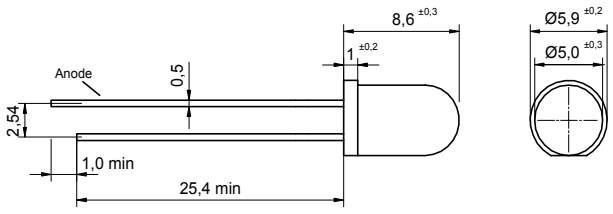
LED - Lamp

ELD-410-533

20.11.2007 rev. 01

Radiation	Type	Technology	Case
Blue	Standard	$InGaN/Al_2O_3$	5 mm plastic lens



Description

High-power, high-speed blue LED in standard 5 mm package, narrow beam angle, housing without standoff leads

Note: Special packages with standoff available on request

Applications

Illumination, safety equipment, automation

Absolute Maximum Ratings

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

Parameter	Test conditions	Symbol	Value	Unit
DC forward current		I_F	30	mA
Peak forward current	tp≤10 µs, f≤500 Hz	I_{FM}	60	mA
Operating temperature range		T_{amb}	-20 to +80	°C
Storage temperature range		T_{stg}	-30 to +100	°C
Junction temperature		T_j	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		3.3	3.6	V
Reverse voltage	I_R = 10 µA	V_R	5V			V
Radiant power	I_F = 20 mA	Φ_e	6	8		mW
Radiant intensity	I_F = 20 mA	I_e	20	35		mW/sr
Peak wavelength	I_F = 20 mA	λ_p	400	410	420	nm
Spectral bandwidth at 50%	I_F = 20 mA	$\Delta\lambda_{0.5}$		18		nm
Viewing angle	I_F = 20 mA	φ		25		deg.
Switching time	I_F = 20 mA	t_r, t_f		10/10		ns

Note: All measurements carried out on *EPIGAP* equipment

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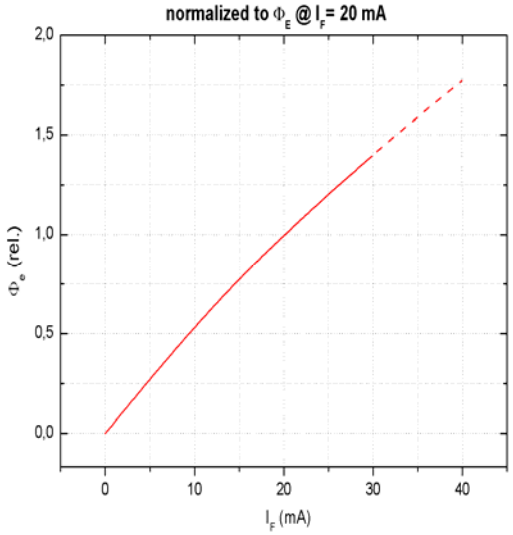
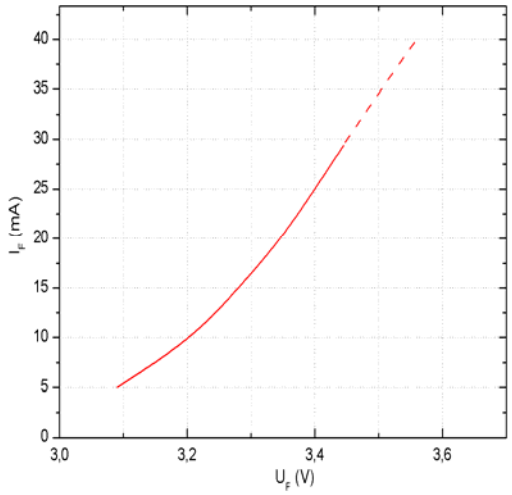
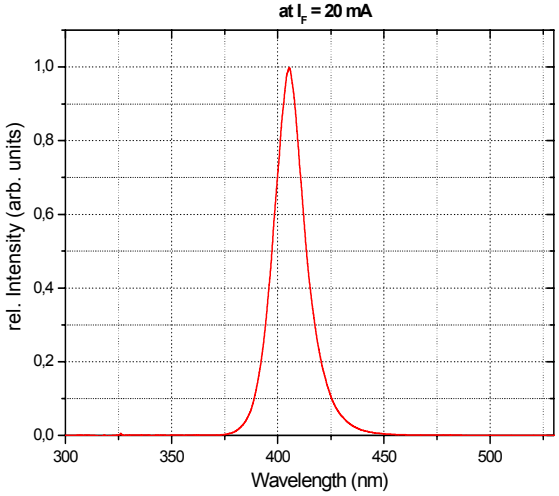
Radiant power vs. forward current (typical)
normalized to Φ_E @ I_F = 20 mA



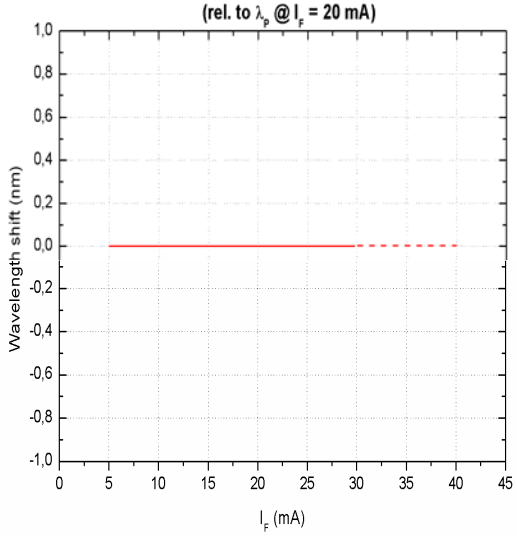
Forward current vs. forward voltage (typical)



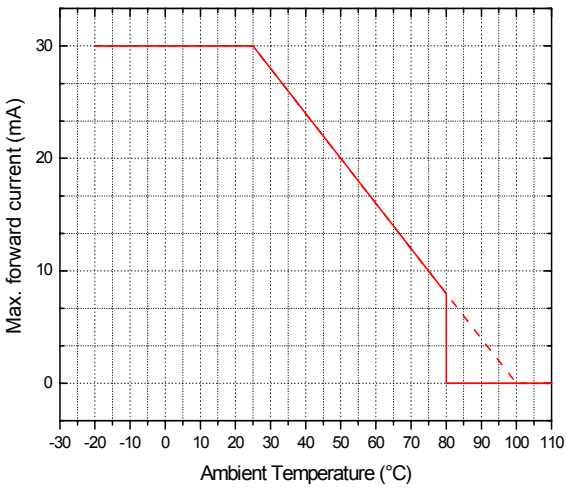
Spectral power distribution (typical)
at I_F = 20 mA



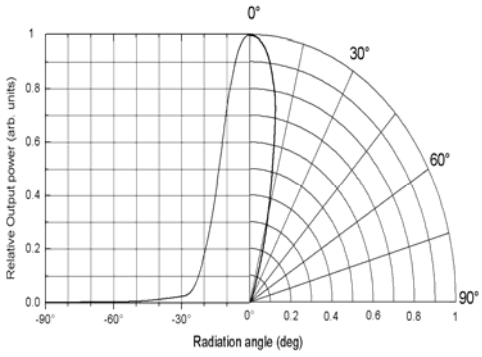
Typical wavelength shift vs. forward current
(rel. to λ_p @ I_F = 20 mA)



Ambient Temperature vs. maximal forward current



Typical radiant pattern



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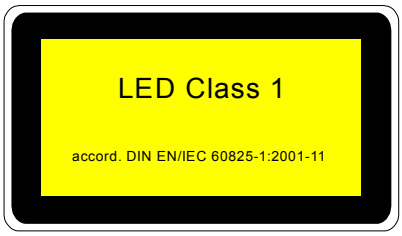
Remarks concerning optical radiation safety*

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.



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