

PRODUCT SPECIFICATION

Model No.: CSDS-31100 CSDS-31101

Descriptions:
<ul style="list-style-type: none"> ■ 0.31 Inch Single Digit Display ■ CSDS-31100 is Common Anode ■ CSDS-31101 is Common Cathode ■ Emitting Color: Pure Green; Yellow Green; Yellow; Amber; Orange; Red; Deep Red ■ Standard: -11: Gray face, white segment. -21: Black face, white segment.



CUSTOMER APPROVED	APPROVED BY	CHECKED BY	PREPARED BY
SIGNATURES			

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Model No.: CSDS-31100 CSDS-31101

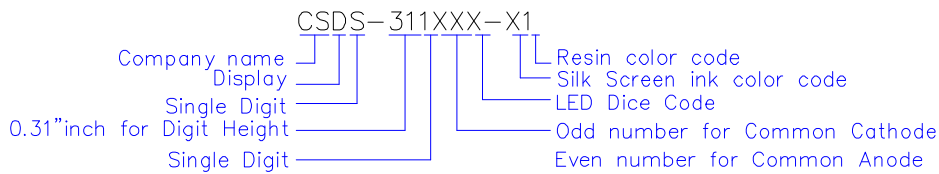
Features -

1. 0.31 inch (8.00mm) digit height.
2. Case mold type.
3. RoHS compliant.
4. Low power consumption.
5. Easy mounting on P.C. board or socket.

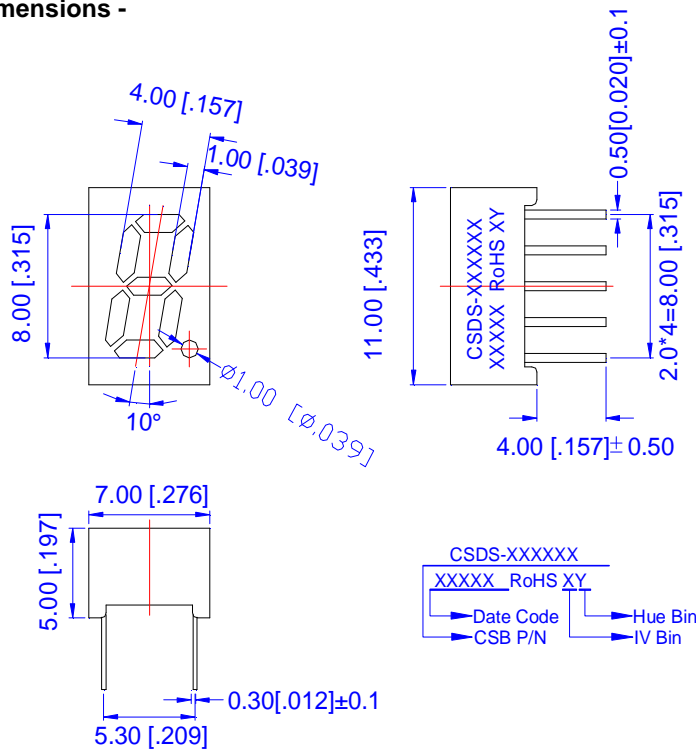
Device Selection Guide -

Model No.	Chip	
	Material	Emitting Color
CSDS-3110x2	InGaN	Pure Green
CSDS-3110xM	AlGaInP	Yellow Green
CSDS-3110xT		Yellow
CSDS-3110xA		Amber
CSDS-3110xV		Orange
CSDS-3110xL		Red
CSDS-3110xU		Deep Red

LED Numeric/Alphanumeric Display



Mechanical Dimensions -

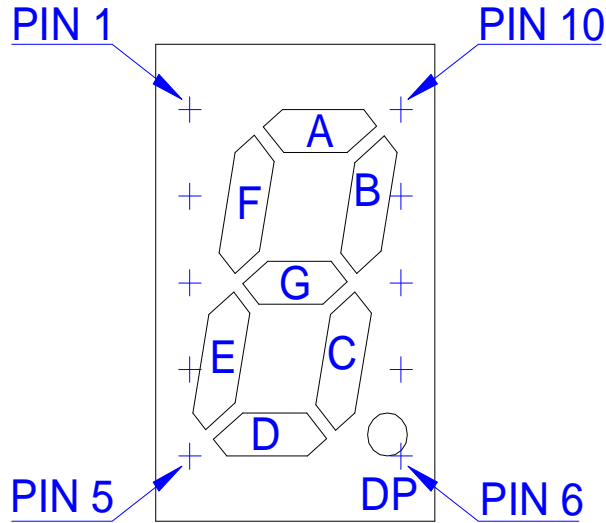


Notes:

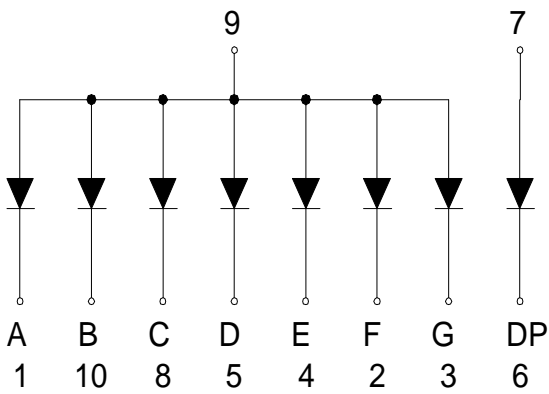
1. All pins are 0.5*0.3mm
2. Dimension in millimeter [inch], tolerance is ± 0.25 [0.010] and angle is $\pm 1^\circ$ unless otherwise noted.
3. Bending \leq Length*1%.

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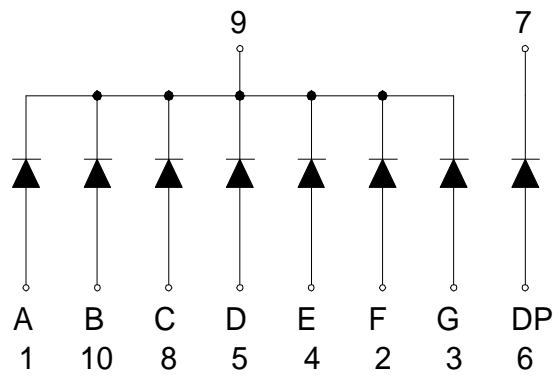
■ All Light On Segments Feature & Pin Position



■ Internal Circuit Diagrams -



CSDS-31100 is Common Anode



CSDS-31101 is Common Cathode

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■ Absolute Maximum Rating -

(Ta=25°C)

Parameter	Symbol	Rating		Unit
		M / T / A / V / L / U	2	
Power Dissipation Per Dice	PAD	70	114	mW
Derating Liner from 25°C per Dice	-	0.33	0.4	mA/°C
Continuous Forward Current Per Dice	IAF	25	30	mA
Peak Current Per Dice(duty cycle 1/10,1KHz)	IPF	90	100	mA
Reverse Voltage Per Dice	VR	5	5	V
Electrostatic discharge(HBM)	ESD	/	1000	V
Operating Temp.	Topr	-35 ~ +85		°C
Storage Temp.	Tstg	-35 ~ +85		°C
Hand Soldering Temp.	Tsol	350		°C

■ Electro-optical Characteristics -

(Ta=25°C)

Parameter	Symbol	Chip	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity Per Segment	Iv	2	-	120	-	mcd	If=10mA
		M	-	12	-		
		T	-	30	-		
		A	-	40	-		
		V	-	20	-		
		L	-	18	-		
		U	-	12	-		
Forward Voltage Per Segment	VF	2	-	3.2	3.8	V	If=20mA
		M/T/A/V/L/U	-	2	2.8		
Peak Emission Wavelength / Dominant Wavelength	λP/λd	2	-	*1525	-	nm	If=20mA
		M	-	572/570	-		
		T	-	592/590	-		
		A	-	612/605	-		
		V	-	632/625	-		
		L	-	644/630	-		
Reverse Current	IR		-	-	100	μA	VR=5V
Luminous Intensity Matching Ratio	IV-m		-	-	2:1	-	If=10mA

■ Typical Electrical / Optical Characteristics Curves -

(Ta = 25°C Unless Otherwise Noted)

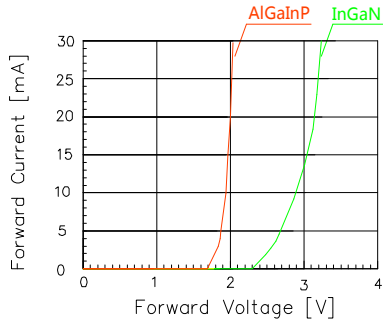


Fig 1. Forward Current vs. Forward Voltage

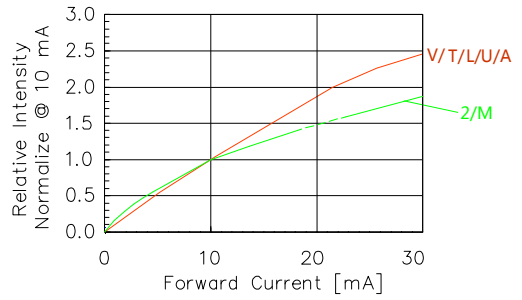


Fig 2. Relative Intensity vs. Forward Current

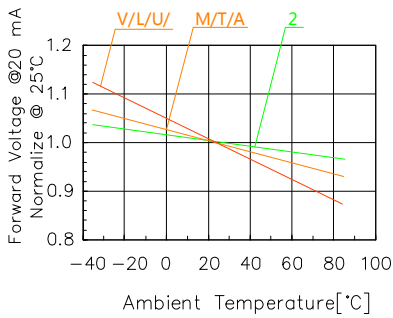


Fig 3. Forward Voltage vs. Temperature

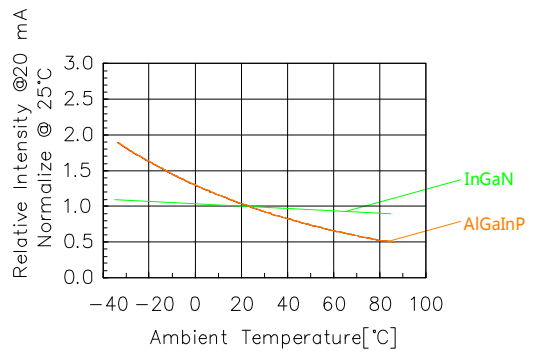


Fig 4. Relative Intensity vs. Temperature

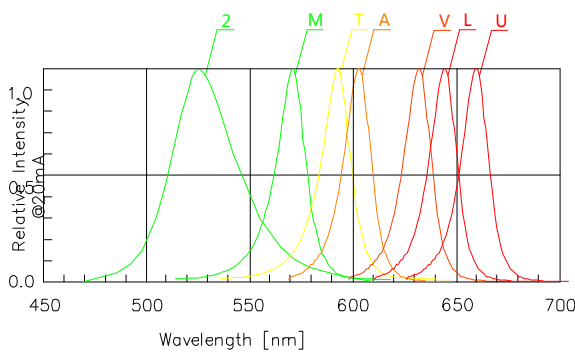


Fig 5. Relative Intensity vs. Wavelength

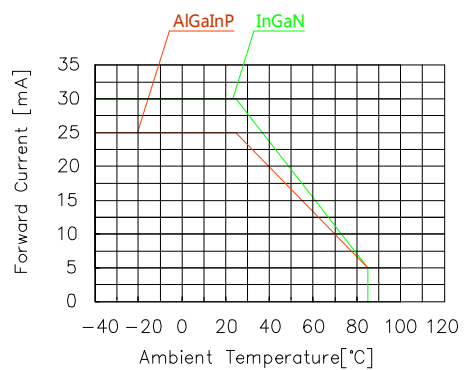


Fig 6. Forward current vs. Temperature

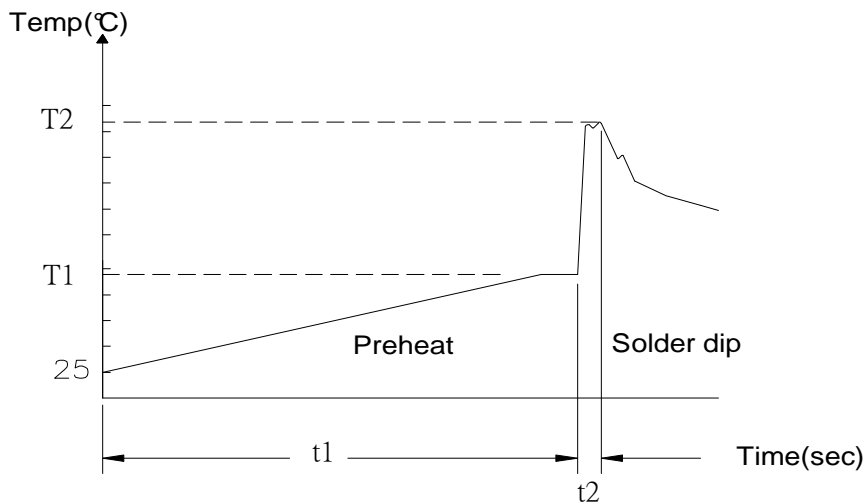
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■ Precautions For Use -

1.Wave Soldering Profile

Distance:1.6mm min(From seating plane)

Item	Condition		Note
Preheat	Temperature T1	80 – 120°C	PWB temperature (Soldering side surface)
	Time t1	60 – 180sec	
Solder Dip	Temperature T2	230 – 260°C	Bath temperature
	Time t2	2 – 4sec	Solder tank passage time



2.Hand Soldering (Iron Condition)

Soldering Iron:30W Max

Temperature 350°C Max

Soldering Time:3 Seconds Max(One Time)

Distance:1.6mm min(From seating plane)