

PRODUCT SPECIFICATION

Model No.: CSDS-1F102VM_CSDS-1F103VM

Descriptions:
<ul style="list-style-type: none"> ■ 1.5 Inch Single Digit Display ■ CSDS-1F102 is Common Anode ■ CSDS-1F103 is Common Cathode ■ Emitting Color: Orange ; Yellow Green ■ Standard: -11: Gray face,white segment. -21: Black face,white segment.



CUSTOMER APPROVED SIGNATURES	APPROVED BY	CHECKED BY	PREPARED BY

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Model No.: CSDS-1F102VM CSDS-1F103VM

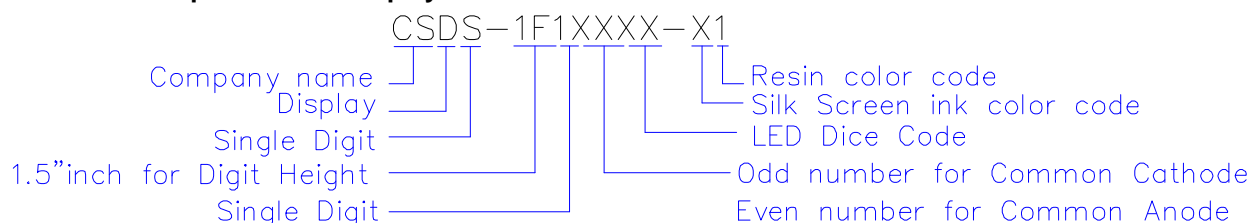
Features -

1. 1.5 inch (38.10mm) digit height.
2. Case mold type.
3. RoHS compliant.
4. Low power consumption.
5. Easy mounting on P.C. board or socket.

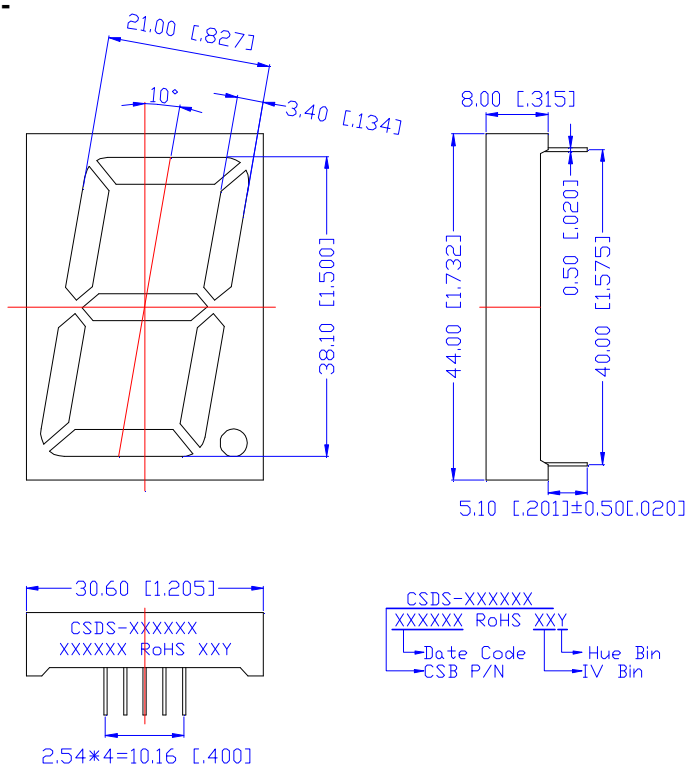
Device Selection Guide -

Model No.	Chip	
	Material	Emitting Color
CSDS-1F10XVM	AlGaInP	Orange
		Yellow Green

LED Numeric/Alphanumeric Display



Mechanical Dimensions -

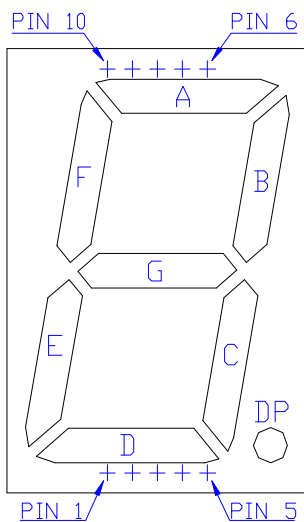


Notes:

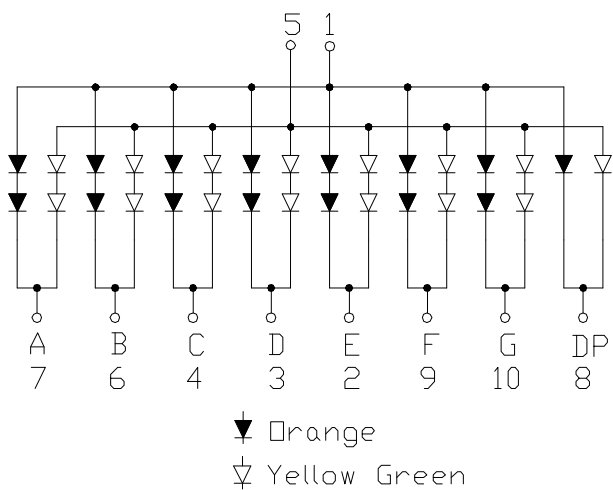
1. All pins are $\varnothing 0.50 [0.020] \pm 0.1 [0.004]$
2. Dimension in millimeter [inch], tolerance is $\pm 0.25 [0.010]$ and angle is $\pm 1^\circ$ unless otherwise noted.
3. Bending \leq Length*1%.

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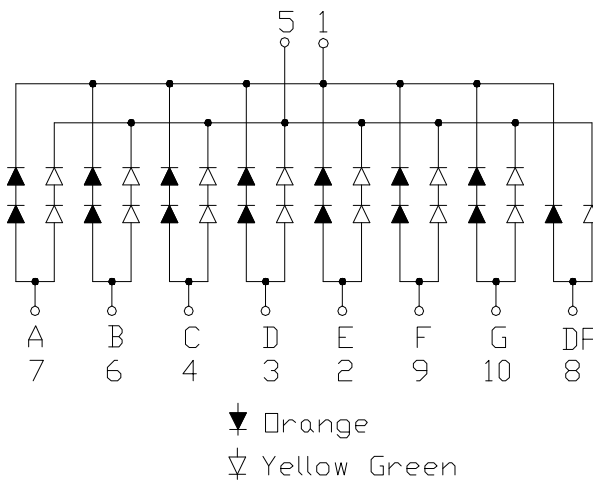
■ All Light On Segments Feature & Pin Position



■ Internal Circuit Diagrams -



CSDS-1F102 is Common Anode



CSDS-1F103 is Common Cathode

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■ Absolute Maximum Rating -

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	P_{AD}	70	mW
Derating Liner from 25°C per Dice	-	0.33	mA/°C
Continuous Forward Current Per Dice	I_{AF}	25	mA
Peak Current Per Dice(duty cycle 1/10,1KHz)	I_{PF}	90	mA
Reverse Voltage Per Dice	V_R	5	V
Operating Temp.	T_{opr}	-35 ~ +85	°C
Storage Temp.	T_{stg}	-35 ~ +85	°C
Hand Soldering Temp.	T_{sol}	350	°C

■ Electro-optical Characteristics -

(Ta=25°C)

Parameter	Symbol	Chip	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity Per Segment	I_v	M	-	32	-	mcd	I _F =10mA
		V	-	101	-		
Forward Voltage Per Segment	V_F	M/V	-	4(2)	5.6(2.8)	V	I _F =20mA
Peak Emission Wavelength / Dominant Wavelength	λ_P/λ_d	M	-	572/570	-	nm	I _F =10mA
		V	-	632/625	-		
Reverse Current	I_R		-	-	100	μA	/R=10(5)V
Luminous Intensity Matching Ratio	I_{V-m}		-	-	2:1	-	I _F =10mA

■ Typical Electrical / Optical Characteristics Curves -

(Ta = 25°C Unless Otherwise Noted)

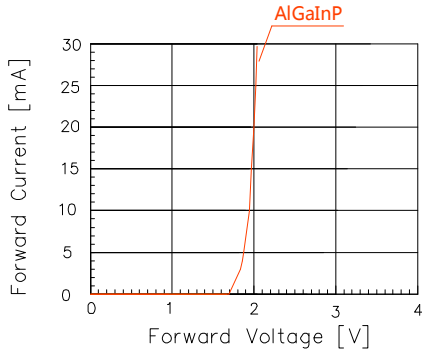


Fig 1. Forward Current vs. Forward Voltage

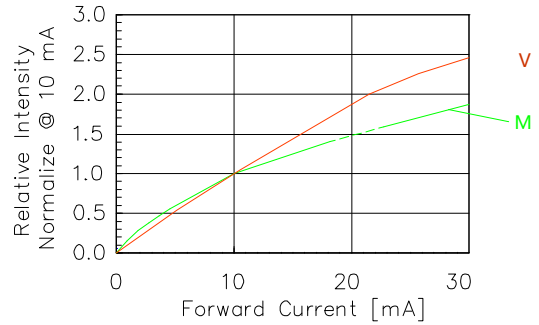


Fig 2. Relative Intensity vs. Forward Current

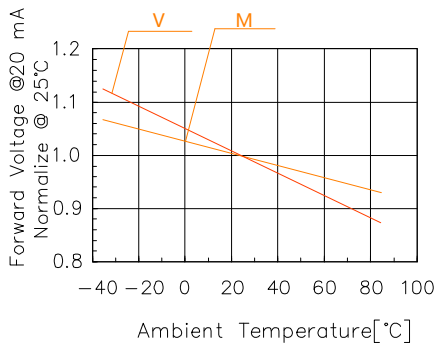


Fig 3. Forward Voltage vs. Temperature

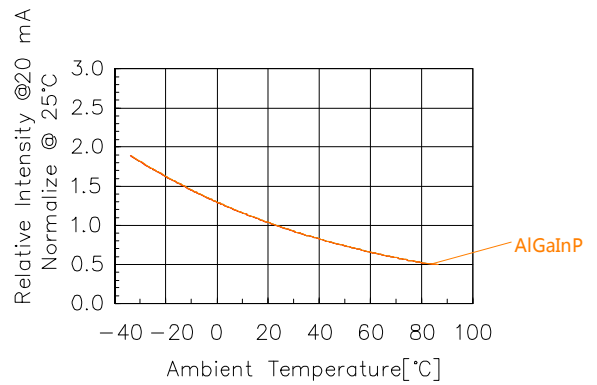


Fig 4. Relative Intensity vs. Temperature

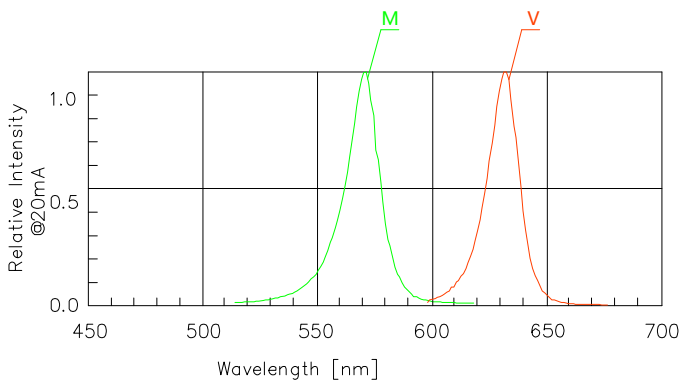


Fig 5. Relative Intensity vs. Wavelength

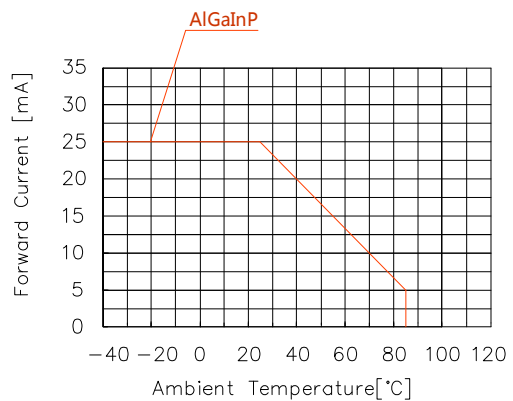


Fig 6. Forward current vs. Temperature

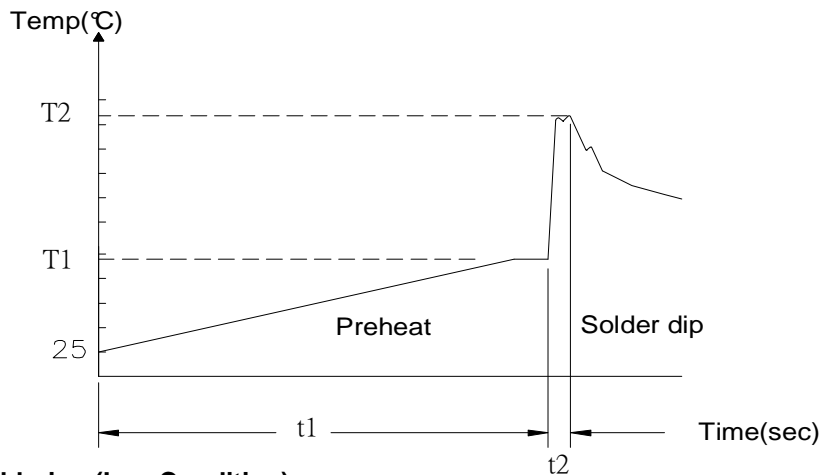
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■ Precautions For Use -

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)