

preliminary

Radiation	Type	Technology	Case
Red	4.5 W	AlGaAs/GaAlAs	Plastic lens, metal case

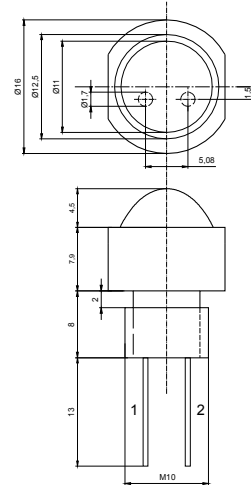
### Description

High-power red 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	$t_p \leq 10 \mu\text{s}$ , $f \leq 500 \text{ Hz}$	$I_{FM}$	1.8	A
Power dissipation	on heat sink	P	4.5	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	$I_F = 350 \text{ mA}$	$V_F$		2.0	2.4	V
Forward voltage*	$I_F = 1000 \text{ mA}$	$V_F$		2.5	3.0	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

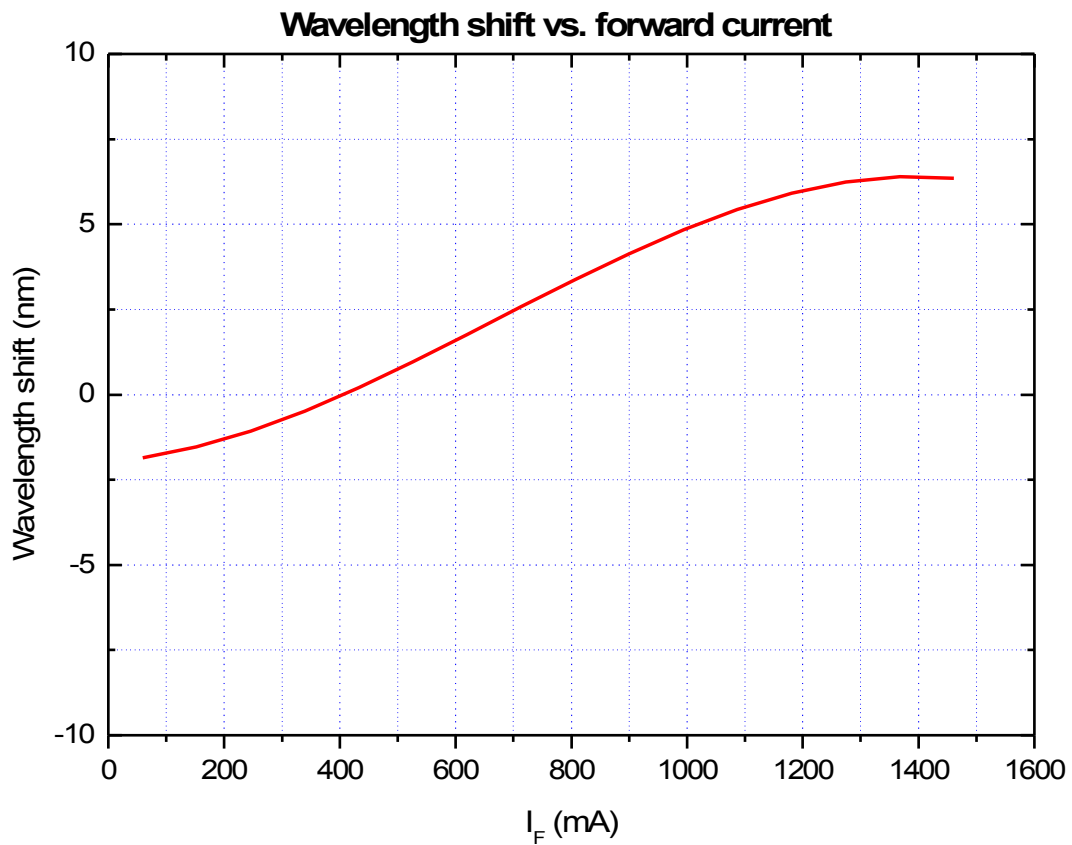
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**Optical Characteristics**

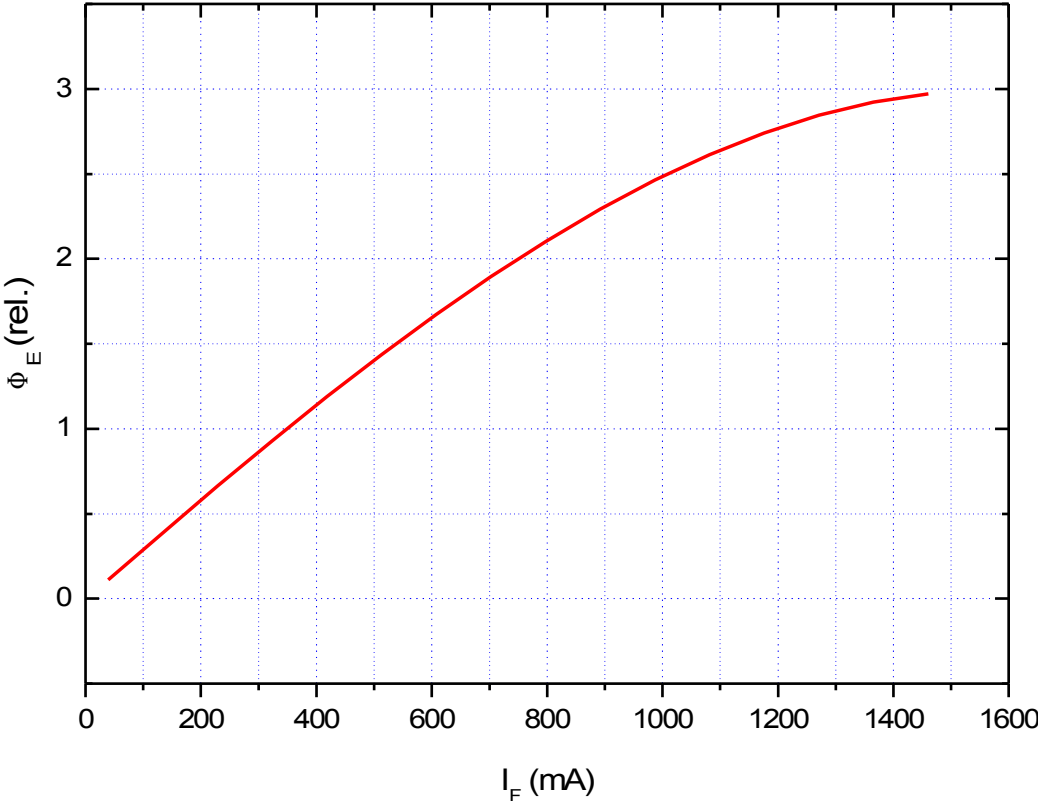
at  $T_{amb} = 25^{\circ}C$ , on heat sink ( $S \geq 50 \text{ cm}^2$ ), unless otherwise specified

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Radiant power	$I_F = 350 \text{ mA}$	$\Phi_e$	16	20		mW
Radiant power*	$I_F = 1000 \text{ mA}$	$\Phi_e$	40	50		mW
Peak wavelength	$I_F = 350 \text{ mA}$	$\lambda_p$	650	660	670	nm
Spectral bandwidth at 50%	$I_F = 350 \text{ mA}$	$\Delta\lambda_{0.5}$		24		nm
Viewing angle	$I_F = 350 \text{ mA}$	$\varphi$		15		deg

\*only recommended on optimal heat sink



Normalized radiant power vs. forward current



Forward voltage vs. forward current

