

E SunLED

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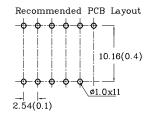
9.2mm (0.36") Three Digit Numeric Display

# **Features**

- Low power consumption
- Robust package
- I.C. Compatible
- Standard configuration: Gray face w/ white segments
- Optional black face provides superior color contrast
- RoHS Compliant

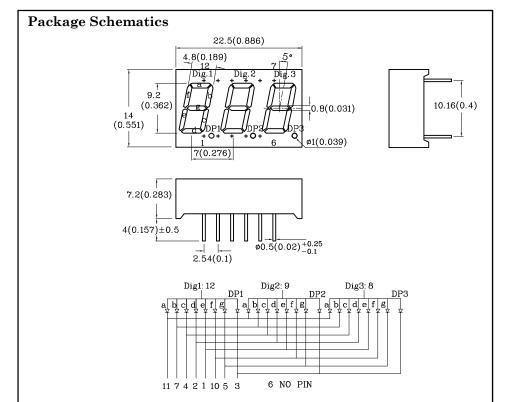








# ATTENTION OBSERVE PRECAUTIONS FOR HANDLING ELECTROSTATIC DISCHARGE SENSITIVE DEVICES



Notes:

1. All dimensions are in millimeters (inches), Tolerance is  $\pm 0.25 (0.01")$  unless otherwise noted. 2. Specifications are subject to change without notice.

Absolute Maximum Ratings $(T_A=25^{\circ}C)$		Red (AlGaInP)	Unit	
Reverse Voltage	$V_{\rm R}$	5	V	
Forward Current	$I_{\mathrm{F}}$	30	mA	
Forward Current (Peak) 1/10 Duty Cycle 0.1ms Pulse Width	ifs	185	mA	
Power Dissipation	$P_{D}$	75	mW	
Operating Temperature	$T_{A}$	-40 ~ +85	00	
Storage Temperature	Tstg	-40 ~ +85	°C	
Lead Solder Temperature [2mm Below Package Base]	260°C For 3-5 Seconds			

A Relative Humidity between 40% and 60% is recommended in ESD-protected work areas to reduce static build up during assembly process (Reference JEDEC/JESD625-A and JEDEC/J-STD-033)

Operating Characteristics (T <sub>A</sub> =25°C)		Red (AlGaInP)	Unit
Forward Voltage (Typ.) (I <sub>F</sub> =10mA)	$V_{\mathrm{F}}$	1.85	V
Forward Voltage (Max.) (I <sub>F</sub> =10mA)	$V_{\mathrm{F}}$	2.35	V
Reverse Current (Max.) (V <sub>R</sub> =5V)	$I_R$	10	μА
Wavelength of Peak Emission CIE127-2007* (Typ.) (I <sub>F</sub> =10mA)	λΡ	645*	nm
Wavelength of Dominant Emission CIE127-2007* (Typ.) (I <sub>F</sub> =10mA)	λD	630*	nm
Spectral Line Full Width At Half-Maximum (Typ.) (I <sub>F</sub> =10mA)	Δλ	28	nm
Capacitance (Typ.) (V <sub>F</sub> =0V, f=1MHz)	С	35	pF

Part Number	Emitting Color	Emitting Material	Luminous Intensity CIE127-2007* $(I_F=10 \text{mA})$ ucd		Wavelength CIE127-2007* nm λP	Description
			min.	typ.		
XDMDK09A3	Red	AlGaInP	21000 9000*	61990 17990*	645*	Common Anode, Rt. Hand Decimal.

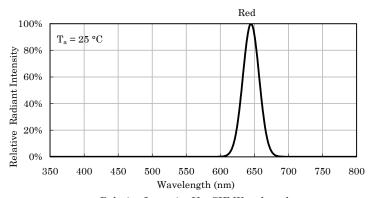
<sup>\*</sup>Luminous intensity value and wavelength are in accordance with CIE127-2007 standards. Apr 02,2022

XDSB1970 V4-X Layout: Maggie L.

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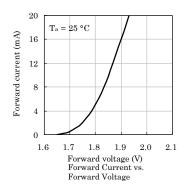


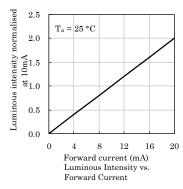


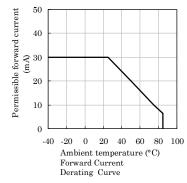


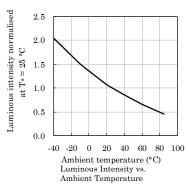
Relative Intensity Vs. CIE Wavelength

# ❖ Red

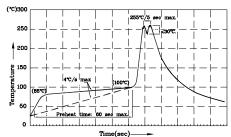








Wave Soldering Profile for Thru-Hole Products (Pb-Free Components)



- Notes:

  1. Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 265°C

  2. Peak wave soldering temperature between 245°C ~ 255°C for 3 sec (5 sec
- 2.Peak wave soldering temperature between 245°C ~ 255°C for 3 sec (5 sec max).
  3.Do not apply stress to the epoxy resin while the temperature is above 85°C.
  4.Fixtures should not incur stress on the component when mounting and during soldering process.
  5.SAC 305 solder alloy is recommended.
  6.No more than one wave soldering pass.
  7.During wave soldering, the PCB top-surface temperature should be kept below 105°C.

# Remarks:

If special sorting is required (e.g. binning based on forward voltage, luminous intensity / luminous flux, or wavelength),

the typical accuracy of the sorting process is as follows:

- 1. Wavelength: +/-1nm
- 2. Luminous Intensity / Luminous Flux: +/-15%
- 3. Forward Voltage: +/-0.1V

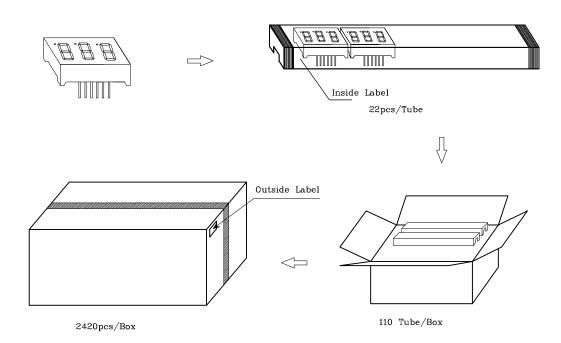
Note: Accuracy may depend on the sorting parameters.

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# PACKING & LABEL SPECIFICATIONS





# TERMS OF USE

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- 6. When any special process such as potting is required for LED assembly, please consult with SunLED representative before proceeding.
- 7. Additional technical notes are available at <a href="https://www.SunLEDusa.com/TechnicalNotes.asp">https://www.SunLEDusa.com/TechnicalNotes.asp</a>

Apr 02,2022

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