

Technical Data Sheet

0.51" Single Digit SMD Displays

ELSS-506SURWA/S530-A4/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

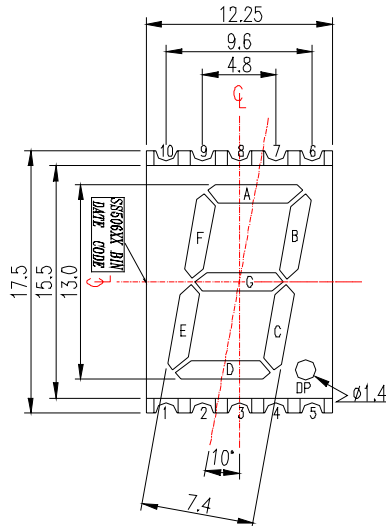
- Suitable for indoor use.
- Audio system.
- Set top box.
- Game machine.
- Channel indicator of TV.

Device Selection Guide

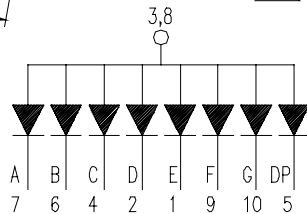
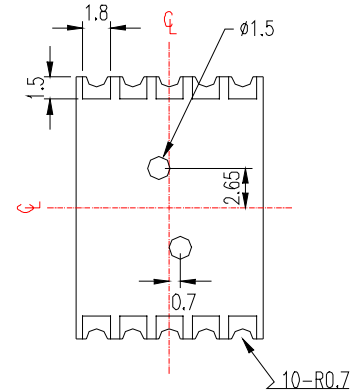
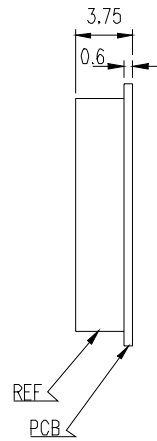
Chip		Face Color
Material	Emitted Color	
AlGaInP	Hyper Red	Gray

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Package Dimensions



Land Pattern(Recommend)



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

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_F	25	mA
Pulse Forward Current ^{*1}	I_{FP}	160	mA
Operating Temperature	T_{opr}	-40 ~ +105	°C
Storage Temperature	T_{stg}	-40 ~ +105	°C
Soldering Temperature ^{*2}	T_{sol}	260	°C
Power Dissipation	P_d	60	mW
Reverse Voltage	V_R	5	V

Notes: *1: I_{FP} Conditions--Pulse Width ≤ 10 msec and Duty $\leq 1/10$.

*2:Soldering time ≤ 5 seconds.

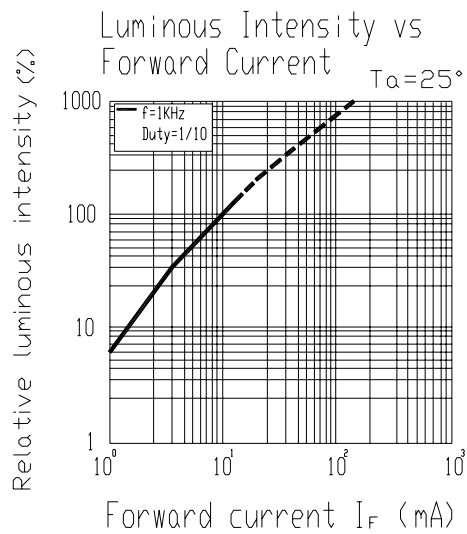
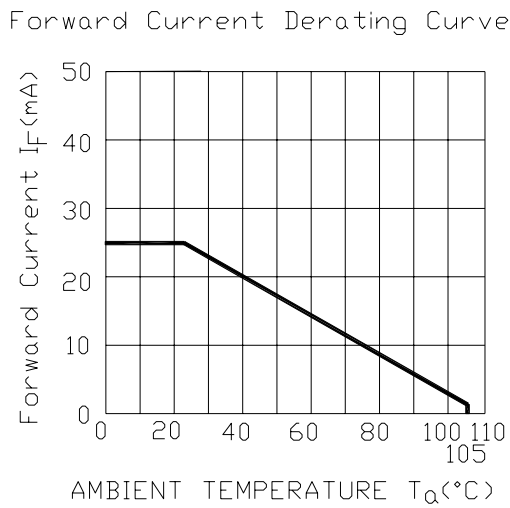
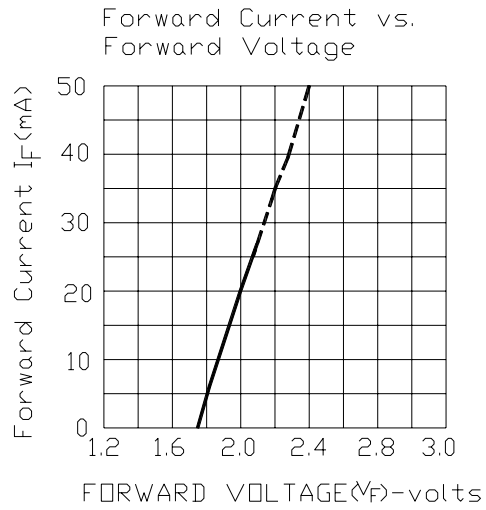
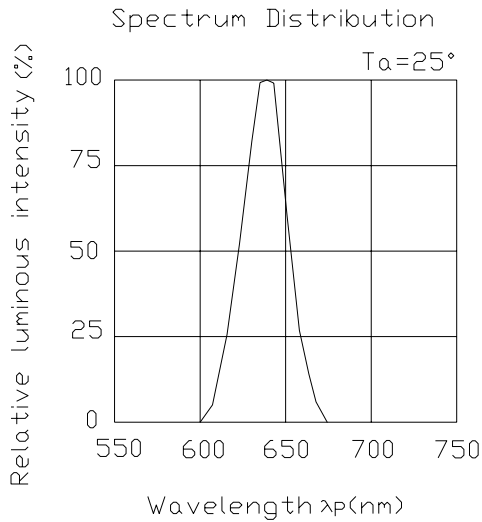
Electro-Optical Characteristics (Ta=25°C)

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	μA
Luminous Intensity	Per segment	I_V	$I_F=2mA$	----	1.5	--	mcd
			$I_F=10mA$	7.8	15.0		
	Per decimal point		$I_F=2mA$	---	0.6	--	
			$I_F=10mA$	---	6.4		
Peak Wavelength		λ_p	$I_F=20mA$	--	632	--	nm
Dominant Wavelength		λ_d	$I_F=20mA$	--	624	--	nm
Spectrum Radiation Bandwidth		$\Delta \lambda$	$I_F=20mA$	--	20	--	nm

Chromaticity Coordinates Specifications for Bin Grading (Unit: mcd)

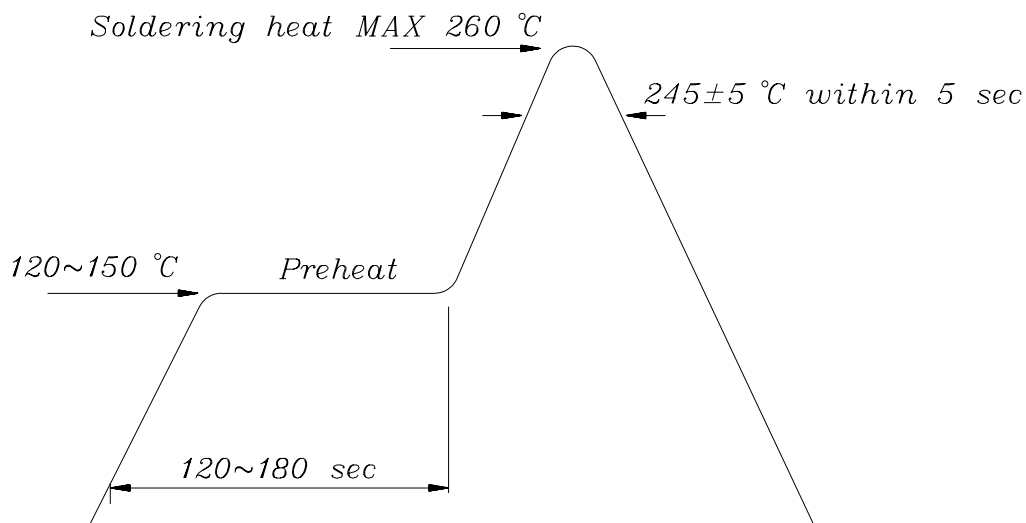
Rank	Min.	Max.	Rank	Min.	Max.
Q	7.8	12.5	T	21.0	34.0
R	11.0	17.6	U	30.0	48.0
S	15.0	24.0	--	--	--

Typical Electro-Optical Characteristics Curves



■ Soldering heat reliability (DIP) :

Please refer to the following figure :

**■ Soldering Iron :**

Basic spec is ≤ 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:

