

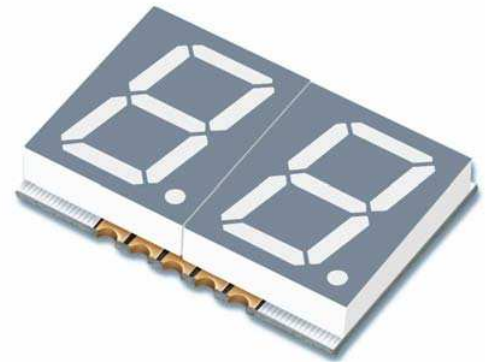
Technical Data Sheet

0.51" Dual Digit SMD Displays

ELSD-505SYGWA/S530-E2

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.
- Pb free
- The product itself will remain with RoHS compliant version.



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

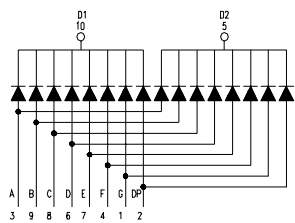
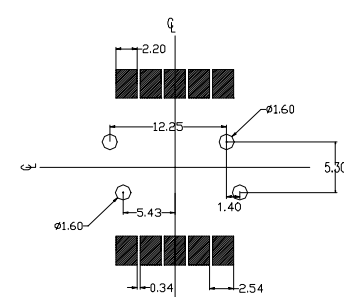
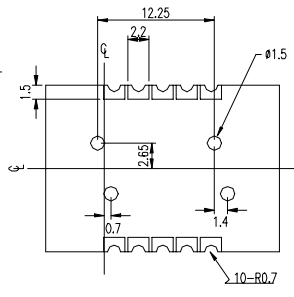
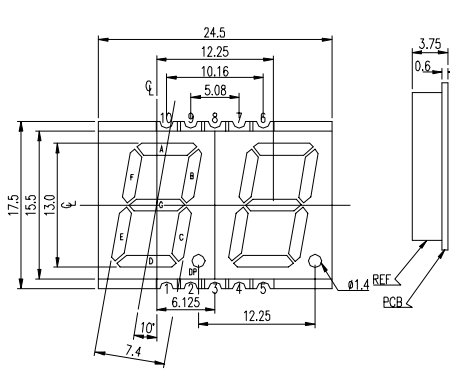
- Suitable for indoor use.
- Audio system.
- Set top box.
- Game machine.
- Channel indicator of TV.

Device Selection Guide

Chip		Face Color
Material	Emitted Color	
AlGaInP	Brilliant Yellow Green	Gray

Package Dimensions

Land Pattern(Recommend)



INTERNAL CONNECTION DIAGRM
 1 ANODE G
 2 ANODE DP
 3 ANODE A
 4 ANODE F
 5 COMMON CATHODE D2
 6 ANODE D
 7 ANODE E
 8 ANODE C
 9 ANODE B
 10 COMMON CATHODE D1

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}	60	mA
Operating Temperature	T _{opr}	-40 ~ +85	°C
Storage Temperature	T _{stg}	-40 ~ +85	°C
Reflow Temperature ^{*2}	T _{ref}	260	°C
Electrostatic Discharge	ESD	2000	V
Power Dissipation	P _d	60	mW
Reverse Voltage	V _R	5	V

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

*2:Soldering time ≤ 5 seconds.

Electro-Optical Characteristics (Ta=25°C)

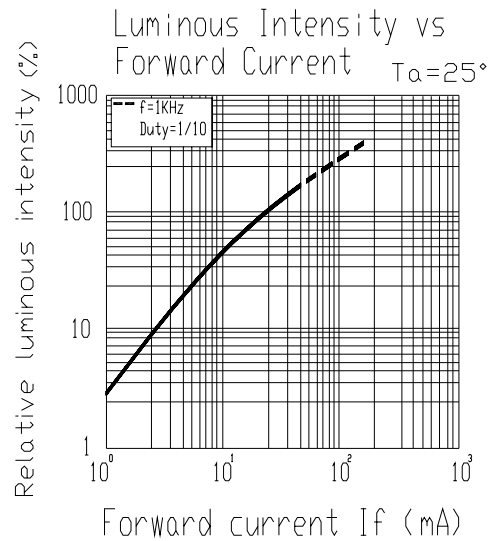
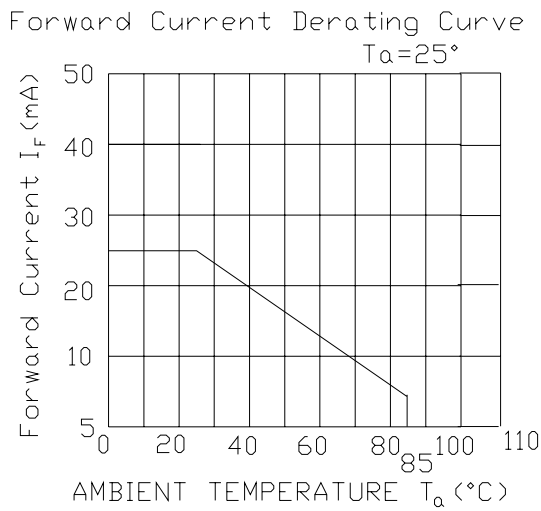
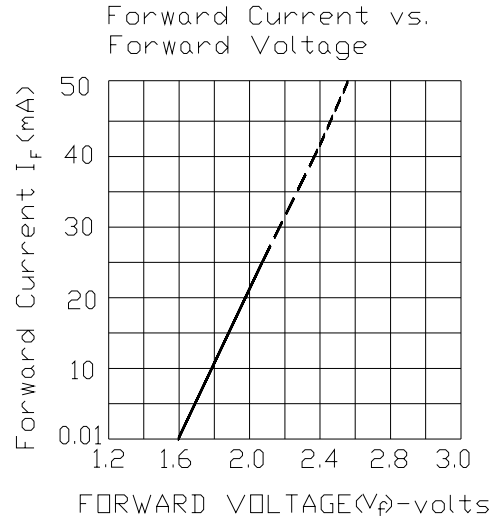
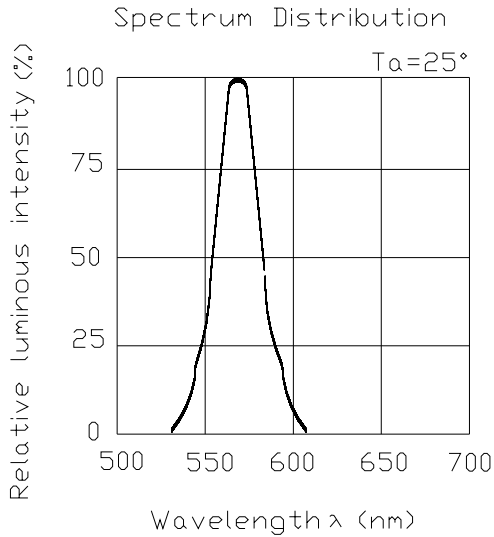
Parameter	Symbol	Min.	Typ.	Max.	Units	Condition	
Forward Voltage	V_F	--	2.1	2.4	V	$I_F=20mA$	
Reverse Current	I_R	--	--	10	μA	$V_R=5V$	
Luminous Intensity	Per segment	I_V	5.6	9.5	--	mcd	$I_F=10mA$
	Per decimal point		2.0	4.3	--		
Peak Wavelength	λ_p	--	575	--	nm	$I_F=20mA$	
Dominant Wavelength	λ_d	--	573	--	nm	$I_F=20mA$	
Spectrum Radiation Bandwidth	$\Delta \lambda$	--	20	--	nm	$I_F=20mA$	

Chromaticity Coordinates Specifications for Bin Grading (Unit: mcd)

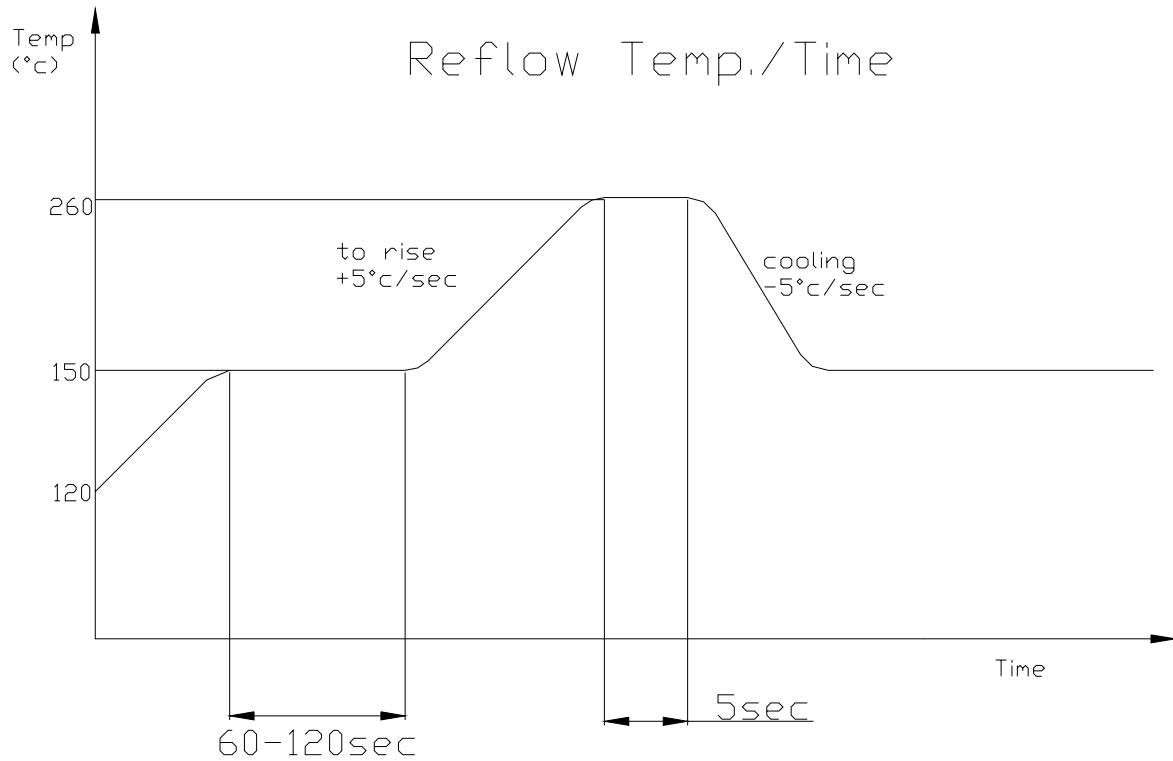
Rank	Min.	Max.	Rank	Min.	Max.
P	5.6	8.9	S	15.0	24.0
Q	7.8	12.5	T	21.0	34.0
R	11.0	17.6	--	--	--

Typical Electro-Optical Characteristics Curves

(SYG)



■ Reflow Temp. / Time :



■ Soldering Iron :

Basic spec is ≤ 5 sec when 260°C . If temperature is higher, time should be shorter ($+10^{\circ}\text{C} \rightarrow -1\text{sec}$). 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.

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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	Reflow	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 : +100°C 15min \int 5min L : -40°C 15min	300 CYCLES	76 PCS		0/1
3	Thermal Shock	H : +100°C 5min \int 10 sec L : -10°C 5min	300 CYCLES	76 PCS		0/1
4	High Temperature Storage	TEMP:100°C	1000 HRS	76PCS		0/1
5	Low Temperature Storage	TEMP:-40°C	1000 HRS	76 PCS		0/1
6	DC Operating Life	TEMP:25°C I _f = 10mA	1000 HRS	76 PCS		0/1
7	High Temperature / High Humidity	85°C / 85% RH	1000 HRS	76 PCS		0/1

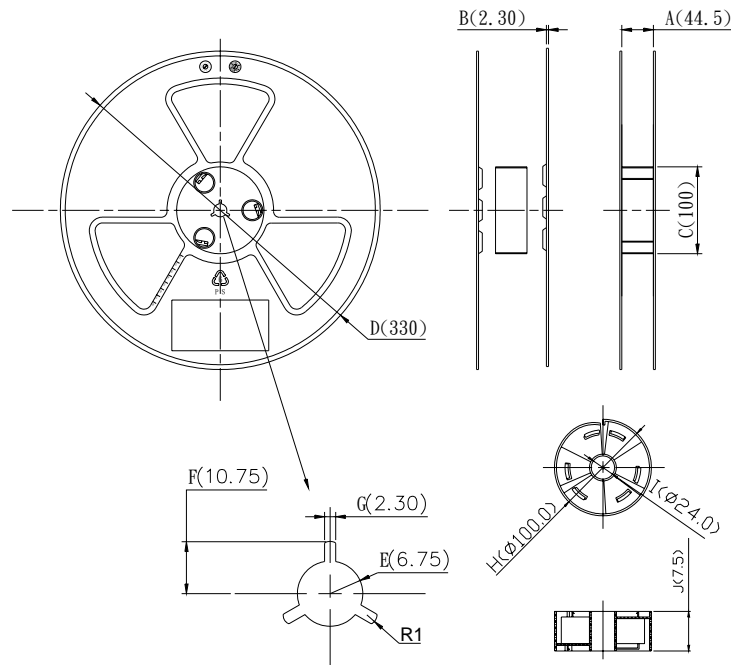
Note : I_{vt} : The test I_v value of the chip before the reliability test

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

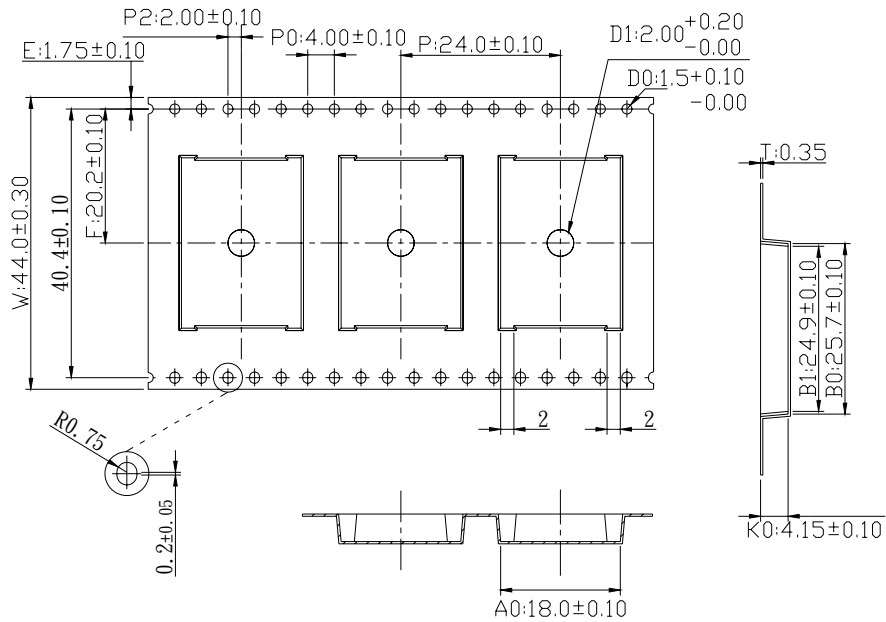
U : Upper Specification Limit

L : Lower Specification Limit

Package Dimensions



Taping Dimensions





ELSD-505SYGWA/S530-E2

Packing Quantity Specification

500PCS/Roll , 4Rolls/Box

Label Form Specification



CPN: Customer's Production Number
P/N : Production Number
QTY: Packing Quantity
CAT: Ranks
HUE: Peak Wavelength
REF: Reference
LOT No: Lot Number
DC: Year and weekly

Notes

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
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