



PRODUCT SPECIFICATION

Model No:CSD-S30228T9/S30229T9

Descriptions:

- 0.3 Inch Dual Digit SMD Display
- Emitting Color : Super Bright Yellow



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

CHINA SEMICONDUCTOR CORPORATION
Address:2FL. NO.909,Chung-Cheng Road,
Chung-Ho City Taipei Hsien,Taiwan.

Tel:886-2-2223-9696
Fax:886-2-2223-9377

OPTO PLUS TECHNOLOGIES CO.,LTD
Address:696 Shun jiang Rd.,Ji Shan St.Shaoxing,
ZheJiang,China

Tel:86-0575-88623888
Fax:86-0575-88623112



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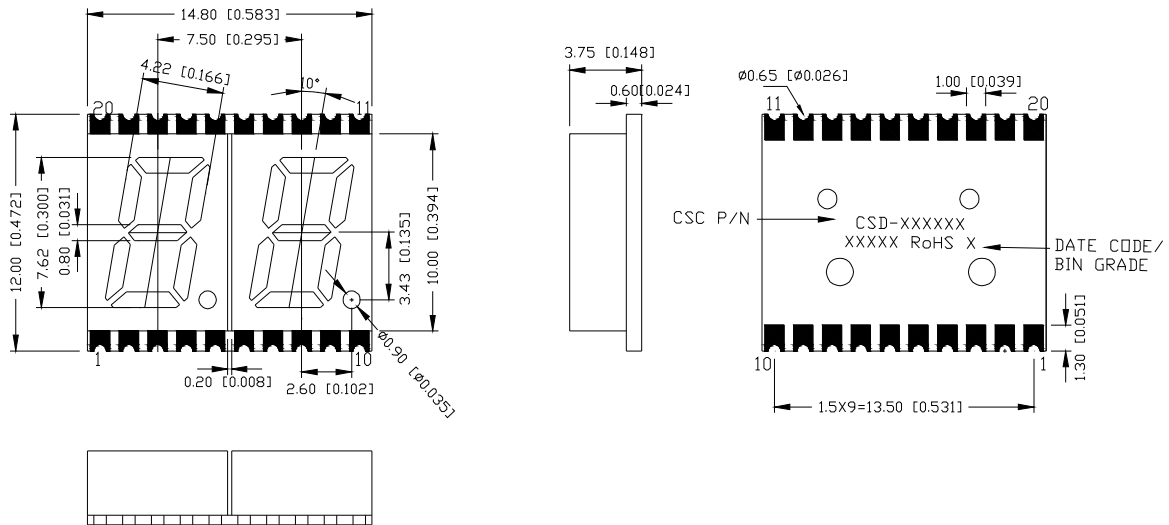
■ **Features -**

1. 0.3 inch (7.62mm) digit height.
2. Qualified according to JEDEC moisture sensitivity Level 2a.
3. RoHS compliant.
4. Low power consumption.
5. Easy mounting on P.C. board.

■ **Device Selection Guide -**

Model No.	Chip		Description
	Material	Emitting Color	
CSD-S30228T9	AlGaInP	Super Bright Yellow	Common Anode
CSD-S30229T9	AlGaInP	Super Bright Yellow	Common Cathode

■ **Mechanical Dimensions -**



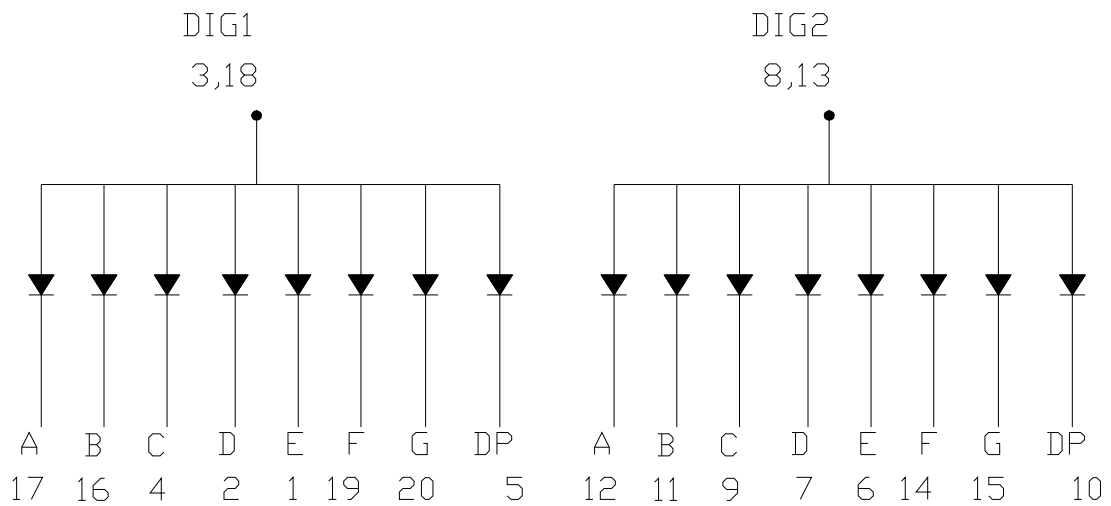
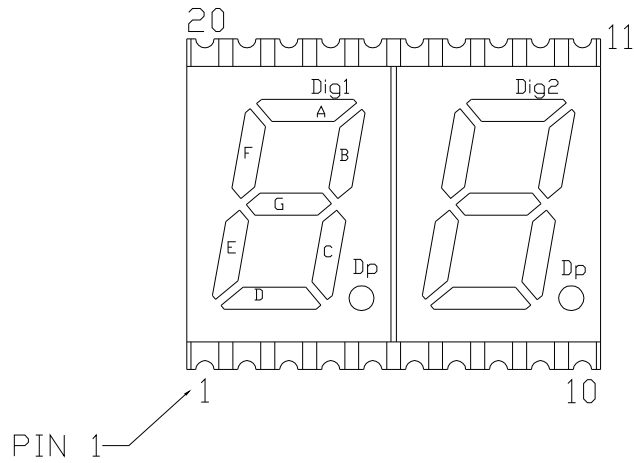
Notes:

All dimensions are in millimeters [inches],
and tolerance is ±0.25 [0.010]
unless otherwise noted.



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Internal Circuit Diagrams -



CSD-S30228 Common Anode
(CSD-S30229 Common Cathode)



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■ Absolute Maximum Rating -

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	P _{AD}	70	mW
Continuous Forward Current Per Dice	I _{AF}	25	mA
Peak Current Per Dice(duty cycle 1/10,1KHz)	I _{PF}	90	mA
Derating Linear From 25°C Per Dice	-	0.33	mA/°C
Reverse Voltage Per Dice	V _R	5	V
Operating Temp.	T _{opr}	-40 ~ +105	°C
Storage Temp.	T _{stg}	-40 ~ +105	°C

Note:Solder temperature 1/16 inch below seating plane for 3 seconds at 260°C

■ Electro-optical Characteristics -

(Ta=25°C)

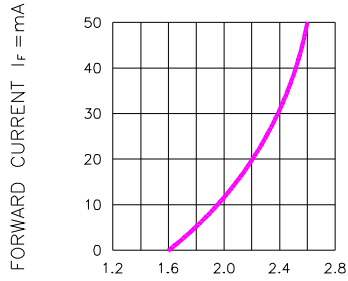
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Segment	V _F	-	2.1	2.8	V	I _F =20mA
Luminous Intensity Per Segment	I _v	5	13	-	mcd	I _F =10mA
Peak Emission Wavelength	λ _P	-	590	-	nm	I _F =20mA
Spectrum Radiation Bandwidth	Δλ	-	20	-	nm	I _F =20mA
Reverse Current	I _R	-	-	100	μA	V _R =5V
Luminous Intensity Matching Ratio	I _{V-m}	-	-	2:1	-	I _F =10mA



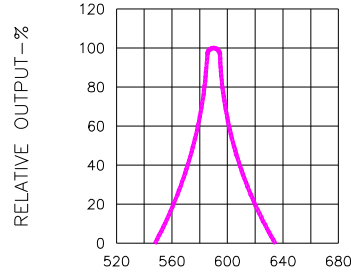
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Typical Electrical / Optical Characteristics Curves -

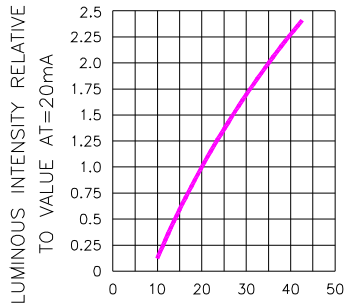
(Ta = 25°C Unless Otherwise Noted)



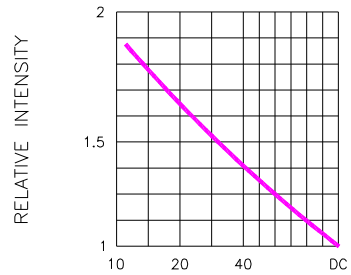
FORWARD VOLTAGE (Vf) -VOLTS
Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE



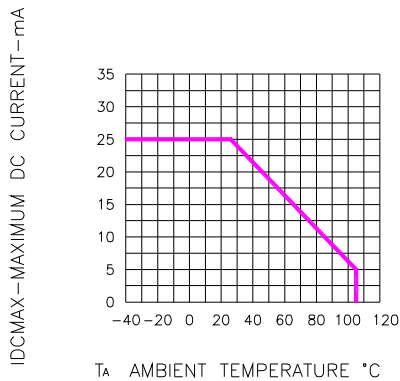
WAVELENGTH (λ) -nm
Fig.2 SPECTRAL RESPONSE



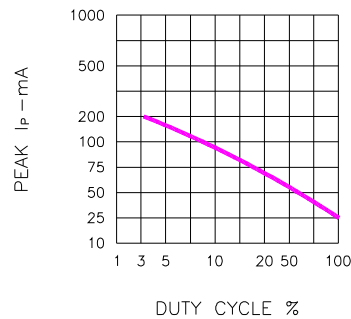
If -FORWARD CURRENT -mA
Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



DUTY CYCLE % PER SEGMENT (AVERAGE If = 10mA)
Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE



Ta AMBIENT TEMPERATURE °C
Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE



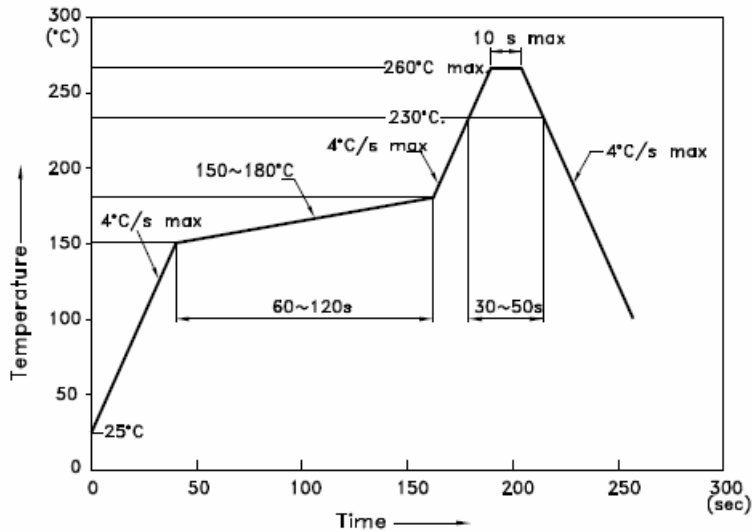
DUTY CYCLE %
Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)



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SMT REFLOW SOLDERING INSTRUCTIONS

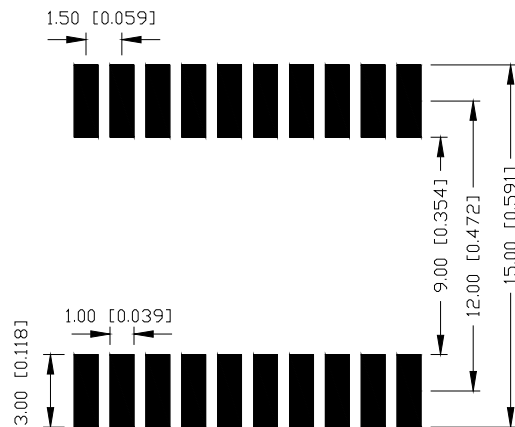
IR Reflow Temperature / Time :



NOTES:

1. We recommend the reflow temperature 245°C(+/-5°C). The maximum soldering temperature should be limited to 260°C.
2. Don't cause stress to the epoxy resin while it is exposed to high temperature.
3. Number of reflow process shall be 2 times or less.

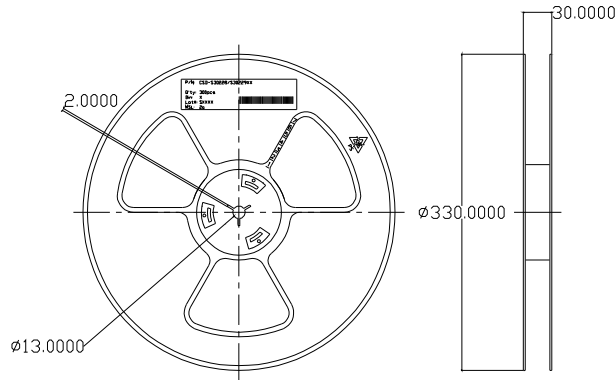
Soldering Pad Size





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REEL DIMENSIONS



PACKING & LABEL SPECIFICATIONS

