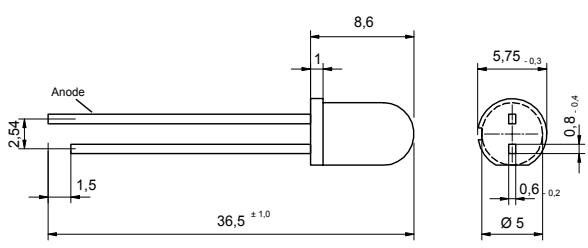


Radiation	Type	Technology	Case
Infrared	DH	AlGaAs/GaAs	5 mm plastic lens

 Side view dimensions: Anode, 1.5, 36.5 ± 1.0, 8.6, 1. Top view dimensions: 5.75 ± 0.3, 0.8 ± 0.4, 0.6 ± 0.2, Ø 5.	Description High-power, high-speed infrared LED in the widely used 940 nm range. Mounted in standard 5 mm housing without standoff leads Note: Special packages with standoff available on request Applications Optical communications, safety equipment, automation, optical sensors, medical appliances
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Maximum RatingsT_{amb} = 25°C, unless otherwise specified

Parameter	Test conditions	Symbol	Value	Unit
Forward current (DC)		I _F	150	mA
Peak forward current	(t _p ≤ 50 μs, t _p /T = 1/2)	I _{FM}	250	mA
Power dissipation		P _D	250	mW
Operating temperature range		T _{amb}	-20 to +80	°C
Storage temperature range		T _{stg}	-40 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 CharacteristicsT_{amb} = 25°C, unless otherwise specified

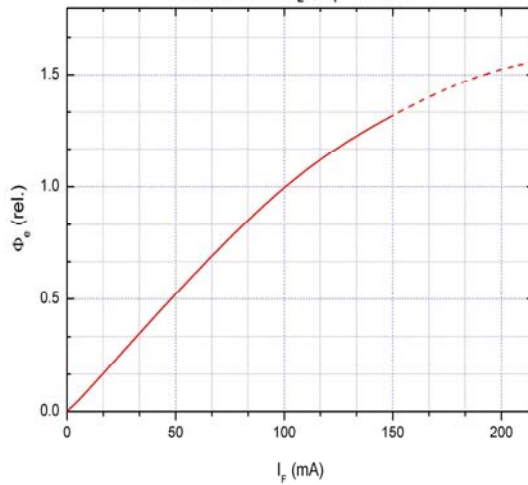
Parameter	Test conditions	Symbol	Min	Typ	Max	Unit
Forward voltage	I _F = 20 mA	V _F		1.2	1.4	V
Forward voltage*	I _F = 100 mA	V _F		1.3		V
Reverse voltage	I _R = 100 μA	V _R	5			V
Radiant power	I _F = 20 mA	Φ _e	4.5	6.5		mW
Radiant power*	I _F = 100 mA	Φ _e		32		mW
Radiant intensity	I _F = 20 mA	I _e	10	14		mW/sr
Radiant intensity*	I _F = 100 mA	I _e	50	70		mW/sr
Peak wavelength	I _F = 100 mA	λ _p	930	940	950	nm
Spectral bandwidth at 50%	I _F = 100 mA	Δλ _{0.5}		45		nm
Viewing angle	I _F = 100 mA	φ		30		deg.
Switching time	I _F = 100 mA	t _r , t _f		500		ns

*measured after 30s current flow

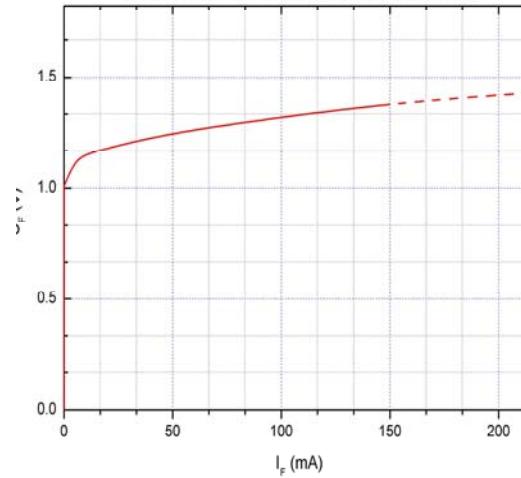
Note: All measurements carried out on *EPIGAP* equipment

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.

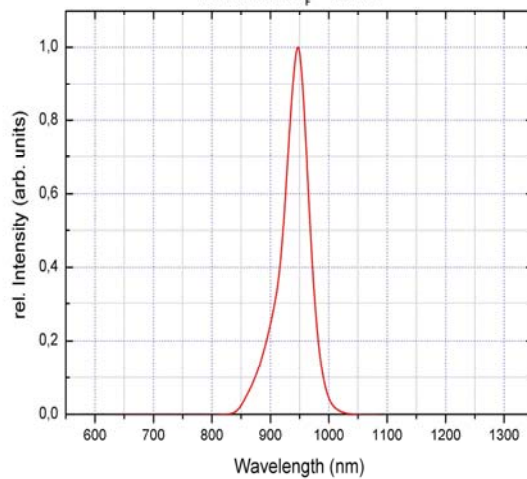
Radiant power vs. forward current (typical)
normalized to Φ_e @ $I_F = 100$ mA



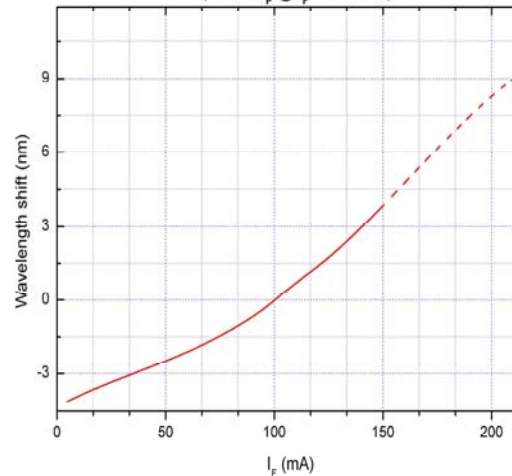
Forward voltage vs. forward current (typical)



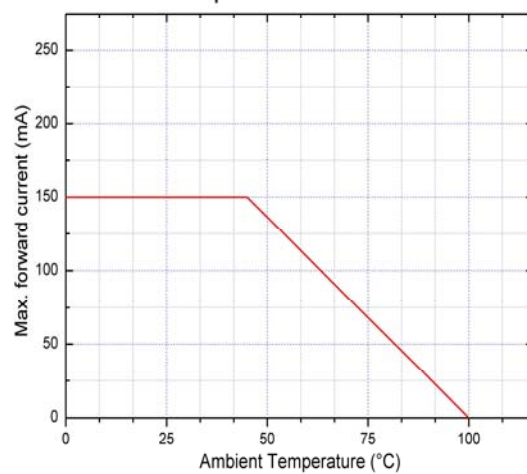
Typical spectral power distribution
normalized at $I_F = 100$ mA



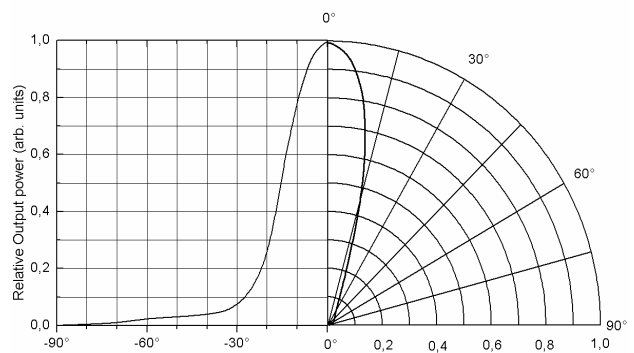
Typical wavelength shift vs. forward current
(rel. to λ_p @ $I_F = 100$ mA)



Ambient Temperature vs. maximal forward current



Typical radiant pattern



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Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer.

Remarks concerning optical radiation safety*

Up to a forward current of 85 mA, 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.

If intended to operate at higher continuous current, this product would be classified as LED product *Class 1M*, according to standard IEC 60825-1:A2. *Class 1M* products are safe to eyes and skin under normal conditions, including when users view the light beam directly. *Class 1M* products produce either a highly divergent beam or a large diameter beam, so only a small part of the whole light beam can enter the eye. However, these LED products can be harmful to the retina if the beam is viewed using magnifying optical instruments. Therefore, users should not incorporate optics that could concentrate the output into the eyes.

*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.