



## LED - Lamp

## ELD-410-533

20.11.2007

rev. 01

Radiation	Type	Technology	Case
Blue	Standard	InGaN/Al <sub>2</sub> O <sub>3</sub>	5 mm plastic lens

	<b>Description</b> 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
	<b>Applications</b> Illumination, safety equipment, automation

### Absolute Maximum Ratings

at  $T_{amb} = 25^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test conditions	Symbol	Value	Unit
DC forward current		$I_F$	30	mA
Peak forward current	$tp \leq 10 \mu\text{s}$ , $f \leq 500 \text{ Hz}$	$I_{FM}$	60	mA
Operating temperature range		$T_{amb}$	-20 to +80	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	-30 to +100	$^{\circ}\text{C}$
Junction temperature		$T_j$	100	$^{\circ}\text{C}$
Soldering temperature	$t \leq 5 \text{ s}$ , 3 mm from case	$T_{sd}$	260	$^{\circ}\text{C}$

### Optical and Electrical Characteristics

$T_{amb} = 25^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F = 20 \text{ mA}$	$V_F$		3.3	3.6	V
Reverse voltage	$I_R = 10 \mu\text{A}$	$V_R$	5V			V
Radiant power	$I_F = 20 \text{ mA}$	$\Phi_e$	6	8		mW
Radiant intensity	$I_F = 20 \text{ mA}$	$I_e$	20	35		mW/sr
Peak wavelength	$I_F = 20 \text{ mA}$	$\lambda_p$	400	410	420	nm
Spectral bandwidth at 50%	$I_F = 20 \text{ mA}$	$\Delta\lambda_{0.5}$		18		nm
Viewing angle	$I_F = 20 \text{ mA}$	$\phi$		25		deg.
Switching time	$I_F = 20 \text{ mA}$	$t_r, t_f$		10/10		ns

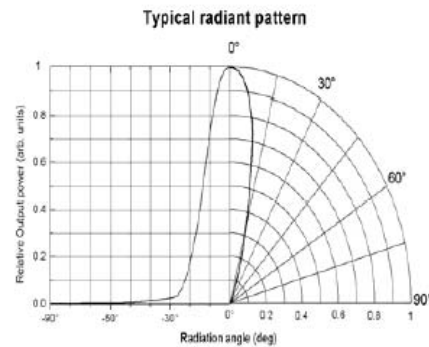
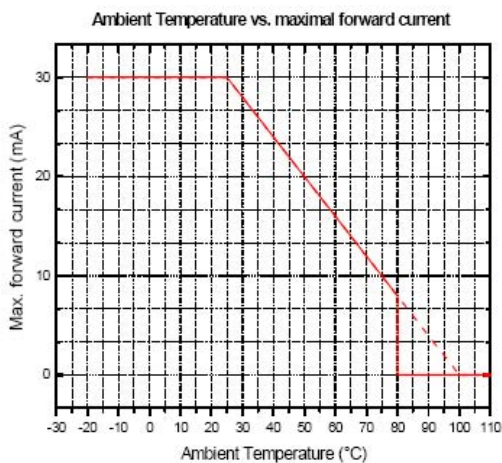
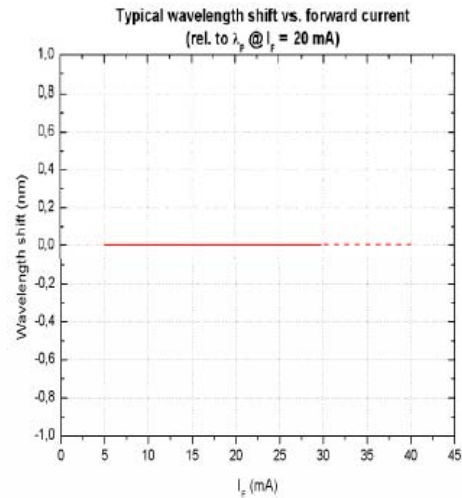
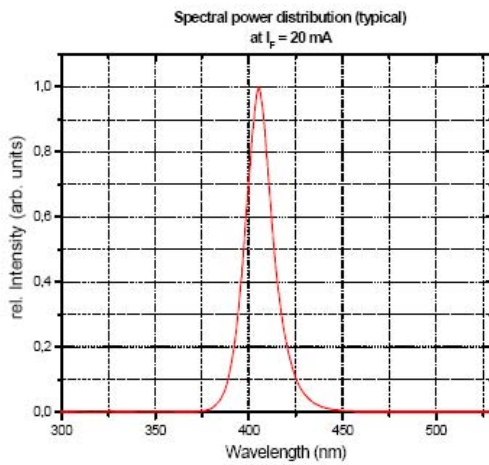
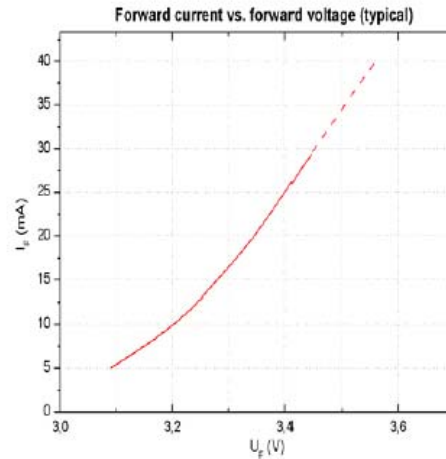
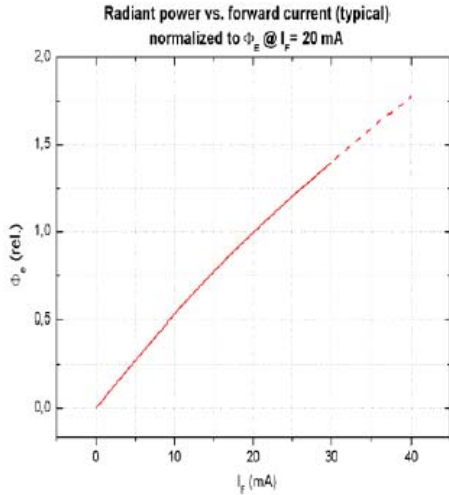


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### Remarks concerning optical radiation safety\*

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.

