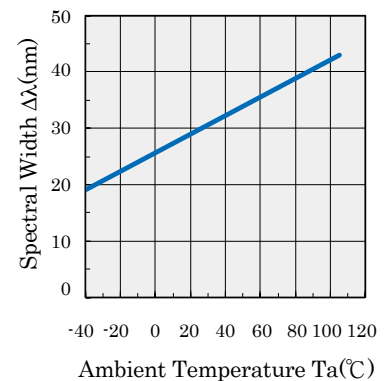


Fig.9 Spectral Width $\Delta\lambda / T_a$



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