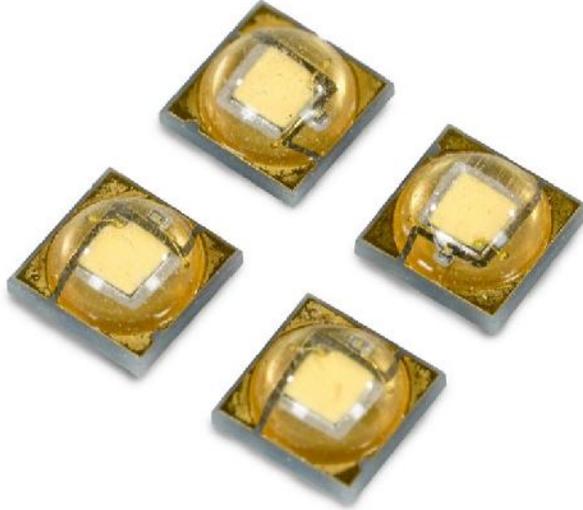


**APOLED™**



**Key Features**

- High light flux
- Excellent thermal properties
- High CRI, high R9 available also at high CCT
- Near-Lambertian emission
- Guaranteed minimum values
- Customized testing and binning
- Customized wavelengths available
- RoHS Compliant

**Applications**

- Surgical operating room lights
- Dental exam lights
- Medical diagnostic lighting
- High-end products with long product life cycle

**Overview**

At Excelitas, we are focused on helping our customers accelerate LED-based lighting designs which are innovative and energy-efficient. While all LED designs have energy-efficiency in common, we recognize that every solid state lighting application is different and each customer has unique requirements. Whether your goal is to reduce power consumption or heat output, meet tight binning requirements, achieve stable multi-year supply or high CRI, adhere to tough regulatory requirements— or all of the above—we specialize in customer specific designs to address your most demanding applications. Excelitas’ newest APOLED model consists of a single high-quality chip with excellent thermal properties and high flux. We offer guaranteed minimum specifications, tight binning requirements and customized testing for our production lots, including guaranteed minimum CRI values in Ra, R9 and R13. Our micro-sized APOLEDs are small enough to allow for superior color mixing and dense packing.

**Typical Specifications for White High Color Rendering**

<i>Parameter</i>	<i>Symbol</i>	<i>Unit</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>
Luminous Flux	$\Phi_v$	lm		90	
Correlated Color Temperature	CCT	K	3000		6500
Color Rendering Index	R <sub>a</sub>	-		95	
Color Rendering Index	R <sub>9</sub>	-		95	
Color Rendering Index	R <sub>13</sub>	-		98	
Forward Voltage	V <sub>F</sub>	V	2.8	2.9	3.2
Power Consumption	P <sub>tot</sub>	W	0.98	1.0	1.12
Thermal Resistance	R <sub>th</sub>	K/W		5	

## Maximum Ratings

Following are example maximum ratings of the LED.

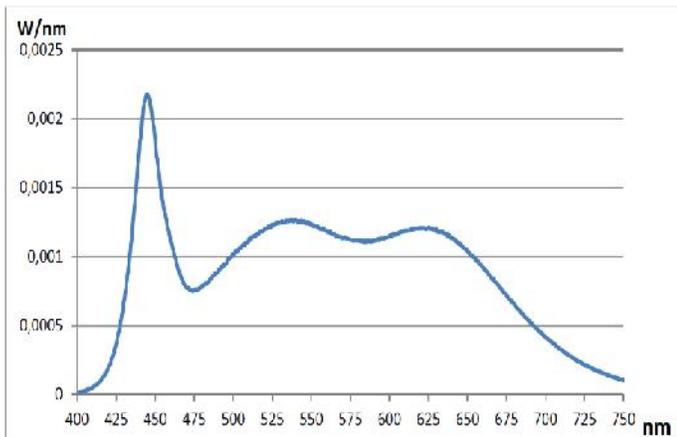
Parameter	Symbol	Unit	Value	Notes
Operating Temperature Range	$T_{op}$	°C	-20 to 60	1
Storage Temperature	$T_{st}$	°C	-40 to 80	
Junction Temperature	$T_J$	°C	150	
Minimum Forward Current	-	mA	100	
Forward Current	$I_F$	mA	1400	2
Surge Current	$I_{FM}$	mA	2000	3
Forward Voltage at 350 mA	$V_F$	V	3.2	
Power Consumption a 700 mA	$P_{tot}$	W	2.5	2
ESD Sensitivity (Human Body Mode)		kV	2.0	
Soldering Temperature	$T_{sold}$	°C	245	4

Notes:

- 1 Junction temperature must always be lower than 150 °C regardless of ambient temperature and drive current
- 2 At an ambient temperature of 25°C and with appropriate cooling – example for white LED, may differ for specific design
- 3  $t \leq 10\mu s$ , duty cycle  $\leq 0.005$  – example for white LED, may differ for specific design
- 4 This product is only suitable for reflow soldering

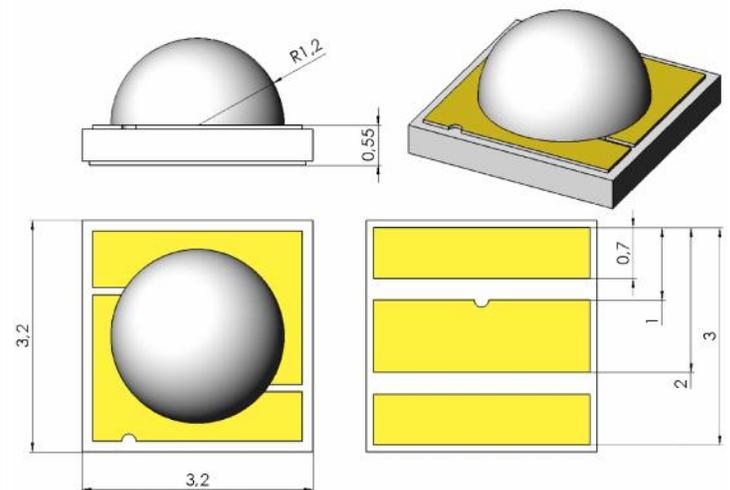
Reverse operation is not allowed.

## Example Spectrum for High CRI 5000K White LED



## Mechanical Dimensions

Tolerances on mechanical dimensions:  $\pm 0,1$  mm



**Note:** The data depicted herein is a general representation for all system types. Please contact Excelitas to discuss technical data specific to your system requirements.

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For a complete listing of our global offices, visit [www.excelitas.com/locations](http://www.excelitas.com/locations)

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