



EVERLIGHT ELECTRONICS CO.,LTD.

# DATA SHEET

PART NO. : ELF-512SURWA/S530-A3

DATE : 2005/8/11

DEPARTMENT : CHR1

REVISION : 1

<b>RECEIVED</b>			
<input checked="" type="checkbox"/> <b>MASS PRODUCTION</b>			
<input type="checkbox"/> <b>PRELIMINARY</b>			
<input type="checkbox"/> <b>CUSTOMER DESIGN</b>			
<b>DEVICE NUMBER : CDDF-512-034</b>			
<b>PAGE : 6</b>			
<b>CUSTOMER</b>	<b>DESIGNER</b>	<b>CHECKER</b>	<b>APPROVER</b>

<b>REV.</b>	<b>DESCRIPTION</b>	<b>RELEASE DATE</b>

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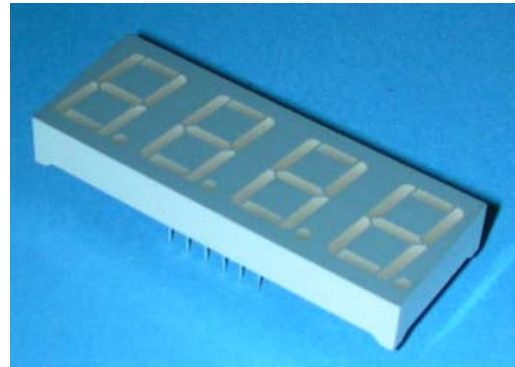


Technical Data Sheet  
0.56" Quadruple Digit Displays

ELF-512SURWA/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 ELF-512 series is a large 14.22 mm (0.56")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

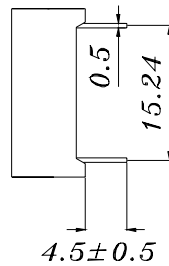
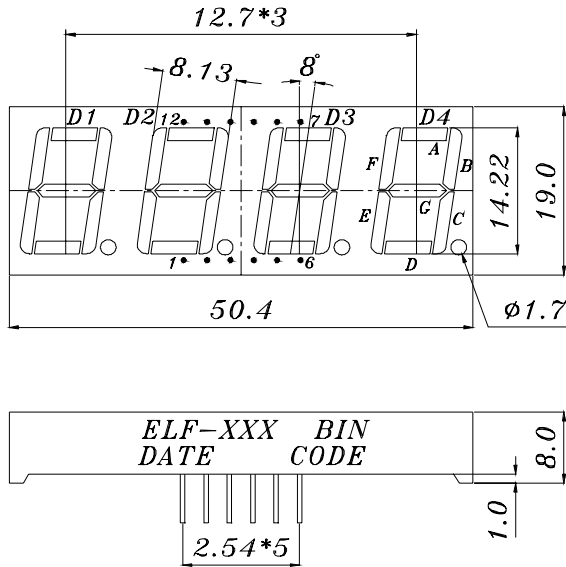
PART NO.	Chip	
	Material	Emitted Color
ELF-512SURWA/S530-A3	AlGaInP	Hyper Red



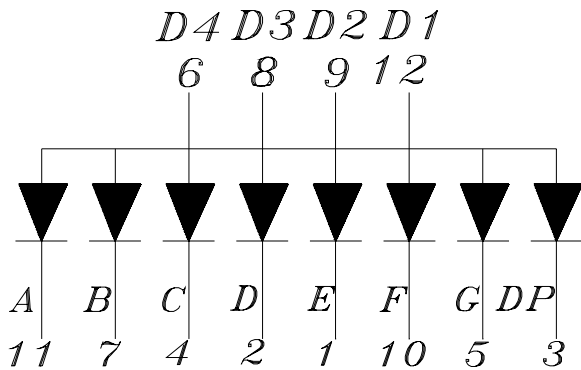
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0.56" Quadruple Digit Displays

ELF-512SURWA/S530-A3

Package Dimensions



- COMMON ANODE*
1. CATHODE E
  2. CATHODE D
  3. CATHODE DP
  4. CATHODE C
  5. CATHODE G
  6. COMMON ANODE D4
  7. CATHODE B
  8. COMMON ANODE D3
  9. COMMON ANODE D2
  10. CATHODE F
  11. CATHODE A
  12. COMMON ANODE D1



- 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.



# Technical Data Sheet

## 0.56" Quadruple Digit Displays

ELF-512SURWA/S530-A3

■ 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

Note: \*Soldering time ≤ 5 seconds.

■ Electronic optical characteristics :

Parameter		Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Per segment	Iv	----	3.0	----	mcd	IF=2mA
			7.8	15.0	----	mcd	IF=10mA
	Per decimal point		----	0.7	----	mcd	IF=2mA
			2.5	3.5	----	mcd	IF=10mA
Peak Wavelength		λ p	----	632	----	nm	IF=20mA
Dominant Wavelength		λ d	----	624	----	nm	IF=20mA
Spectrum Radiation Bandwidth		△ λ	----	20	----	nm	IF=20mA
Forward Voltage		VF	----	2.0	2.4	V	IF=20mA
Reverse Current		IR	----	----	100	μ A	VR=5V

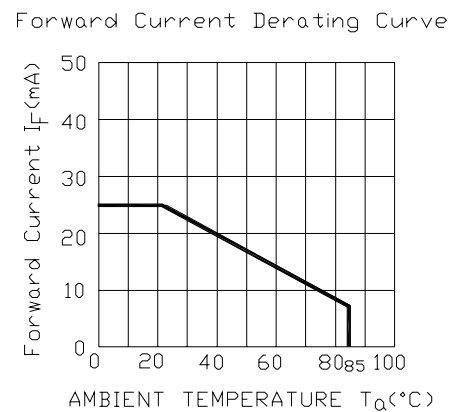
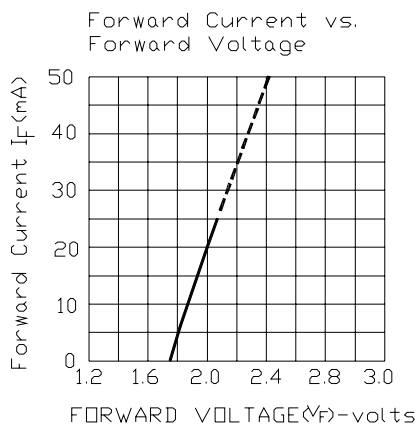
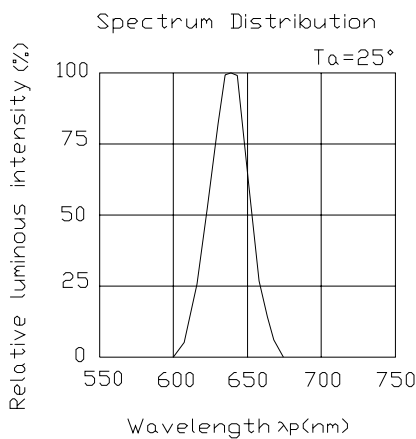


Technical Data Sheet  
0.56" Quadruple Digit Displays

ELF-512SURWA/S530-A3

■ Typical Electro-Optical Characteristic Curves:

(SUR)





# Technical Data Sheet

## 0.56" Quadruple Digit Displays

ELF-512SURWA/S530-A3**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 § 5 min L : -55°C 30min	50 CYCLE	76 PCS		0/1
3	Thermal Shock	H : +100°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

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

