

Radiation	Type	Technology	Case
Red	Point source (ball lens)	AlInGaP/GaAs	TO-18 + flat window

	Description Red, high speed point source LED, high reliability, small-size emitting aperture
	Applications Optical communications, safety equipment, automation, optical sensors, optical switches

Maximum Ratings

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

Parameter	Test conditions	Symbol	Value	Unit
Forward current (DC)		I_F	20	mA
Peak forward current	$(t_p \leq 50 \mu\text{s}, t_p/T = 1/2)$	I_{FM}	100	mA
Power dissipation		P_D	60	mW
Operating temperature range		T_{amb}	-30 to +100	$^{\circ}\text{C}$
Storage temperature range		T_{stg}	-40 to +125	$^{\circ}\text{C}$
Soldering temperature	$t \leq 5 \text{ s}, 3 \text{ mm from case}$	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	$I_F = 10 \text{ mA}$	V_F		2.3	2.9	V
Forward voltage	$I_F = 20 \text{ mA}$	V_F		2.5	3.0	V
Reverse voltage	$I_R = 10 \mu\text{A}$	V_R	5			V
Radiant power	$I_F = 10 \text{ mA}$	Φ_e	0.1	0.15		mW
Radiant power	$I_F = 20 \text{ mA}$	Φ_e		0.25		mW
Luminous intensity	$I_F = 20 \text{ mA}$	I_v	80	120		mcd
Peak wavelength	$I_F = 20 \text{ mA}$	λ_P	630	645	655	nm
Dominant wavelength	$I_F = 20 \text{ mA}$	λ_D		634		nm
Spectral bandwidth at 50%	$I_F = 20 \text{ mA}$	$\Delta\lambda_{0.5}$		20		nm
Viewing angle	$I_F = 20 \text{ mA}$	φ		14		deg.
Switching time	$I_F = 20 \text{ mA}$	t_r, t_f		10		ns

Note: All measurements carried out on *EPIGAP* equipment

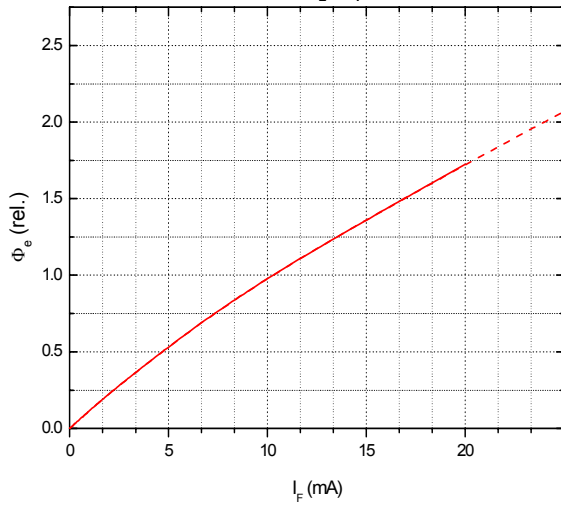
We reserve the right to make changes to improve technical design and may do so without further notice.

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

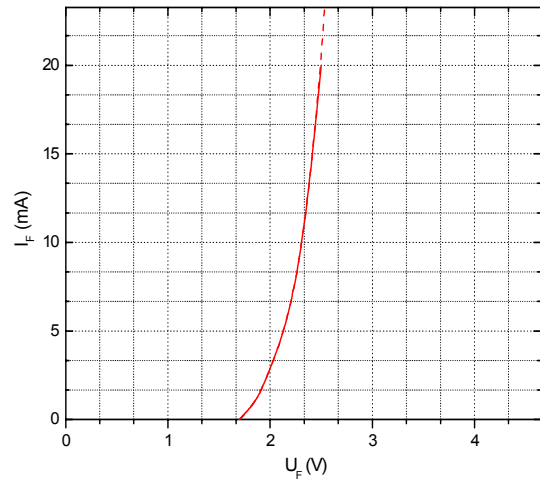
EPIGAP Optoelektronik GmbH, D-12555 Berlin, Köpenicker Str.325 b, Haus 201

Tel.: +49-30-6576 2543, Fax : +49-30-6576 2545

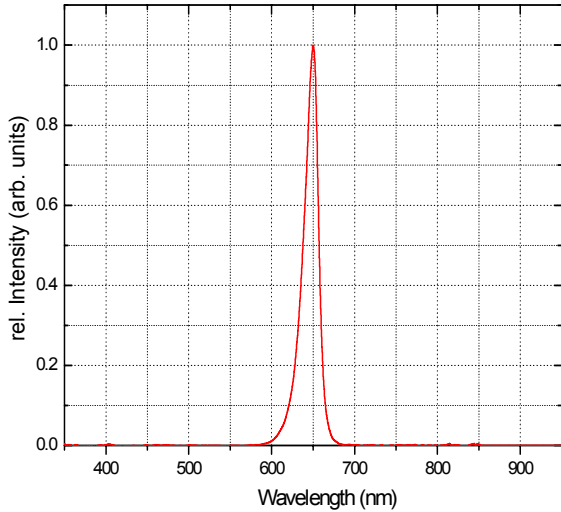
Radiant power vs. forward current (typical)
normalized to $\Phi_E @ I_F = 10 \text{ mA}$



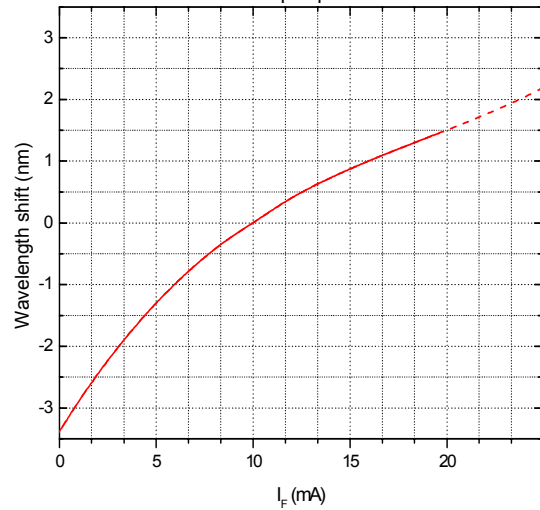
Forward current vs. forward voltage (typical)



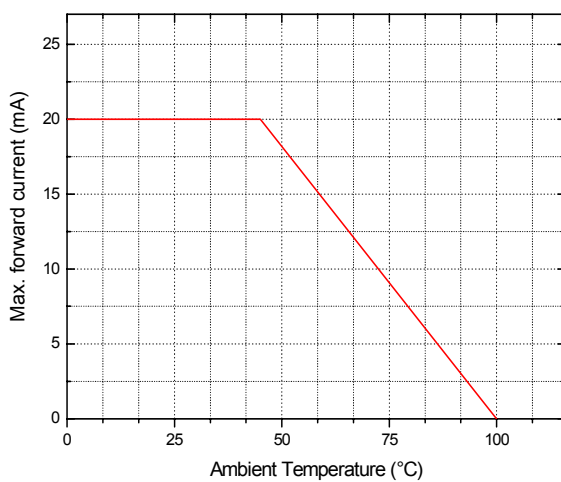
Typical spectral power distribution
($I_F = 10 \text{ mA}$)



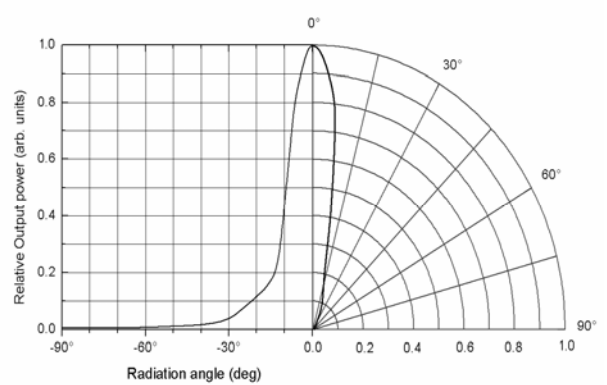
Typical wavelength shift vs. forward current
(rel. to $\lambda_p @ I_F = 10 \text{ mA}$)



Ambient Temperature vs. maximal forward current



Typical radiant pattern



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.