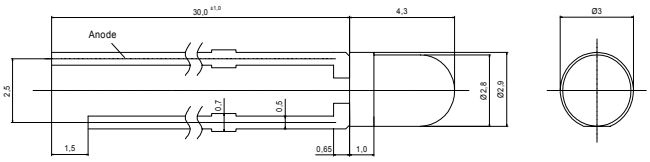
LED - Lamp

ELD-1550-345

15.11.2007 rev. 05

Radiation	Type	Technology	Case
Infrared	Water clear	InGaAs/InP	3 mm plastic lens



Description

High-power, high-speed infrared LED in standard 3 mm housing, small package allows compact design, housing without standoff leads

Note: Special packages with standoff available on request

Applications

Optical communications, optical switches, optical sensors, medical applications, safety equipment

Maximum Ratings

T_{amb} = 25°C, unless otherwise specified

Parameter	Test conditions	Symbol	Value	Unit
Forward current (DC)		I_F	100	mA
Peak forward current	($t_p \leq 10$ µs, T = 10ms)	I_{FM}	200	mA
Operating temperature range		T_{amb}	-20 to +85	°C
Storage temperature range		T_{stg}	-55 to +100	°C
Soldering temperature	t ≤ 5 s, 3 mm from case	T_{sd}	260	°C

Optical and Electrical Characteristics

T_{amb} = 25°C, unless otherwise specified

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F = 20 mA	V_F		0.65	0.85	V
Forward voltage*	I_F = 100 mA	V_F		0.8	1.1	V
Reverse voltage	I_R = 100 µA	V_F		5		V
Radiant power	I_F = 20 mA	Φ_e	1.2	1.6		mW
Radiant power*	I_F = 100 mA	Φ_e	4.5	5.5		mW
Radiant intensity	I_F = 20 mA	I_e	2.2	2.8		mW/sr
Radiant intensity*	I_F = 100 mA	I_e	8	10		mW/sr
Peak wavelength	I_F = 20 mA	λ_p	1530	1550	1570	nm
Spectral bandwidth at 50%	I_F = 20 mA	$\Delta\lambda_{0.5}$		110		nm
Viewing angle	I_F = 20 mA	φ		55		deg.
Switching time	I_F = 20 mA	t_r, t_f		10		ns

*measured after 30s current flow

Note: All measurements carried out on *EPIGAP* equipment

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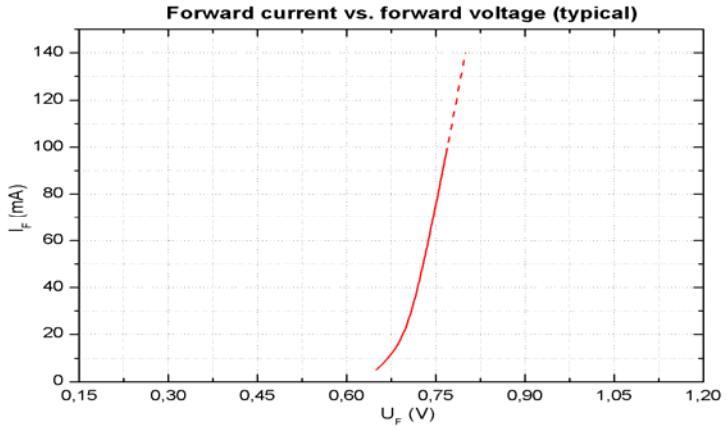

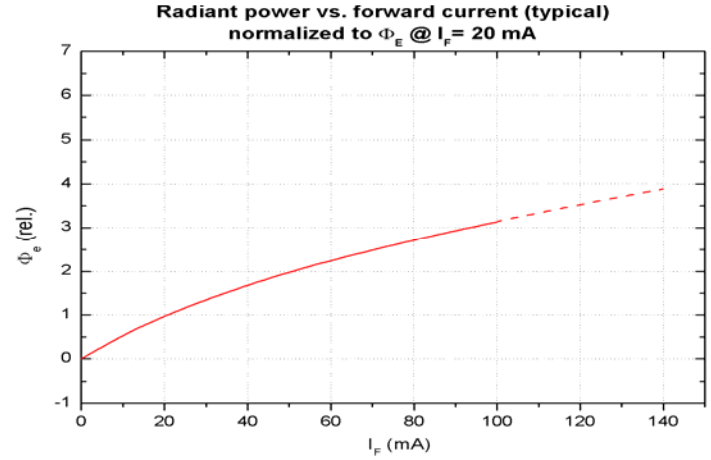

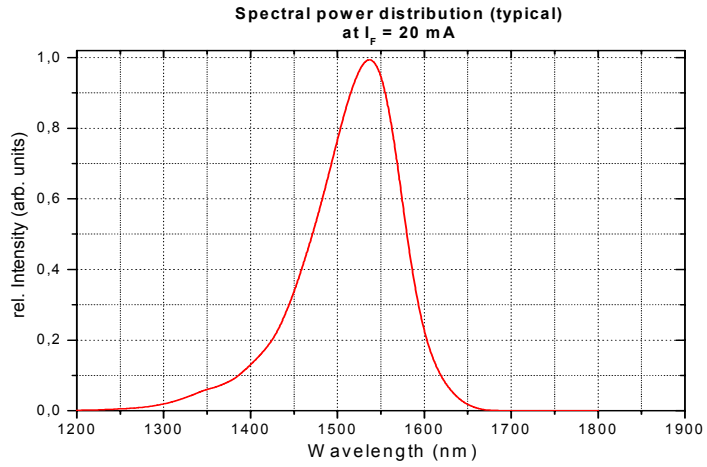

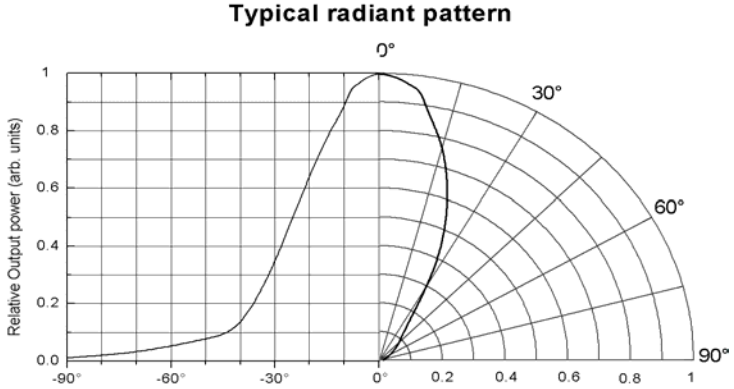

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Remarks concerning optical radiation safety*

Up to maximum forward current, at continuous operation, this LED may be classified as LED product *Class 1*, according to standard IEC 60825-1:A2. *Class 1* products are safe to eyes and skin under reasonably predictable conditions. This implicates a direct observation of the light beam by means of optical instruments.

*Note: Safety classification of an optical component mainly depends on the intended application and the way the component is being used. Furthermore, all statements made to classification are based on calculations and are only valid for this LED "as it is", and at continuous operation. Using pulsed current or altering the light beam with additional optics may lead to different safety classifications. Therefore these remarks should be taken as recommendation and guideline only.