



EVERLIGHT ELECTRONICS CO.,LTD.

Device Number : DDS-431-022 REV: 1.0

0.39" Single Digit Displays

MODEL NO : ELS-431SURWA/S530-A2 ECN : _____ Page: 1/5

■ Features :

- Industrial standard size.
- Low power consumption.
- Categorized for luminous intensity.

■ Applications:

- Audio equipment
- Instrument panels
- Digital read out display

■ Description :

- The ELS-431 series is a large 10.0mm (0.39")high seven segment display design for viewing distances up to 7 meters.
- These displays provide excellent readability in bright ambient light .
- These device is made with white segments and gray surface.

PART NO	CHIP		C.C. or C.A.
	Material	Emitted Color	
ELS-431SURWA/S530-A2	AlGaInP	Hyper Red	C.C.

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<http://www.everlight.com>

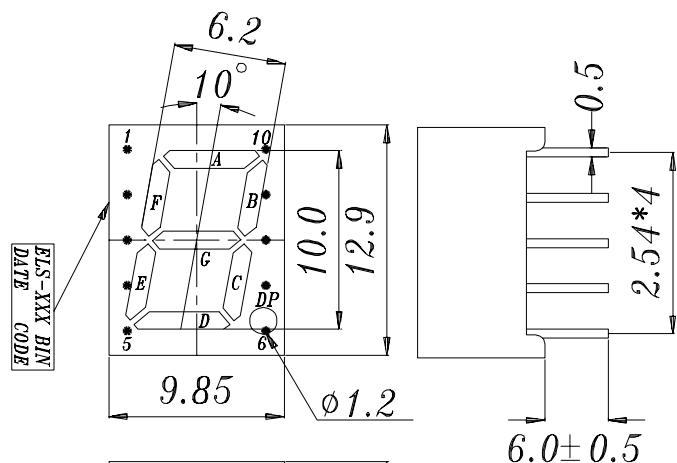


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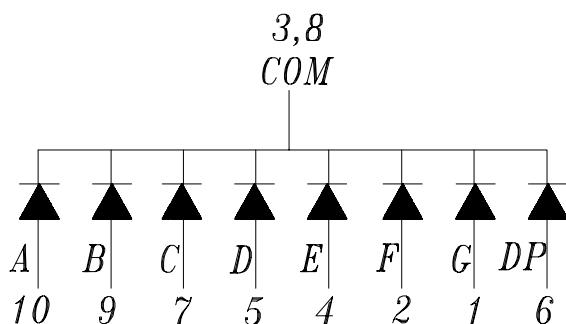
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■ Package Dimension:



COMMON CATHODE
1 ANODE G
2 ANODE F
3 COMMON CATHODE
4 ANODE E
5 ANODE D
6 ANODE DP
7 ANODE C
8 COMMON CATHODE
9 ANODE B
10 ANODE A



■ NOTES:

1. All dimensions are millimeters , tolerance is 0.25mm unless otherwise noted.

2. Above specification may be changed without notice.

Supplier will reserve authority on material change for above specification.



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■ Absolute maximum ratings at Ta = 25°C :

Parameter	Symbol	Rating	Unit
Reverse Voltage	Vr	5	V
Forward Current	If	25	mA
Operating Temperature	Topr	-40 to +85	°C
Storage Temperature	Tstg	-40 to +100	°C
Soldering Temperature	Tsol	260 ± 5	°C
Electrostatic Discharge	ESD	2000	V
Power Dissipation	Pd	60	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	If(Peak)	160	mA

■ Electronic optical characteristics :

Parameter	Symbol	MIN.	TYP.	MAX.	Unit	Condition	
Luminous Intensity	Per segment	Iv	1.05	2.9	----	mcd If=2mA	
			7.80	19.4	----	mcd If=10mA	
	Per decimal point		0.45	1.05	----	mcd If=2mA	
			2.80	5.60	----	mcd If=10mA	
Peak Wavelength	λ p	----	632	----	nm	If=20mA	
Dominant Wavelength	λ d	----	624	----	nm	If=20mA	
Spectrum Rediation Bandwidth	△ λ	----	20	----	nm	If=20mA	
Forward Voltage	Vf	----	2.0	2.4	V	If=20mA	
Reverse Current	Ir	----	----	10	V	Vr=5V	



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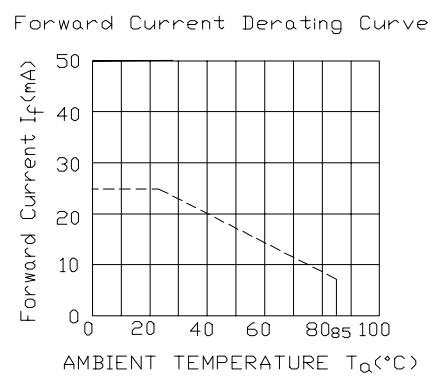
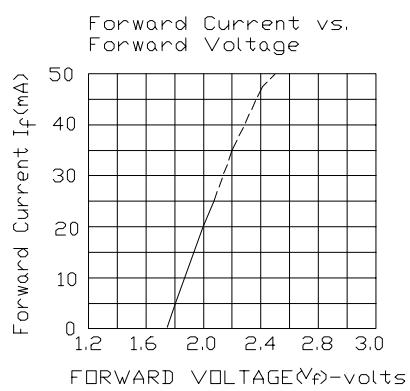
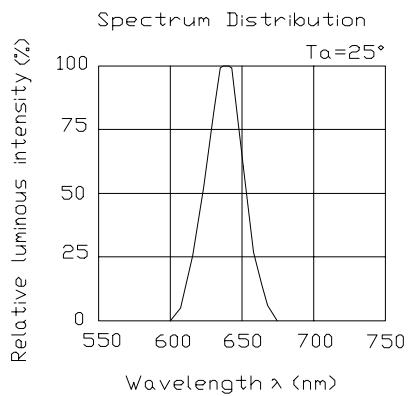
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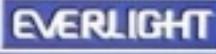
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■ Typical Electro-Optical Characteristic Curves:

(SUR)





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■ Reliability test item and condition:					
NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
1	Solder Heat	TEMP : $260^{\circ}\text{C} \pm 5^{\circ}\text{C}$	5 SEC	76 PCS	0/1
2	Temperature Cycle	H : $+85^{\circ}\text{C}$ 30min ↓ 5 min L : -55°C 30min	50 CYCLE	76 PCS	0/1
3	Thermal Shock	H : $+100^{\circ}\text{C}$ 5min ↓ 10 sec L : -10°C 5min	50 CYCLE	76 PCS	0/1
4	High Temperature Storage	TEMP : 100°C	1000 HRS	76 PCS	0/1
5	Low Temperature Storage	TEMP : -55°C	1000 HRS	76 PCS	0/1
6	DC Operating Life	If = 10 mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C/85% RH	1000 HRS	76 PCS	0/1