

Radiation	Type	Technology	Case
Infrared	DDH	AlGaAs/AlGaAs	TO-46 + Glass Lens

	Description
	High-power, high-speed LED with narrow beam angle and high reliability, housing in TO-46.
	Applications Optical communications, safety equipment, automation

Maximum Ratings

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

Parameter	Test conditions	Symbol	Value	Unit
Forward current (DC)		I_F	100	mA
Peak forward current	$(t_p = 100 \mu\text{s}, D = 0,1)$	I_{FM}	400	mA
Power dissipation		P_D	200	mW
Operating temperature range		T_{amb}	-30 to +100	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	-40 to +125	$^{\circ}\text{C}$
Junction temperature		T_J	125	$^{\circ}\text{C}$
Lead soldering temperature	< 5 s, 3.0 mm from case	T_{sol}	260	$^{\circ}\text{C}$

Optical and Electrical Characteristics

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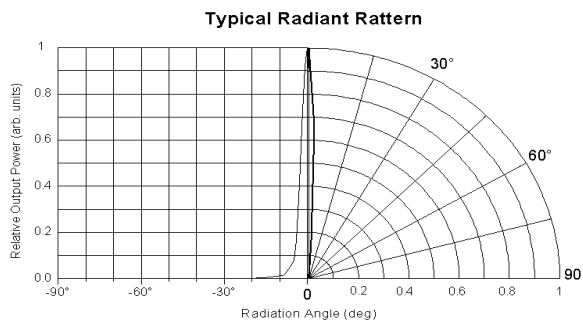
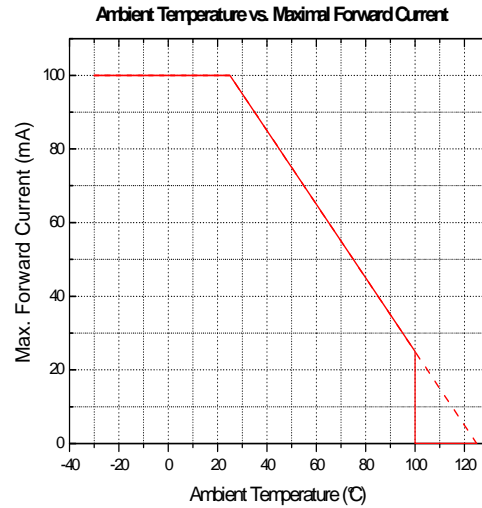
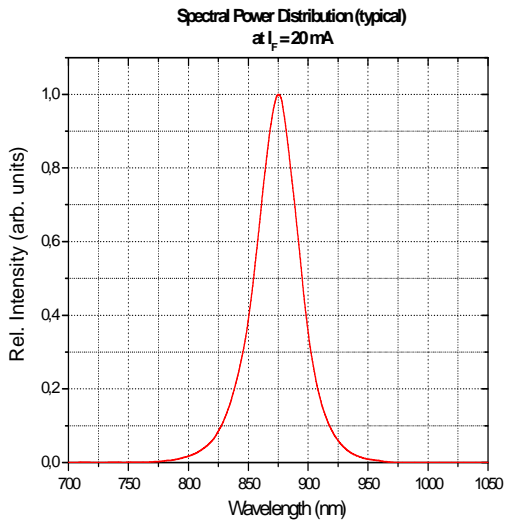
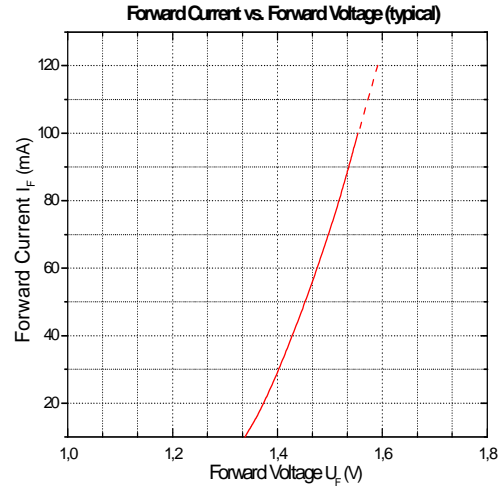
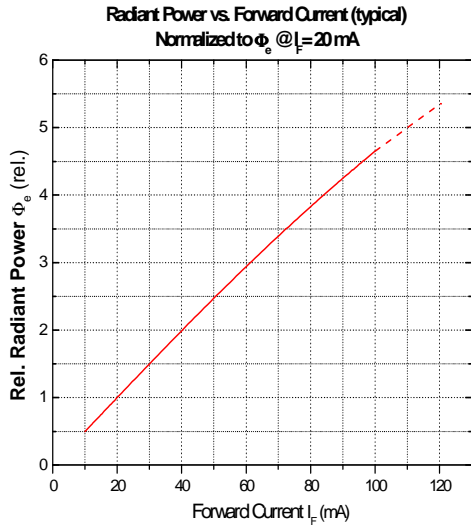
Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F = 20 \text{ mA}$	V_F		1.4	1.8	V
Forward voltage ¹	$I_F = 50 \text{ mA}$	V_F		1.5		V
Reverse voltage	$I_R = 10 \mu\text{A}$	V_R	5			V
Radiant power	$I_F = 20 \text{ mA}$	Φ_e	1.4	1.8		mW
Radiant power ¹	$I_F = 50 \text{ mA}$	Φ_e		4.5		mW
Radiant intensity	$I_F = 20 \text{ mA}$	I_e	25	40		mW/sr
Radiant intensity ¹	$I_F = 50 \text{ mA}$	I_e		100		mW/sr
Peak wavelength	$I_F = 20 \text{ mA}$	λ_p	865	880	890	nm
Spectral bandwidth at 50%	$I_F = 20 \text{ mA}$	$\Delta\lambda_{0,5}$		45		nm
Viewing angle	$I_F = 20 \text{ mA}$	φ		8		deg.
Switching time	$I_F = 20 \text{ mA}$	t_r, t_f		25		ns

¹for 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 application by the customers themselves.

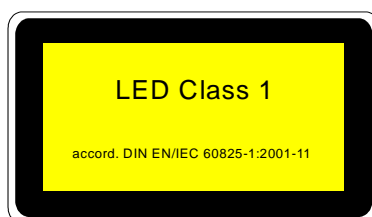


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Remarks concerning optical radiation safety*

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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