



LED - Lamp

ELD-740-354

15.11.2007

rev. 02

Radiation	Type	Technology	Case
Infrared	DDH	AlGaAs/AlGaAs	3 mm plastic lens

	Description High-power, high-speed infrared LED in standard 3 mm housing, small package allows compact design, housing with standoff leads Note: Special packages without standoff available on request
	Applications Optical communications, safety equipment, automation, optical sensors

Maximum Ratings

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

Parameter	Test conditions	Symbol	Value	Unit
Forward current (DC)		I _F	60	mA
Peak forward current	(t _p ≤ 50 μs, t _p /T = 1/2)	I _{FM}	100	mA
Power dissipation		P _D	120	mW
Operating temperature range		T _{amb}	-20 to +85	°C
Storage temperature range		T _{stg}	-30 to +100	°C
Junction temperature		T _J	100	°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		1.7	2.1	V
Forward voltage*	I _F = 50 mA	V _F		1.9		V
Reverse voltage	I _R = 10 μA	V _R	5			V
Radiant power	I _F = 20 mA	Φ _e	5.5	8.0		mW
Radiant power*	I _F = 50 mA	Φ _e		19		mW
Radiant intensity	I _F = 20 mA	I _e	10	14		mW/sr
Peak wavelength	I _F = 20 mA	λ _p	730	740	750	nm
Spectral bandwidth at 50%	I _F = 20 mA	Δλ _{0.5}		30		nm
Viewing angle	I _F = 20 mA	φ		40		deg.
Switching time	I _F = 20 mA	t _r , t _f		40		ns

*measured after 30s current flow



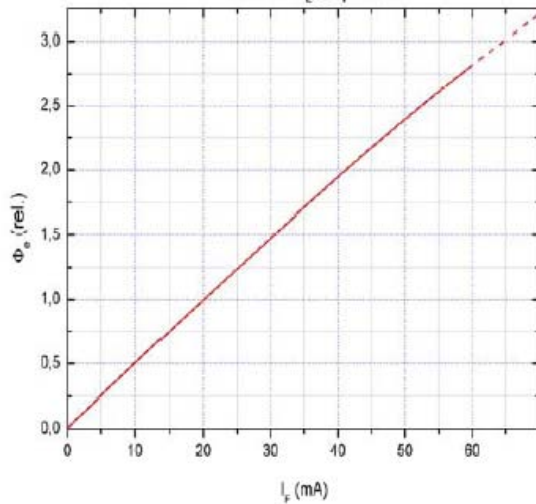
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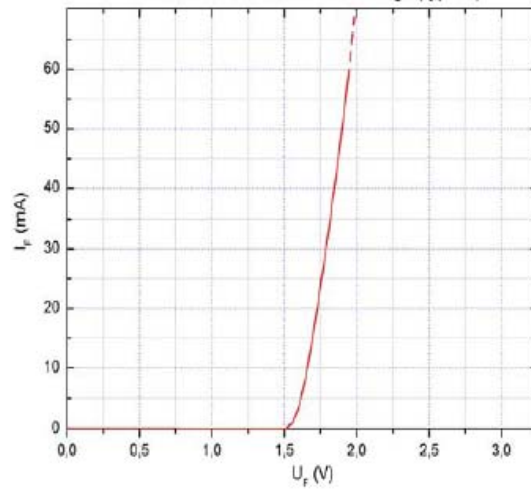
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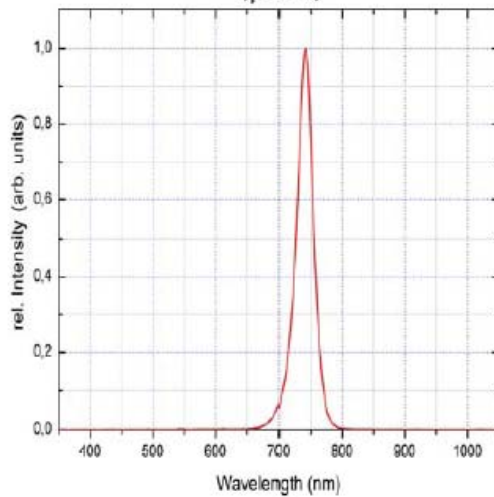
Radiant power vs. forward current (typical)
normalized to $\Phi_e @ I_f = 20 \text{ mA}$



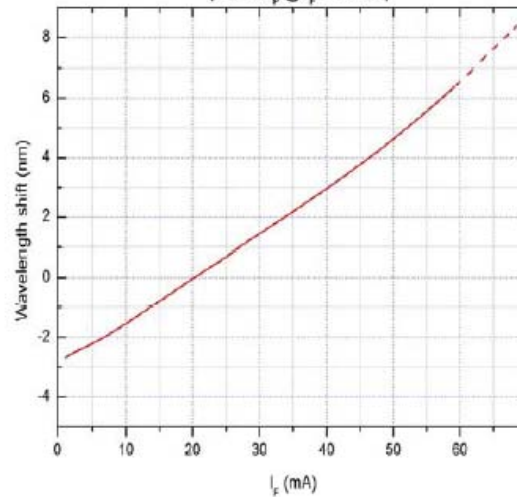
Forward current vs. forward voltage (typical)

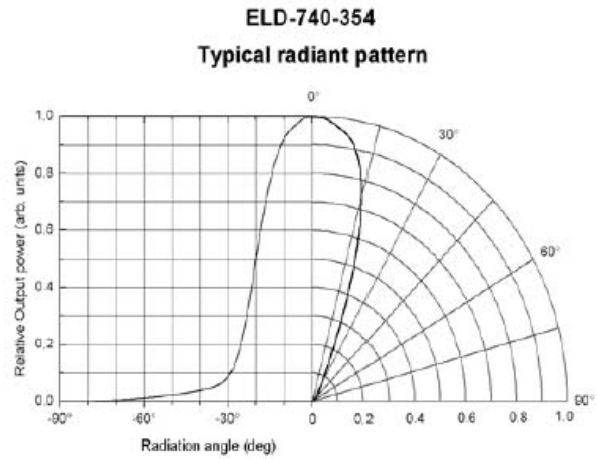
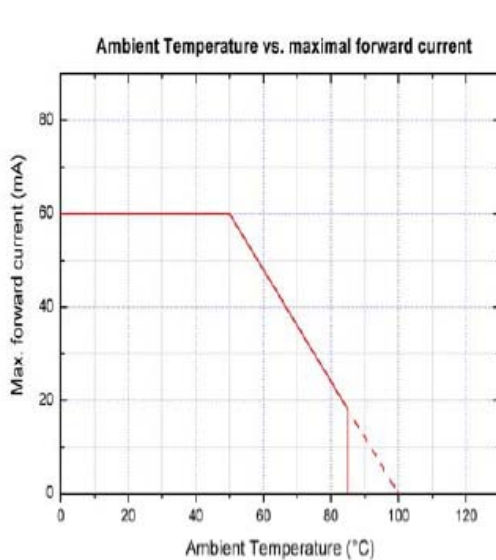


Typical spectral power distribution
($I_f = 20 \text{ mA}$)



Typical wavelength shift vs. forward current
(rel. to $\lambda_p @ I_f = 20 \text{ mA}$)





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.