



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.

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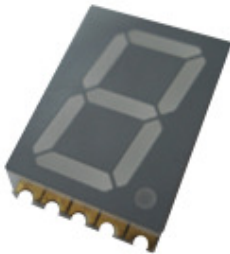
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## Display ▪ Surface-mount ELSS-506SYGWA/S530-E2



### Features

- Industrial standard size.
- Packaged in tape and reel for SMT manufacturing.
- The thickness is thinner than traditional display.
- Low power consumption.
- Categorized for luminous intensity.
- Pb free and RoHS compliant.

### Description

- The ELSS-506SYGWA/S530-E2 is a 13mm (0.51") digit height seven-segment display.
- The display provides excellent reliability in bright ambient light.
- The device is made with white segments and gray surface.

### Applications

- Home appliances.
- Instrument panels.
- Digital readout displays.

## Device Selection Guide

Chip Materials	Emitted Color	Resin Color
AlGaInP	Brilliant Yellow Green	White Diffusion

## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	$V_R$	5	V
Forward Current	$I_F$	25	mA
Peak Forward Current (Duty 1/10 @1KHz)	$I_{FP}$	60	mA
Power Dissipation	$P_d$	60	mW
Operating Temperature	$T_{opr}$	-40 ~ +85	°C
Storage Temperature	$T_{stg}$	-40 ~ +100	°C
ESD (Classification acc. AEC Q101)	$ESD_{HBM}$	2000	V
Soldering Temperature (Soldering time ≤ 5 seconds)	$T_{sol}$	260	°C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity <sup>†1</sup>	$I_v$	5.6	9.1	-----	mcd	$I_F=10mA$
Peak Wavelength	$\lambda_p$	-----	575	-----	nm	$I_F=20mA$
Dominant Wavelength	$\lambda_d$	-----	573	-----	nm	$I_F=20mA$
Spectrum Radiation Bandwidth	$\Delta\lambda$	-----	20	-----	nm	$I_F=20mA$
Forward Voltage	$V_F$	-----	2.0	2.4	V	$I_F=20mA$
Reverse Current	$I_R$	-----	-----	10	μA	$V_R=5V$

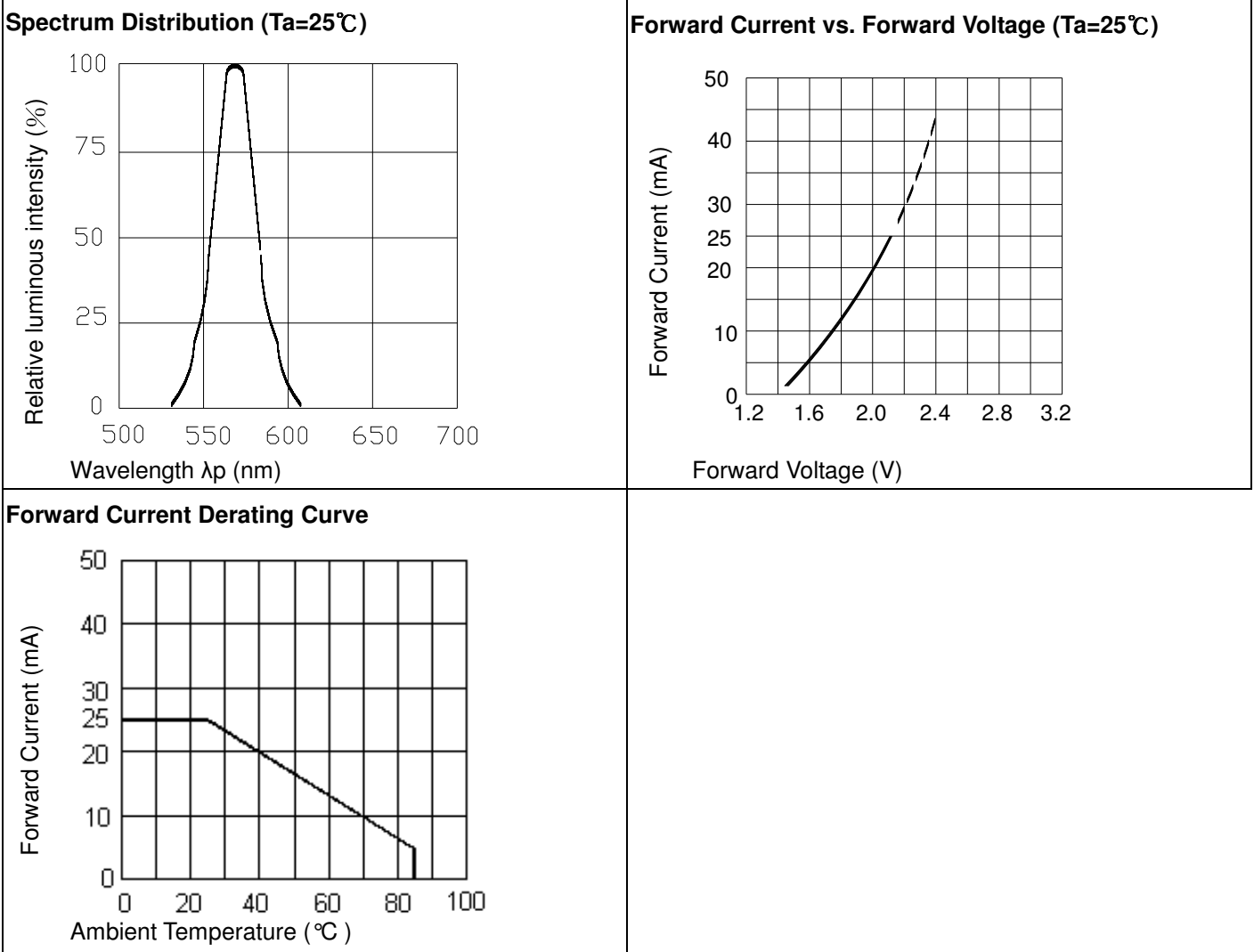
Note:

- Luminous Intensity is a average value which is measured one 7-segment.
- Tolerance of Luminous Intensity: ± 10 %
- Tolerance of Forward Voltage: ± 0.1V

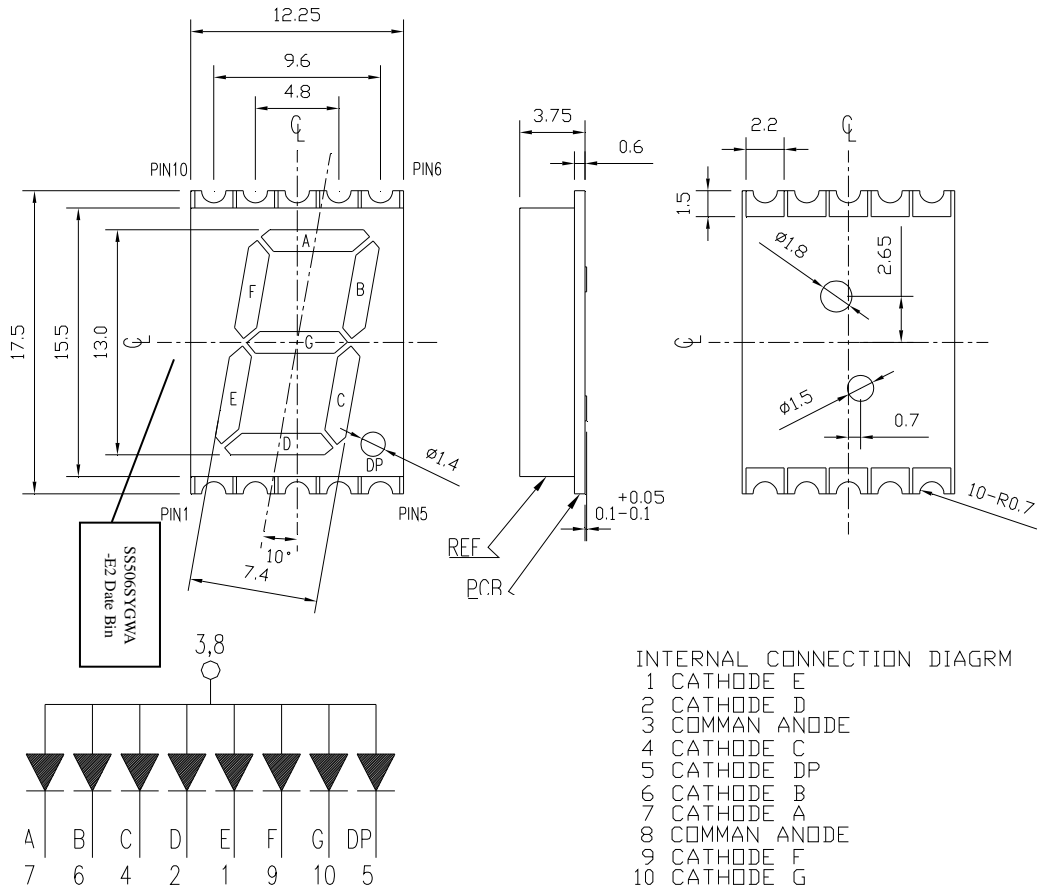
### Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
P	5.6	8.9	mcd	$I_F = 10\text{mA}$
Q	7.8	12.5		
R	11.0	17.6		
S	15.0	24.0		
T	21.0	34.0		
U	30.0	48.0		
V	42.0	67.0		
W	59.0	94.0		

**Typical Electro-Optical Characteristics Curves**



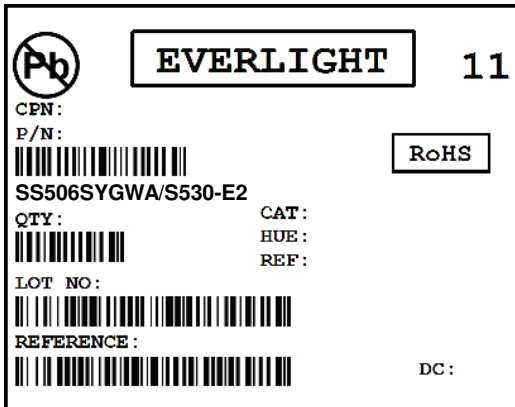
Package Dimension & Internal Circuit Diagram



Note: Tolerances unless mentioned  $\pm 0.25\text{mm}$ . Unit = mm

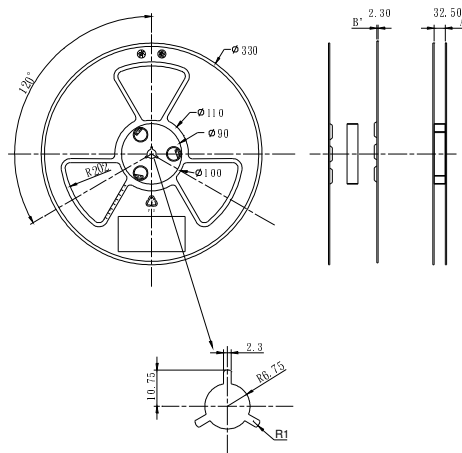
**Packing Materials**

**Label Explanation**

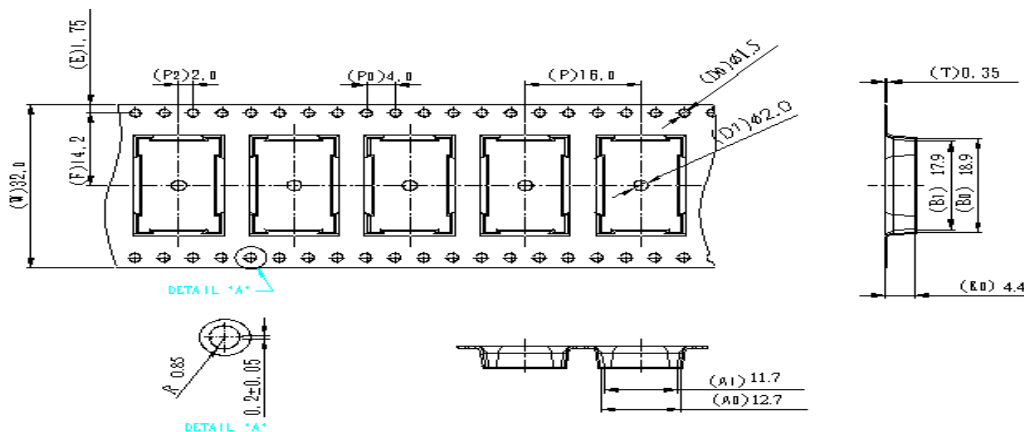


- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Reference
- REF: Reference
- LOT No: Lot Number
- DC: Year and Weekly
- REFERENCE: Volume Label code

**Reel Dimensions**

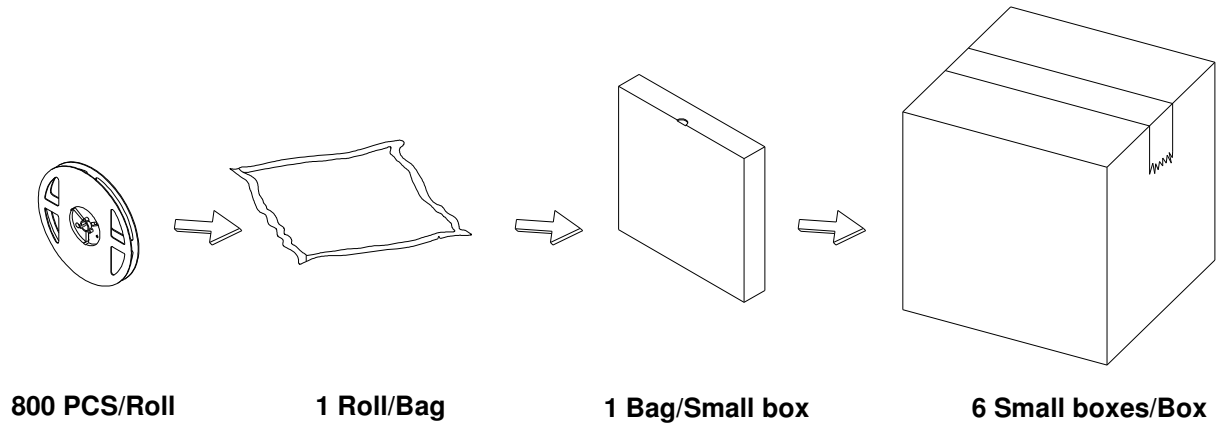


**Carrier Tape Dimensions: Loaded Quantity 800 PCS Per Reel**



Note: Tolerances unless mentioned  $\pm 0.25$ mm. Unit = mm

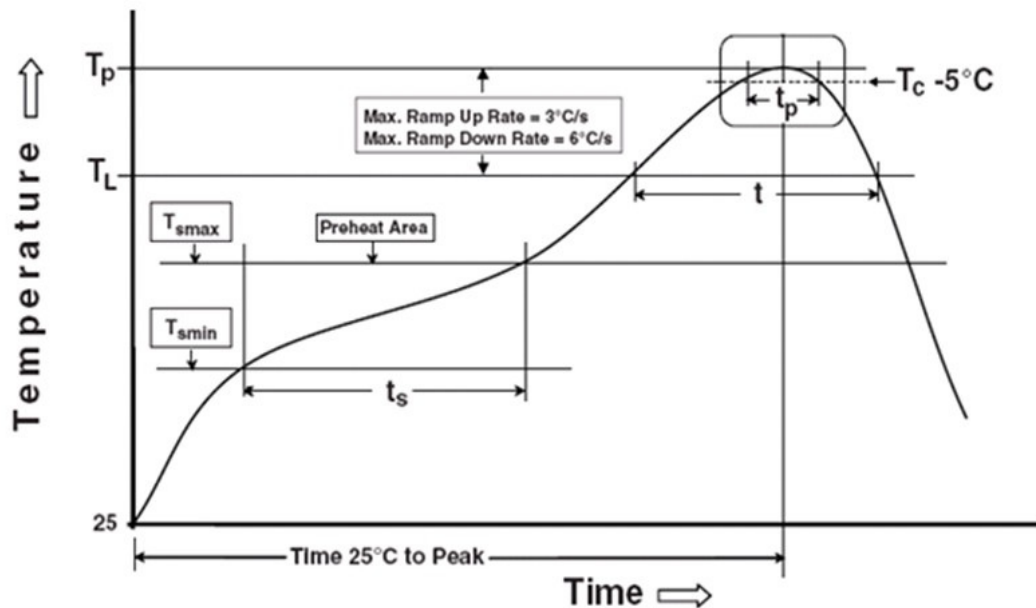
**Packing Process**



**Precautions for Use**

1. Soldering Condition

1.1 (A) Maximum Body Case Temperature Profile for evaluation of Reflow Profile



Note:

Reference: IPC/JEDEC J-STD-020D

**Preheat**

Temperature min ( $T_{smin}$ )	150 °C
Temperature max ( $T_{smax}$ )	200 °C
Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ )	60-120 seconds
Average ramp-up rate ( $T_{smax}$ to $T_p$ )	3 °C/second max.

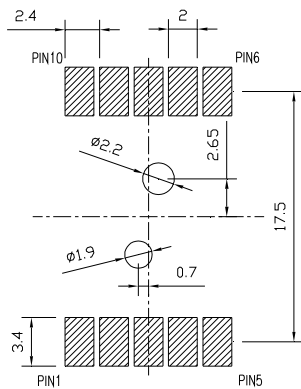


**Other**

Liquidus Temperature ( $T_L$ )	217 °C
Time above Liquidus Temperature ( $t_L$ )	60-150 seconds
Peak Temperature ( $T_P$ )	260 °C
Time within 5 °C of Actual Peak Temperature: $T_P - 5^\circ\text{C}$	30 seconds
Ramp- Down Rate from Peak Temperature	6 °C/second max.
Time 25 °C to peak temperature	8 minutes max.
Reflow times	1 time

All parameters are maximum body case temperature values and cannot be considered as a soldering profile. The body case temperature was measured by soldering a thermal couple to the soldering point of LEDs.

1.2 (B) Recommend soldering pad



**Application Restrictions**

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