

# EPIGAP Optronik GmbH

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## Data Sheet

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### High Power IR LED

EOLS-1550-496

Rev. 02, 2020

Radiation	Type	Case
Infrared	InGaAs - based material	SMD 3838 (1515)

	<p><b>Description:</b></p> <ul style="list-style-type: none"> <li>- Size 3.8 (W) x 3.8 (L) x 1.0 (H) mm</li> <li>- Circuit substrate: AlN ceramics</li> <li>- Devices are RoHS and REACH conform</li> <li>- Lead free solderable, soldering pads: silver plated</li> <li>- Taped in 12 mm blister tape, cathode to transporting perforation</li> <li>- All devices can be sorted into radiant intensity classes</li> <li>- Taping: face up (T)</li> <li>- High radiation intensity, marking at cathode</li> </ul>
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### Maximum Ratings

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

Parameter	Test conditions	Symbol	Value	Unit
Forward current		$I_F$	700	mA
Peak forward current	$t \leq 50 \mu\text{s}, \tau = 1:2$	$I_{FM}$	1000	mA
Reverse voltage	$I_R = 100 \mu\text{A}$	$V_R$	5	V
Operating temperature range		$T_{amb}$	-40 to +85	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	-45 to +85	$^{\circ}\text{C}$
Thermal resistance		$R_{thJA}$	10	K/W



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.

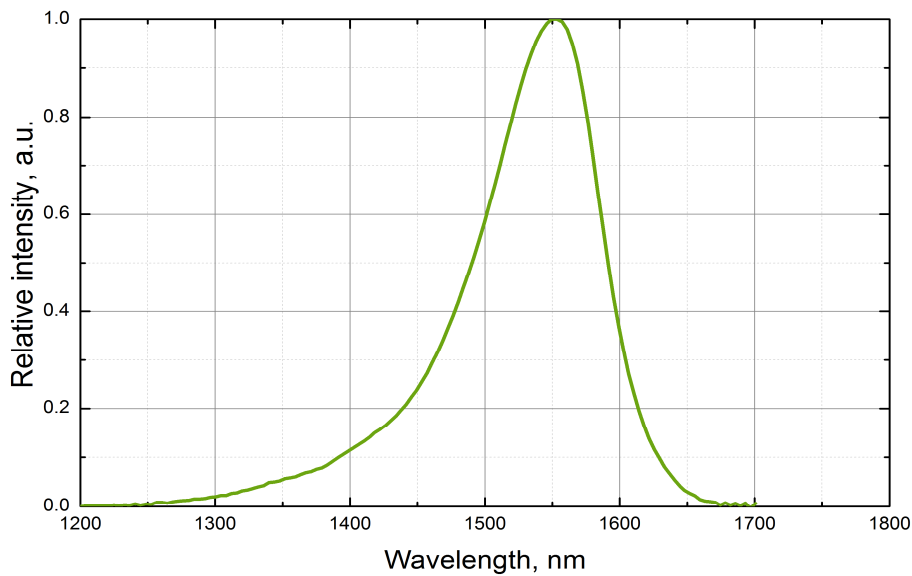
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Parameter	Test cond.	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=20\text{ mA}$	$V_F$		0.74		V
Radiant power*	$I_F=20\text{ mA}$	$\Phi_e$		3.7		mW
Peak wavelength	$I_F=20\text{ mA}$	$\lambda_p$	1500	1550	1600	nm
FWHM	$I_F=20\text{ mA}$	$\Delta\lambda_{0.5}$		87		nm
Forward voltage	$I_F=350\text{ mA}$	$V_F$		1	1.3	V
Radiant power*	$I_F=350\text{ mA}$	$\Phi_e$		32		mW
Peak wavelength	$I_F=350\text{ mA}$	$\lambda_p$	1500	1550		nm
FWHM	$I_F=350\text{ mA}$	$\Delta\lambda_{0.5}$		112		nm
Forward voltage	$I_F=1000\text{ mA}$	$V_F$		1.3	1.4	V
Radiant power*	$I_F=1000\text{ mA}$	$\Phi_e$		54		mW
Peak wavelength	$I_F=1000\text{ mA}$	$\lambda_p$	1500	1550		nm
FWHM	$I_F=1000\text{ mA}$	$\Delta\lambda_{0.5}$		134		nm
Viewing angle	$I_F=350\text{ mA}$	$\varphi$		120		deg.

\*Measured on silicon covered chip on star board



**Spectrum at 350 mA**



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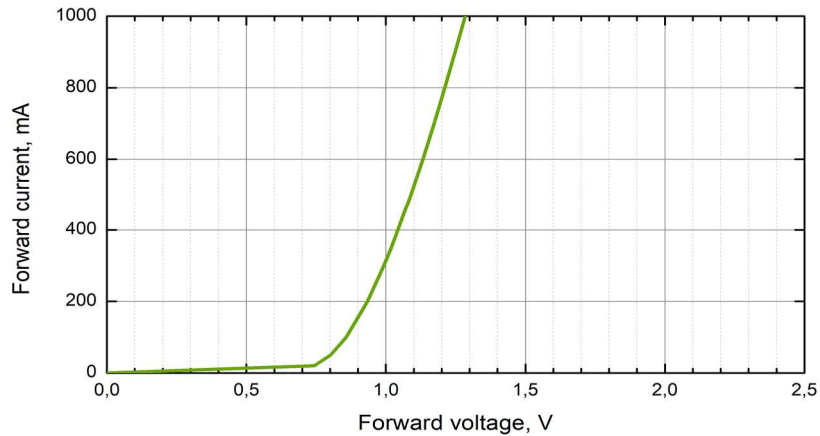


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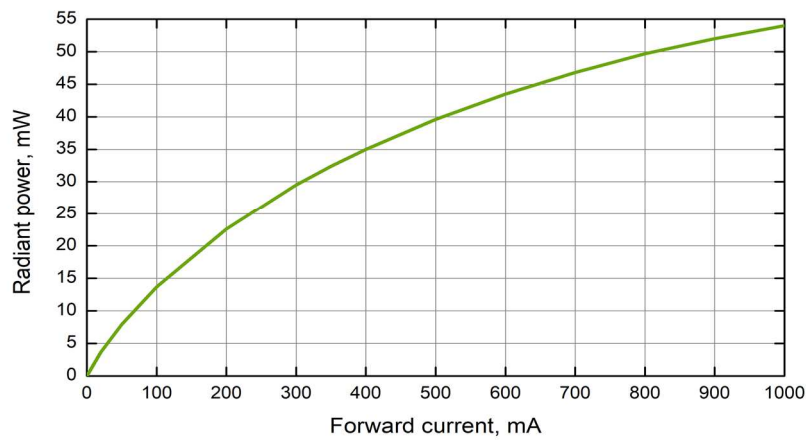
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Forward current vs. forward voltage



Radiant power vs. forward current (LED on star board)

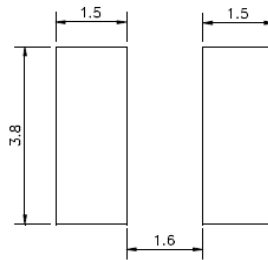


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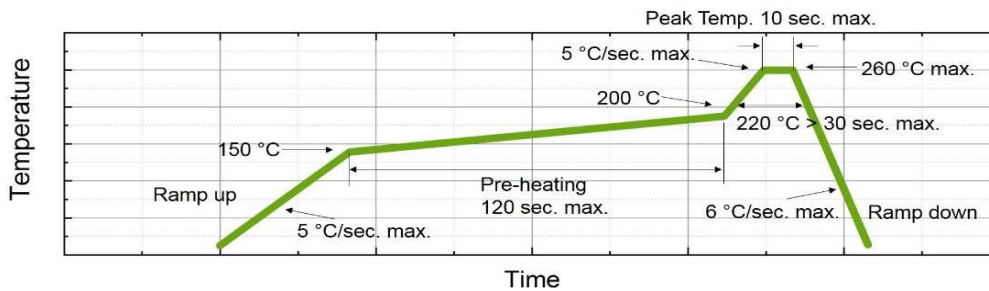
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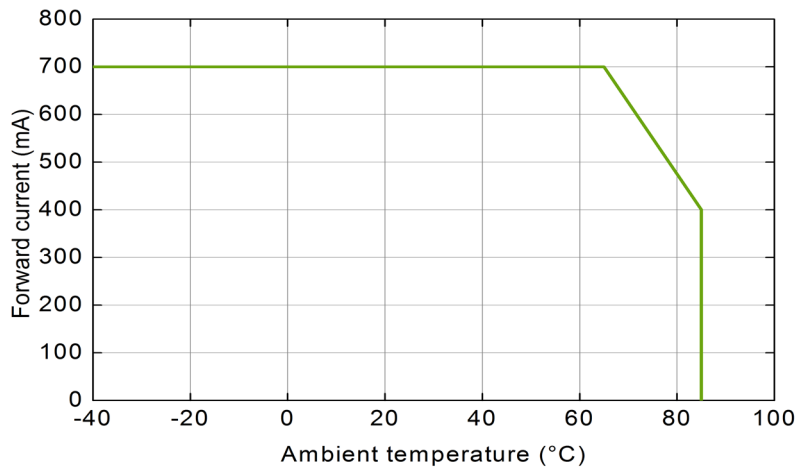
**EOLS-1550-496**



**Recommended soldering pattern**



**Recommended reflow soldering profile**



**Maximal forward current (DC) vs. ambient temperature**

All SMD LEDs are 100% measured according to CIE 127 and selected on full automated equipment with an accuracy of ±11%.

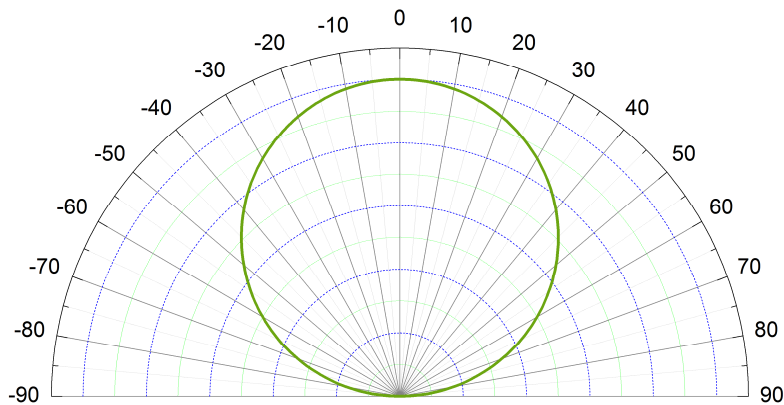


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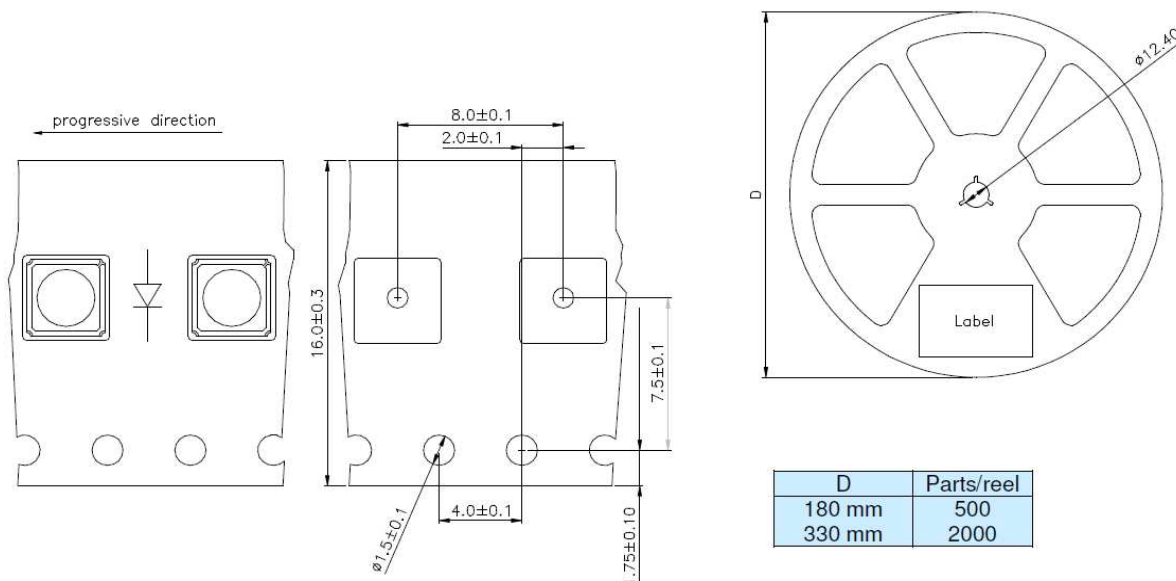
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**Radiation pattern**



D	Parts/reel
180 mm	500
330 mm	2000

**Tape and Reel packing**

**Packing: The reel is seaLED in special plastic bag with integrate ESD protection (MIL - STD 81705) including a silica dry-pack  
 MSL level acc. To IPC/JEDEC J-STD 020D: Level 2**

Art. No. 133 291



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