

LN145W

GaAlAs Red Light Emitting Diode

Light source for optical fiber communications,

Features

- Red light emission close to monochromatic light : $\lambda_p = 700 \text{ nm}$
- High-power output, high-efficiency
- High coupling characteristics and suits to a plastic fiber
- High-speed response : -3dB modulation of 10MHz
- Side-view flat resin package

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

Parameter	Symbol	Ratings	Unit
Power dissipation	P_D	120	mW
Forward current (DC)	I_F	40	mA
Pulse forward current	I_{FP}^*	400	mA
Reverse voltage (DC)	V_R	3	V
Operating ambient temperature	T_{opr}	-25 to $+85$	$^\circ\text{C}$
Storage temperature	T_{stg}	-30 to $+100$	$^\circ\text{C}$

* $t_w = 10 \mu\text{s}$, Duty cycle = 10 %

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

Parameter	Symbol	Conditions	min	typ	max	Unit
Radiant power	P_O	$I_F = 20\text{mA}$	2.5	4		mW
Peak emission wavelength	λ_p	$I_F = 20\text{mA}$		700		nm
Spectral half band width	$\Delta\lambda$	$I_F = 20\text{mA}$		35		nm
Forward voltage (DC)	V_F	$I_F = 20\text{mA}$		1.8	2.2	V
Reverse current (DC)	I_R	$V_R = 3\text{V}$			100	μA
Half-power angle	θ	The angle in which radiant intensity is 50%		80		deg.
Response time	t_r, t_f	$I_{FP} = 100\text{mA}$		30		ns
Cutoff frequency	f_C^*			10		MHz

*Cutoff frequency f_C : Frequency at which $10 \times \log \frac{P_O(\text{at } f = f_C)}{P_O(\text{at } f = 1\text{MHz})} = -3$

[Element moisture resistance]

It is difficult to guarantee that the LN145W will meet the moisture resistance specifications (MIL-STD-202D) which are commonly guaranteed for semiconductors.

