



EVERLIGHT ELECTRONICS CO.,LTD.

DATA SHEET

PART NO. : ELS-2326SURWA/S530-A3

DATE : 2004/6/16

DEPARTMENT : CHR1

REVISION : 3

RECEIVED			
<input checked="" type="checkbox"/> MASS PRODUCTION			
<input type="checkbox"/> PRELIMINARY			
<input type="checkbox"/> CUSTOMER DESIGN			
DEVICE NUMBER : CDDS-232-013			
PAGE : 6			
CUSTOMER	DESIGNER	CHECKER	APPROVER

3		2005/8/7
REV.	DESCRIPTION	RELEASE DATE

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Technical Data Sheet
2.24" Single Digit Displays

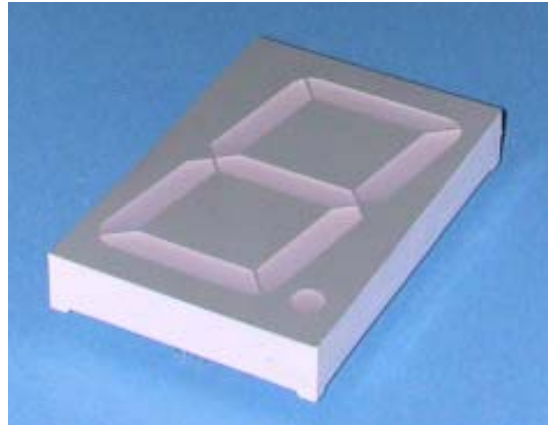
ELS-2326SURWA/S530-A3

■ Features :

- Industrial standard size.
- Low power consumption.
- Categorized for luminous intensity.
- Pb free
- The product itself will remain within RoHS compliant version

■ Descriptions :

- The ELS-2326 series is a large 57.0 mm (2.24")high seven segment display designed for viewing distances up to 7 meters.
- These displays provide excellent reliability in bright ambient light.
- These devices are made with white segments and gray surface.



■ Applications :

- Audio equipment
- Instrument panels
- Digital read out display

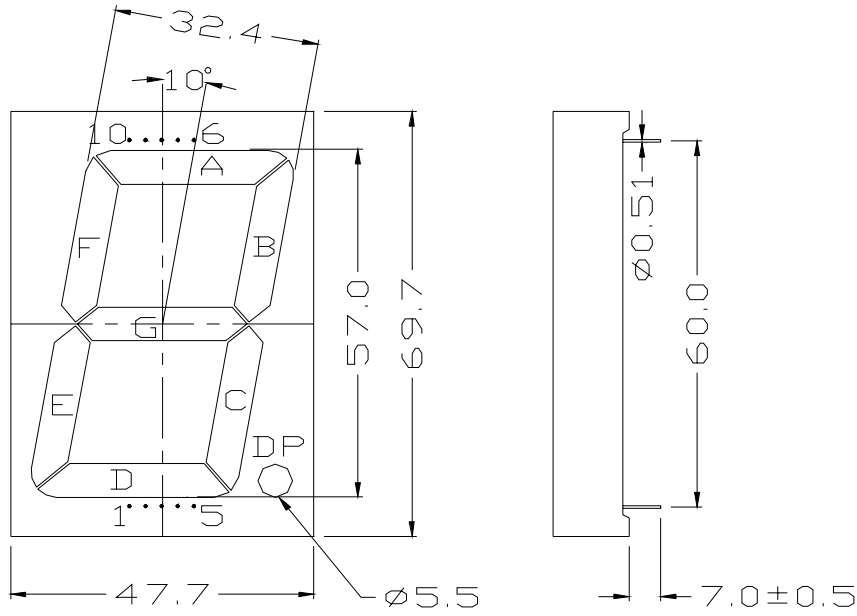
PART NO.	Chip	
	Material	Emitted Color
ELS-2326SURWA/S530-A3	AlGaInP	Hyper Red



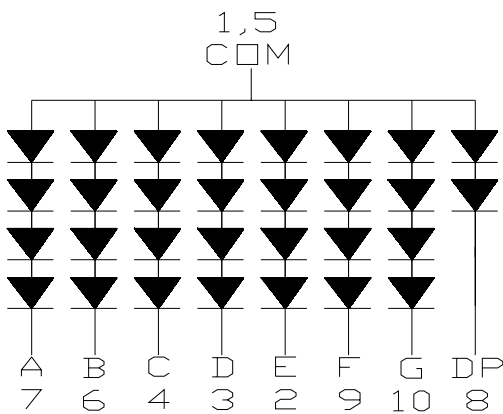
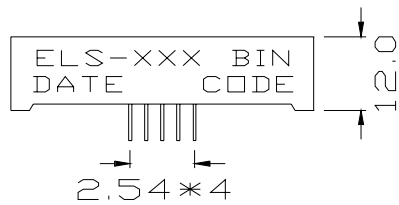
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Package Dimensions



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



- Notes:**
- 1.All dimensions are in 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 $T_a = 25^\circ\text{C}$:

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	5	V
Forward Current	I_F	25	mA
Operating Temperature	T_{opr}	-40 to +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +100	$^\circ\text{C}$
Soldering Temperature *	T_{sol}	260 ± 5	$^\circ\text{C}$
Electrostatic Discharge	ESD	2000	V
Power Dissipation	P_d	240	mW

Note: *Soldering time ≤ 5 seconds.

■ Electronic optical characteristics :

Parameter		Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Per segment	I_v	----	6.4	----	mcd	$I_F=2\text{mA}$
			15.0	34.0	----	mcd	$I_F=10\text{mA}$
	Per decimal point		----	3.2	----	mcd	$I_F=2\text{mA}$
			6.0	9.0	----	mcd	$I_F=10\text{mA}$
Peak Wavelength		λ_p	----	632	----	nm	$I_F=20\text{mA}$
Dominant Wavelength		λ_d	----	624	----	nm	$I_F=20\text{mA}$
Spectrum Radiation Bandwidth		$\Delta\lambda$	----	20	----	nm	$I_F=20\text{mA}$
Forward Voltage	Per segment	V_F	----	8.0	9.6	V	$I_F=20\text{mA}$
	Per decimal point		----	4.0	4.8	V	$I_F=20\text{mA}$
Reverse Current		I_R	----	----	100	μA	$V_R=5\text{V}$

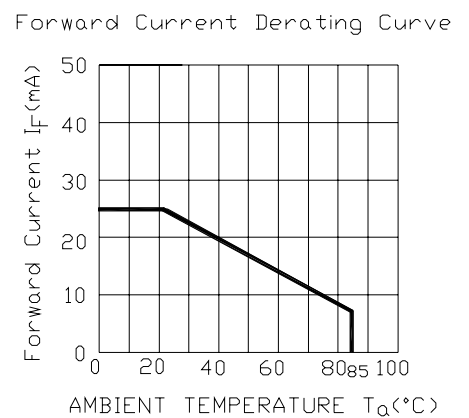
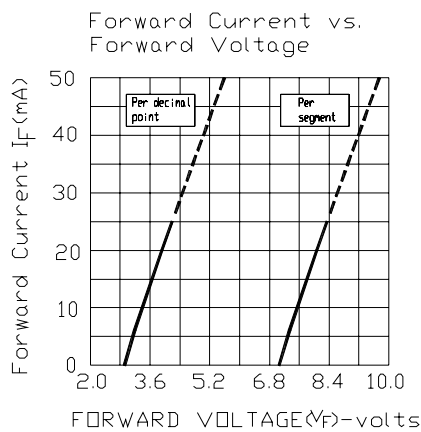
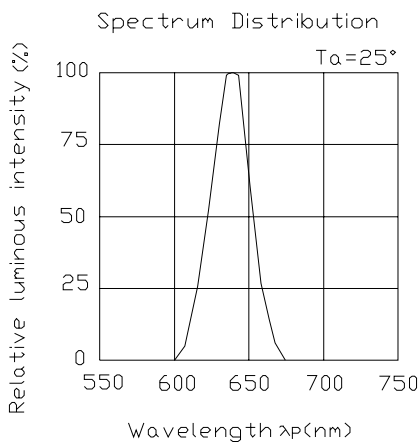


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■ Typical Electro-Optical Characteristic Curves:

(SUR)





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Reliability test items and conditions:

The reliability of products shall be satisfied with items listed below.

Confidence level : 97%

LTPD : 3%

NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Failure Judgment Criteria	Ac/Re
1	Solder Heat	TEMP : 260°C ± 5 °C	5 SEC	76 PCS	$I_v \leq I_{vt} * 0.5$ or $V_f \geq U$ or $V_f \leq L$	0/1
2	Temperature Cycle	H : +85°C 30min \int 5 min L : -55°C 30min	50 CYCLE	76 PCS		0/1
3	Thermal Shock	H : +100°C 5min \int 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

Note : I_{vt} : The test I_v value of the chip before the reliability test

I_v : The test value of the chip that has completed the reliability test

U : Upper Specification Limit

L : Lower Specification Limit



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■ Packing Quantity Specification

1.10PCS/tube, 10 tubes/box

2.4Boxes/Carton

Label Form Specification

EVERLIGHT

CPN:
P/N:

RoHS



S2326SURWA/S530-A3

QTY:



LOT NO:

MADE IN CHINA

CAT:

HUE:

REF:

CPN: Customer's Production Number

P/N : Production Number

QTY: Packing Quantity

CAT: Ranks

HUE: Dominant Wavelength

REF: Reference

LOT No: Lot Number

MADE IN CHINA: Production Place

Notes :

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
3. These specification sheets include materials protected under copyright of EVERLIGHT corporation. Please don't reproduce or cause anyone to reproduce them without EVERLIGHT's consent.

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