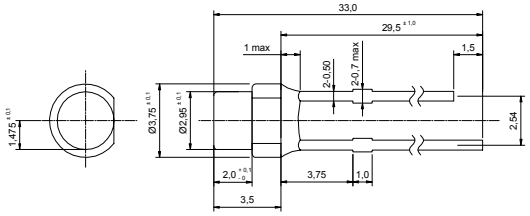
LED - Lamp

ELD-870-395

15.11.2007 rev. 03

Radiation	Type	Technology	Case
Infrared	DDH	AlGaAs/AlGaAs	3 mm flat top



Description

High-power, high-speed LED in compact 3 mm standard package without lens, housing with standoff leads

Note: Special packages without standoff available on request

Applications

Optical communications, safety equipment, automation

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	($t_P \leq 50$ µs, $t_P/T = 1/2$)	I_{FM}	200	mA
Reverse voltage	I_R=10 µA	V_R	5	V
Power dissipation		P_D	160	mW
Operating temperature range		T_{amb}	-25 to +100	°C
Storage temperature range		T_{stg}	-55 to +100	°C
Junction temperature		T_J	100	°C
Lead soldering temperature	< 5s, 1.6 mm from case	T_{sol}	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		1,4	1,6	V
Forward voltage	I_F = 100 mA	V_F		1,7		V
Radiant power	I_F = 20 mA	Φ_e	8,5	12		mW
Radiant power[1]	I_F = 100 mA	Φ_e		55		mW
Radiant intensity	I_F = 20 mA	I_e	3	4		mW/sr
Radiant intensity[1]	I_F = 100 mA	I_e		19		mW/sr
Peak wavelength	I_F = 20 mA	λ_p	860	870	880	nm
Spectral bandwidth at 50%	I_F = 20 mA	$\Delta\lambda_{0.5}$		45		nm
Viewing angle	I_F = 20 mA	φ		100		deg.
Switching time	I_F = 20 mA	t_r, t_f		10/20		ns

[1]for information only

Note: All measurements carried out on *EPIGAP* equipment

We reserve the right to make changes to improve technical design and may do so without further notice.
Parameters can vary in different applications.All operating parameters must be validated for each customer application by the customer.

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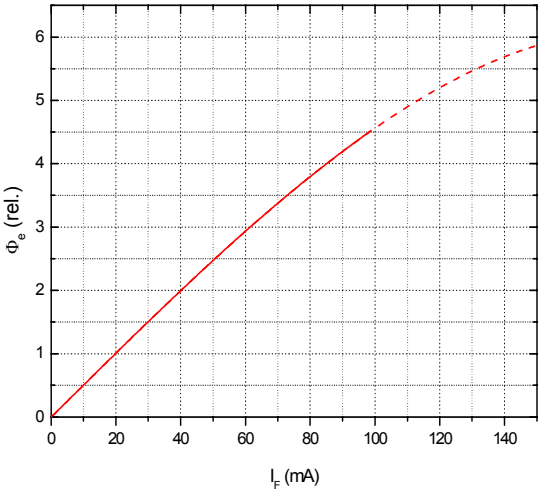
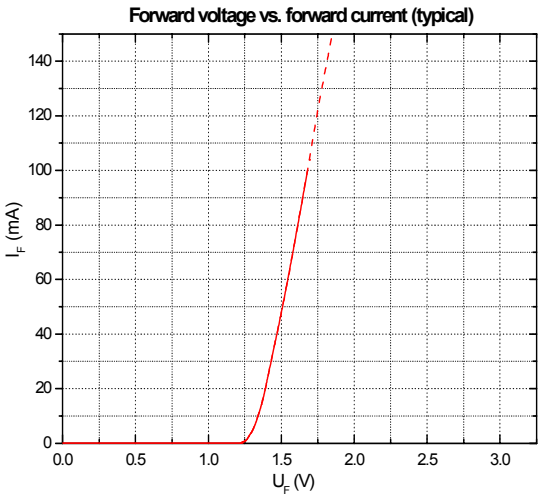
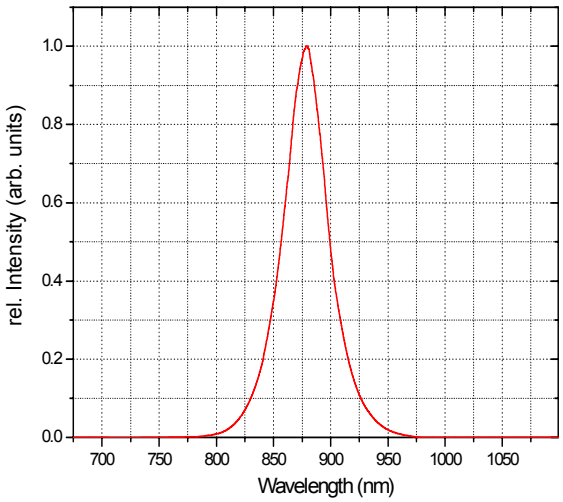
Radiant power vs. forward current (typical)
normalized to Φ_E @I_F= 20 mA



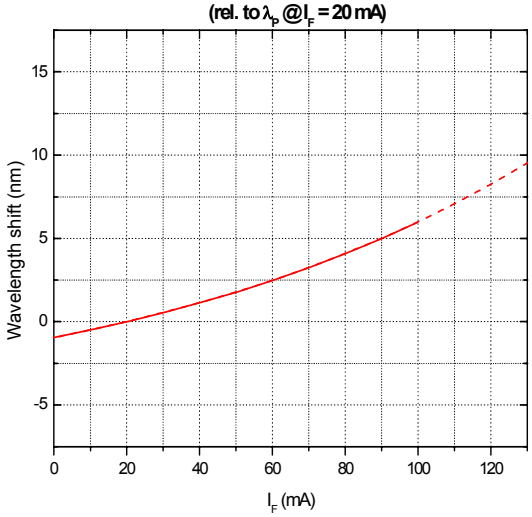
Forward voltage vs. forward current (typical)



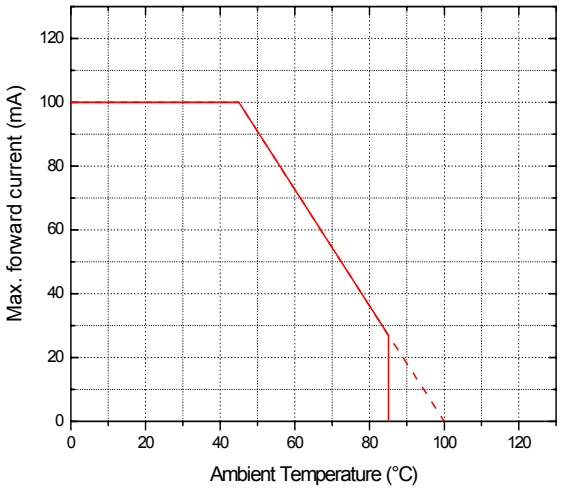
Spectral power distribution (typical)
at I_F = 20 mA



Typical wavelength shift vs. forward current
(rel. to λ_P @I_F = 20 mA)



Ambient Temperature vs. maximal forward current



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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.

We reserve the right to make changes to improve technical design and may do so without further notice.
Parameters can vary in different applications.All operating parameters must be validated for each customer application by the customer.

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