



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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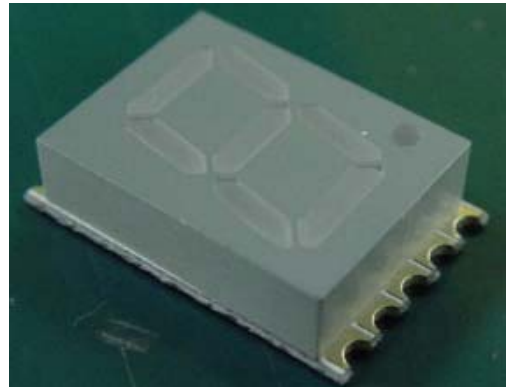
## Technical Data Sheet

### 0.39" Single Digit SMD Displays

#### ELSS-406SURWA/S530-A2/S290

#### Features

- Packaged in tape and reel for SMT manufacturing.
- Design flexibility (common cathode or anode).
- Categorized for luminous intensity.
- The thickness is thinner than traditional display.



#### Descriptions

- The SMD type is much smaller than traditional type components, thus enabling smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.

#### Applications

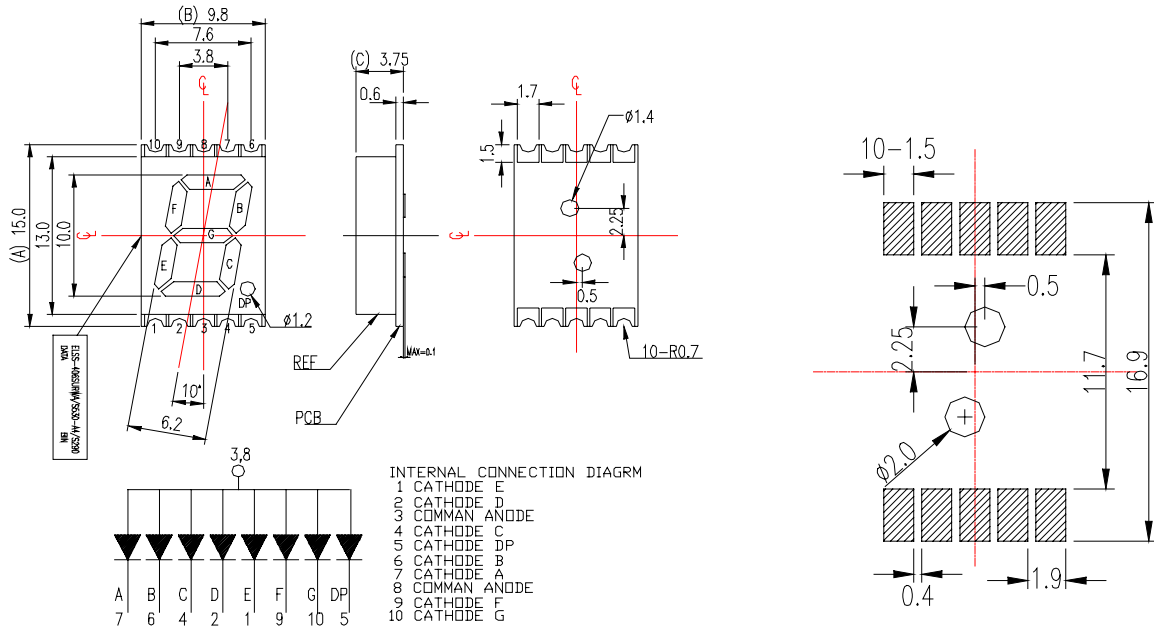
- Suitable for indoor use.
- Audio system.
- Set top box.
- Game machine.
- Channel indicator of TV.

#### Device Selection Guide

Chip		Face Color
Material	Emitted Color	
AlGaInP	Hyper Red	Gray

**Package Dimensions**

**Land Pattern(Recommend)**



**Notes:**

- All dimensions are in millimeters, tolerance is 0.25mm unless otherwise noted.
- Above specification may be changed without notice. Supplier will reserve authority on material change for above specification.

**Absolute Maximum Ratings (Ta=25°C)**

Parameter	Symbol	Rating	Units
Forward Current	I <sub>F</sub>	25	mA
Pulse Forward Current <sup>*1</sup>	I <sub>FP</sub>	160	mA
Operating Temperature	T <sub>opr</sub>	-40 ~ +105	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +105	°C
Soldering Temperature <sup>*2</sup>	T <sub>sol</sub>	260	°C
Power Dissipation	P <sub>d</sub>	60	mW
Reverse Voltage	V <sub>R</sub>	5	V

**Notes:** \*1:I<sub>FP</sub> Conditions--Pulse Width ≤ 10msec and Duty ≤ 1/10.

\*2:Soldering time ≤ 5 seconds.

**Electro-Optical Characteristics (Ta=25°C)**

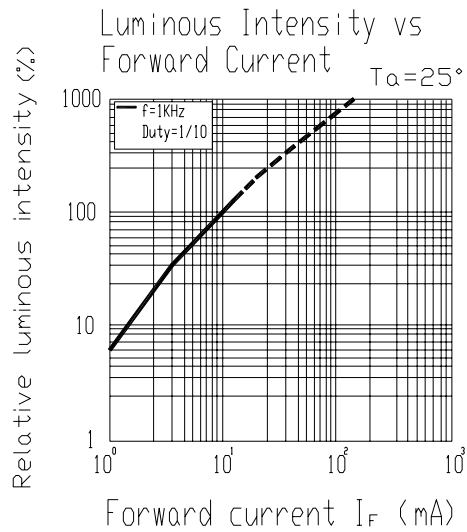
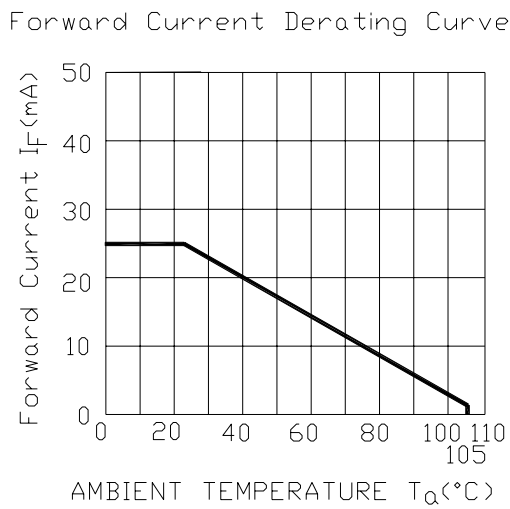
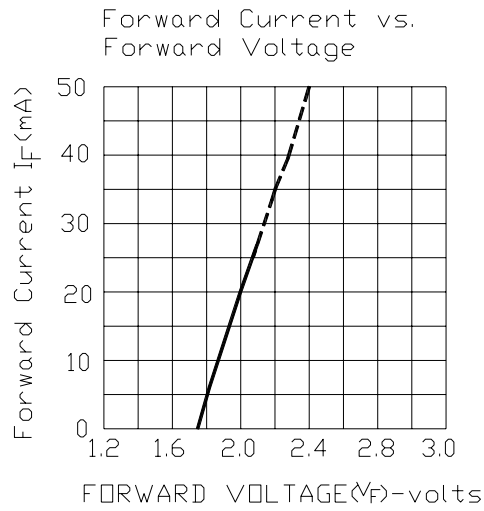
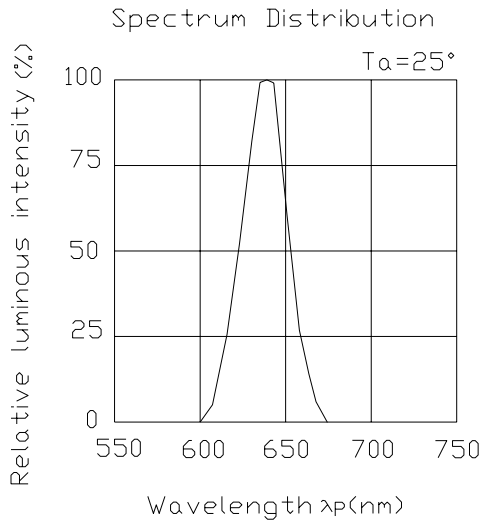
Parameter		Symbol	Condition	Min.	Typ.	Max.	Units
Forward Voltage		$V_F$	$I_F=20mA$	--	2.0	2.4	V
Reverse Current		$I_R$	$V_R=5V$	--	--	10	$\mu A$
Luminous Intensity	Per segment	$I_V$	$I_F=2mA$	----	1.14	--	mcd
			$I_F=10mA$	2.8	7.22		
	Per decimal point		$I_F=2mA$	----	0.34	--	
			$I_F=10mA$	-----	2.17		
Peak Wavelength		$\lambda_p$	$I_F=20mA$	--	632	--	nm
Dominant Wavelength		$\lambda_d$	$I_F=20mA$	--	624	--	nm
Spectrum Radiation Bandwidth		$\Delta \lambda$	$I_F=20mA$	--	20	--	nm

**Chromaticity Coordinates Specifications for Bin Grading (Unit: mcd)**

Rank	Min.	Max.	Rank	Min.	Max.
M	2.8	4.5	Q	7.8	12.5
N	4.0	6.4	R	11.0	17.6
P	5.6	8.9	--	--	--

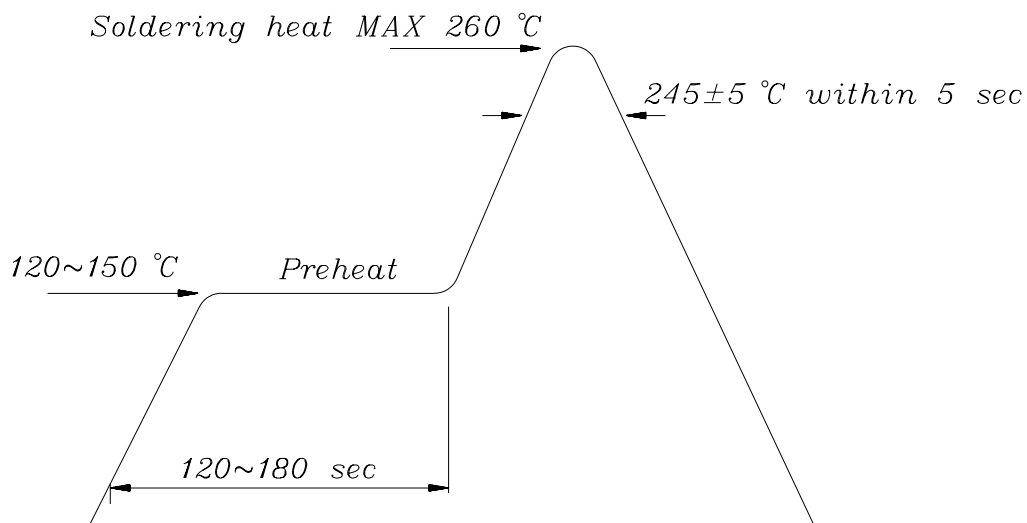


**Typical Electro-Optical Characteristics Curves**



**■ Soldering heat reliability ( DIP ) :**

Please refer to the following figure :

**■ Soldering Iron :**

Basic spec is  $\leq 5$  sec when 260°C. If temperature is higher, time should be shorter (+10°C → -1sec). Power dissipation of iron should be smaller than 15 W , and temperature should be controllable. Surface temperature of the device should be under 230 °C .

**■ Rework :**

1. Customer must finish rework within 5 sec under 260°C .
2. The head of iron can not touch copper foil.

■ **Reflow Temp. / Time :**

Reflow Temp./Time:

