

# StarLED

## Red Point-Source LED Chip

# MED7P3

The MED7P3, high speed AlInGaP red LED, is designed for plastic optical fiber (POF) communications. As it has a small emitting window, a good coupling efficiency with POF can be achieved.

Also, it is suitable for optical sensors which requires a visible light and a small emitting aperture.

### Features

- Small emitting window ( $\phi 160\mu\text{m}$ )
- High speed ( $f_c: 30\text{MHz}$ )
- High output power

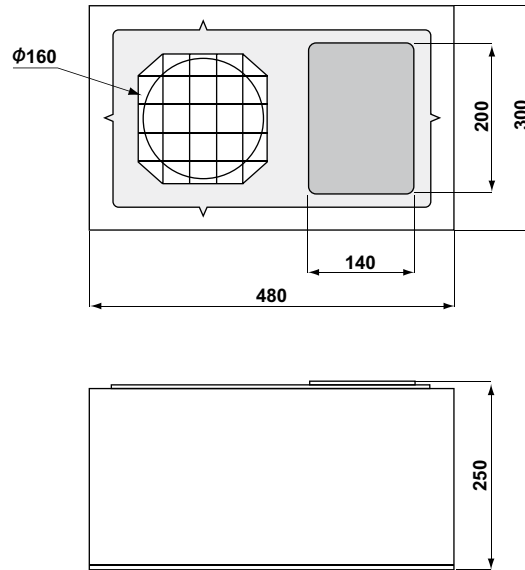
### Structure

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

### Applications

- POF communications
- Optical sensors
- Optical switches

### Dimensions ( $\mu\text{m}$ )



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

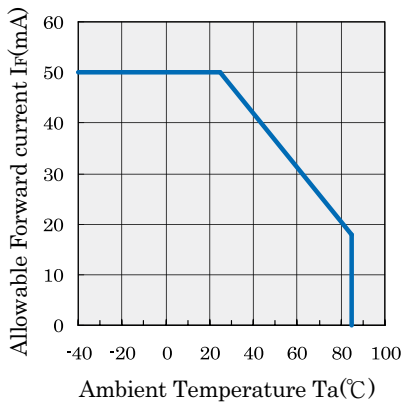
Parameter	Symbol	Rating	Unit
Power Dissipation	$P_D$	100	mW
Forward Current	$I_F$	50	mA
Reverse Voltage	$V_R$	3	V
Operating Temperature	$T_{opr}$	-40 ~ 85	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40 ~ 100	$^\circ\text{C}$

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

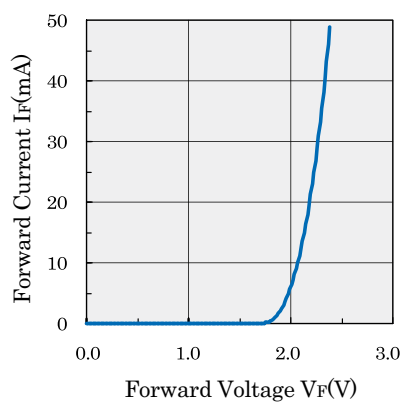
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Current	$V_F$	$I_F=20\text{mA}$	-	2.0	2.5	V
Reverse Current	$I_R$	$V_R=3\text{V}$	-	-	10	$\mu\text{A}$
Output Power	$P_o$	$I_F=20\text{mA}$	0.4	0.7	-	mW
Peak Wavelength	$\lambda_P$	$I_F=20\text{mA}$	630	650	670	nm
Cutoff Frequency	$f_c$	$I_F=20\text{mA}+10\text{mA}_{p-p}$	25	30	-	MHz

\*As mounted on T018 header and hermetically sealed

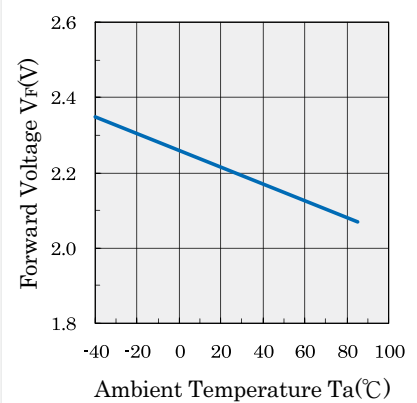
**Fig1.  $I_F / T_a$**



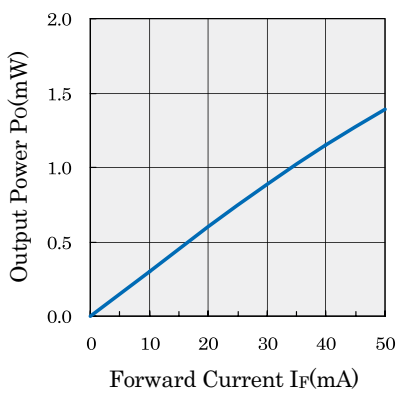
**Fig2.  $I_F / V_F$**



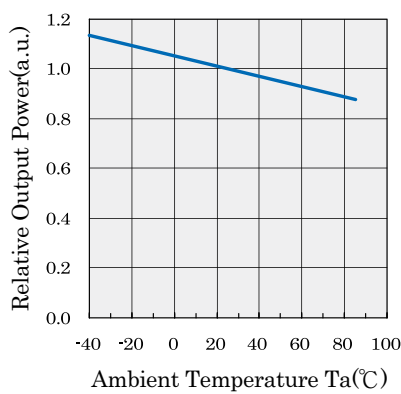
**Fig3.  $V_F / T_a$**



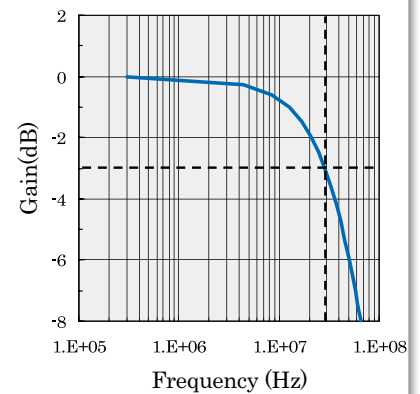
**Fig4.  $P_O / I_F$**



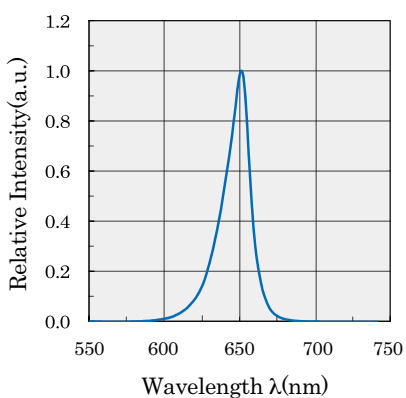
**Fig5. Relative  $P_O / T_a$**



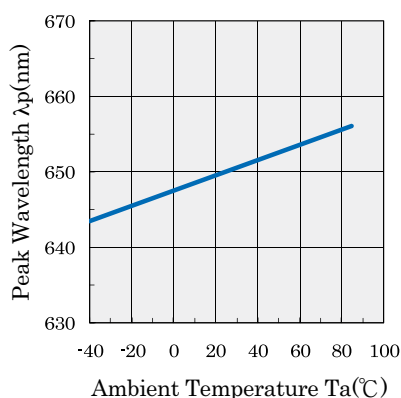
**Fig6. Frequency Response**



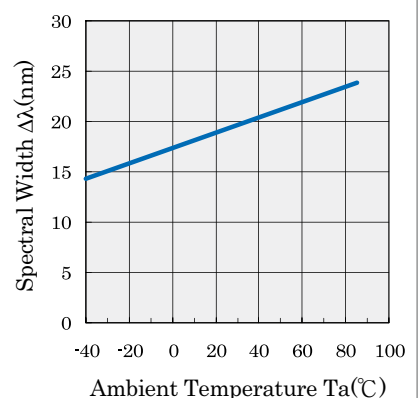
**Fig7. Spectral Characteristics**



**Fig8. Peak Wavelength  $\lambda_p / T_a$**



**Fig9. Spectral Width  $\Delta\lambda / T_a$**



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