

preliminary

Radiation	Type	Technology	Case
Infrared	4 W	AlGaAs/GaAlAs	Plastic lens, metal case

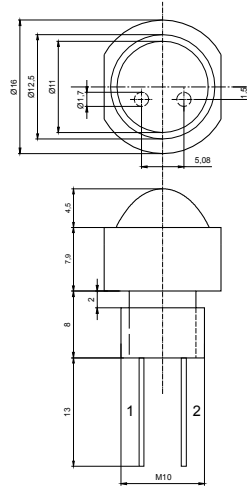
Description

High-power infrared-LED in an aluminium case with thread socket, for easy handling and heat sink mounting

Applications

Medical appliances, remote control and optical communications, light barriers, measurement systems

Outline: H = 12.4 mm (± 0.5)
 D = 16 mm (± 0.5)
 Thread M10
 Pin 1 – cathode
 Pin 2 – anode



Absolute Maximum Ratings

at $T_{amb} = 25^{\circ}\text{C}$, on heat sink ($S \geq 50 \text{ cm}^2$), unless otherwise specified

Parameter	Test conditions	Symbol	Value	Unit
DC forward current	on heat sink	I_F	1.5	A
Peak forward current	$t_p \leq 10 \mu\text{s}$, $f \leq 500 \text{ Hz}$	I_{FM}	2	A
Power dissipation	on heat sink	P	4	W
Operating temperature range	on heat sink	T_{amb}	-25 to +100	$^{\circ}\text{C}$
Storage temperature range	on heat sink	T_{stg}	-25 to +100	$^{\circ}\text{C}$
Junction temperature	on heat sink	T_j	100	$^{\circ}\text{C}$

Electrical Characteristics

at $T_{amb} = 25^{\circ}\text{C}$, on heat sink ($S \geq 50 \text{ cm}^2$), unless otherwise specified

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F = 350 \text{ mA}$	V_F		1.65	1.8	V
Forward voltage*	$I_F = 1000 \text{ mA}$	V_F		2.0	2.4	V
Switching time	$I_F = 350 \text{ mA}$	t_r, t_f		75		ns
Reverse voltage	$I_R = 10 \mu\text{A}$	V_R	5			
Thermal resistance junction-case		R_{thJC}		13		K/W

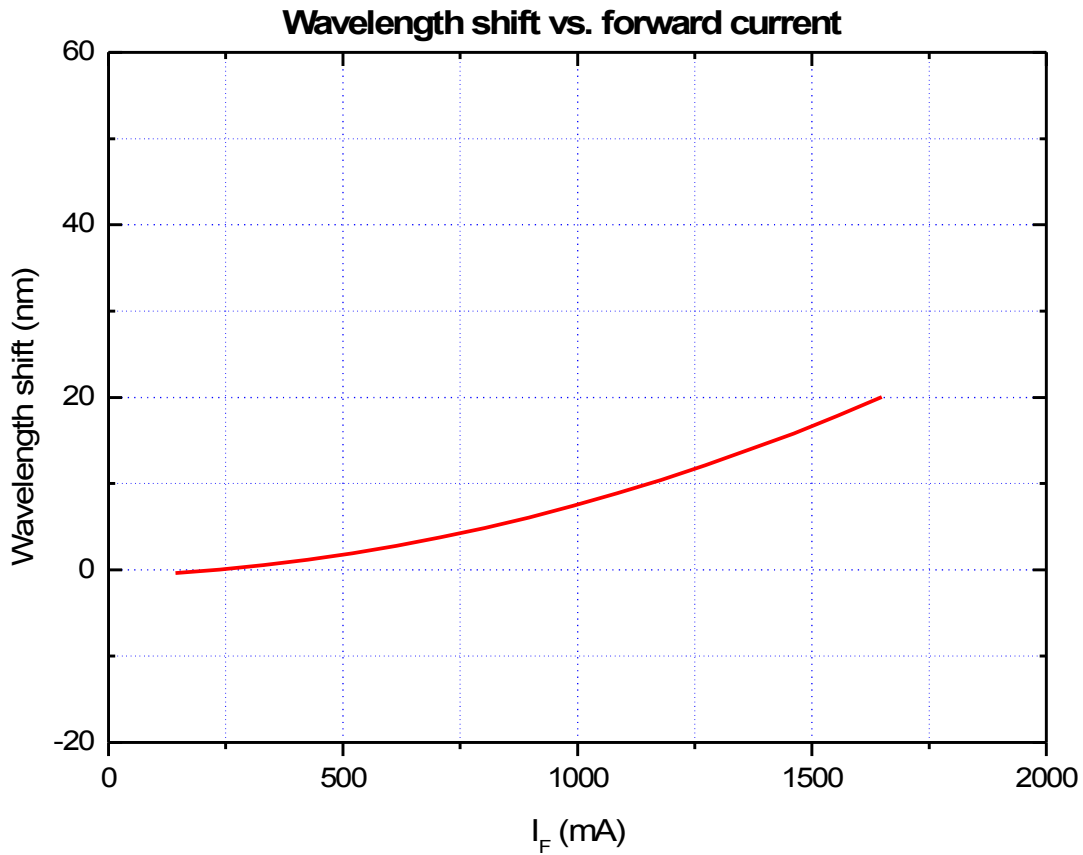
*only recommended on optimal heat sink

Optical Characteristics

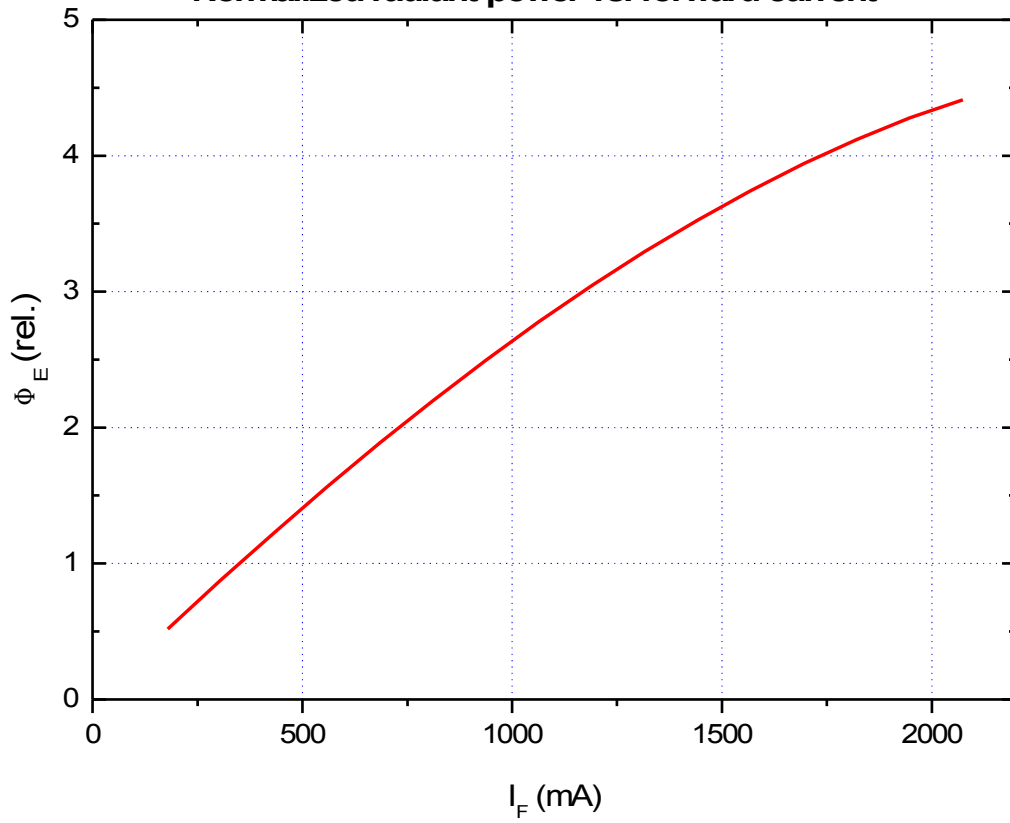
at $T_{amb} = 25^{\circ}\text{C}$, on heat sink ($S \geq 50 \text{ cm}^2$), unless otherwise specified

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Radiant power	$I_F = 350 \text{ mA}$	Φ_e	30	40		mW
Radiant power*	$I_F = 1000 \text{ mA}$	Φ_e	75	110		mW
Radiant intensity	$I_F = 350 \text{ mA}$	Φ_e	315	400		mW/sr
Radiant intensity*	$I_F = 1000 \text{ mA}$	Φ_e	790	980		mW/sr
Peak wavelength	$I_F = 350 \text{ mA}$	λ_p	800	810	820	nm
Spectral bandwidth at 50%	$I_F = 350 \text{ mA}$	$\Delta\lambda_{0,5}$		30		nm
Viewing angle	$I_F = 350 \text{ mA}$	φ		15		deg

*only recommended on optimal heat sink



Normalized radiant power vs. forward current



Forward voltage vs. forward current

