CHINA
SEMICONDUCTOR
CORPORATION

Spec. No.	PS-ND-0710
Rev.	A

PRODUCT SPECIFICATION

Model No：CSS-819VM9

Descriptions:
■0.8 Inch Single Digit Display
■Common Cathode
■Emitting Color：Super Bright Orange & Super Bright Green

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:86-0575-8623888
Fax:86-0575-8623112

http://www.csctw.com.tw

Model No : CSS-819VM9

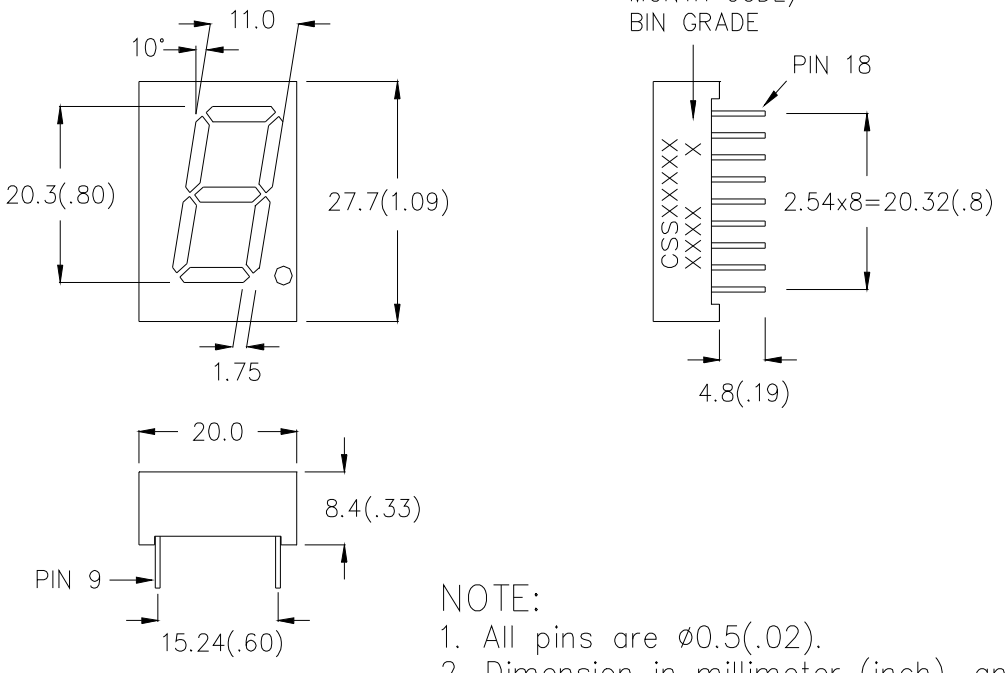
Features -

1. 0.8 inch (20.3mm) 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 -

Part No.	Chip		Description
	Material	Emitted Color	
CSS-819VM9	AlGaInP	Super-Bright Orange	Common Cathode
	AlGaInP	Super-Bright Green	

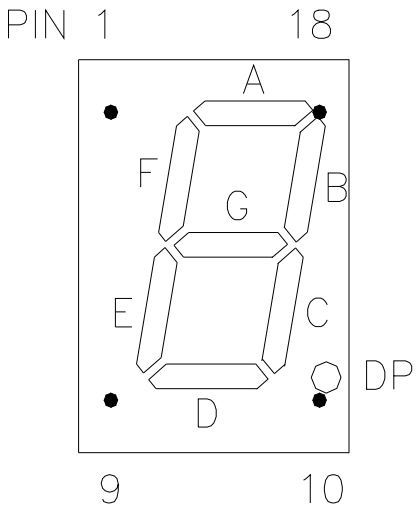
Mechanical Dimensions -

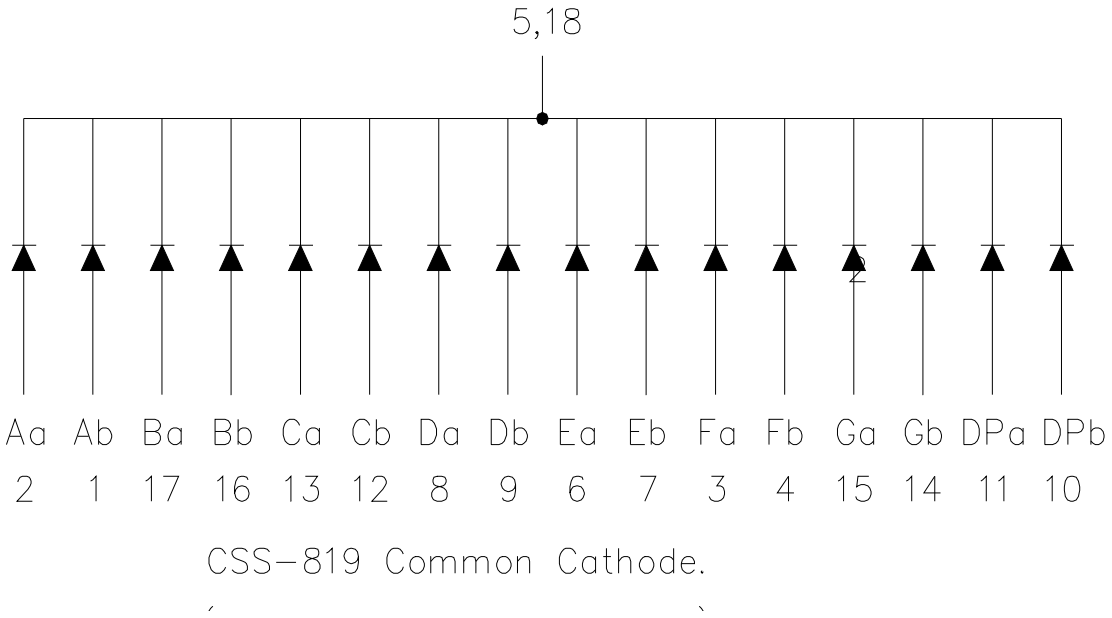


NOTE:
1. All pins are ø0.5(.02).
2. Dimension in millimeter (inch), and tolerance is ±0.25 (.01) unless otherwise noted.

Model No : CSS-819VM9

■ Internal Circuit Diagrams -





CSS-819 Common Cathode.

Model No : CSS-819VM9

■ Absolute Maximum Rating -

(Ta=25℃)

Parameter	Symbol	Super-Bright Orange	Unit
Power Dissipation Per Dice	Pd	70	mW
Continuous Forward Current Per Dice	IAF	25	mA
Peak Current Per Dice	IPF	90	mA
Reverse Voltage Per Dice	VR	5	V
Operating Temperature	Topr	-35 ~ +85	℃
Storage Temperature	Tstg	-35 ~ +85	℃
Solder emperature 1/16 inch below seating plane for 3 seconds at 260℃			

■ Electro-optical Characteristics -

(Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Dot	VF	-	2.0	2.8	V	IF=20mA
Luminous Intensity Per Dot	Iv	-	50	-	mcd	IF=10mA
Peak Emission Wavelength	λP	-	635	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	20	-	nm	IF=20mA
Reverse Current	IR	-	-	100	μA	VR=5V
Luminous Intensity Matching Ratio	IV-m	-	-	2:1	-	IF=20mA

Model No：CSS-819VM9

■ Absolute Maximum Rating -

(Ta=25℃)

Parameter	Symbol	Super-Bright Green	Unit
Power Dissipation Per Dice	Pd	70	mW
Continuous Forward Current Per Dice	IAF	25	mA
Peak Current Per Dice	IPF	90	mA
Reverse Voltage Per Dice	VR	5	V
Operating Temperature	Topr	-35 ~ +85	℃
Storage Temperature	Tstg	-35 ~ +85	℃
Solder emperature 1/16 inch below seating plane for 3 seconds at 260℃			

■ Electro-optical Characteristics -

(Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Dot	VF	-	2.1	2.8	V	IF=20mA
Luminous Intensity Per Dot	Iv	-	12	-	mcd	IF=10mA
Peak Emission Wavelength	λP	-	570	-	nm	IF=20mA
Spectrum Radiation Bandwidth	$\Delta \lambda$	-	20	-	nm	IF=20mA
Reverse Current	IR	-	-	100	μA	VR=5V
Luminous Intensity Matching Ratio	IV-m	-	-	2:1	-	IF=20mA

Model No：CSS-819VM9

■ Typical Electrical / Optical Charateristics Curves -Orange

(Ta = 25℃ Unless Otherwise Noted)

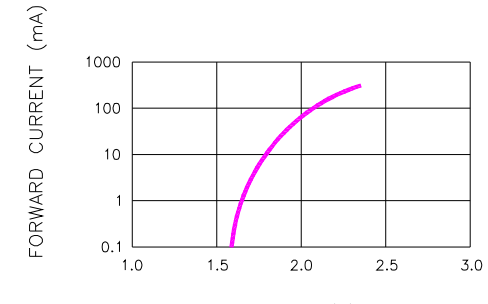


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

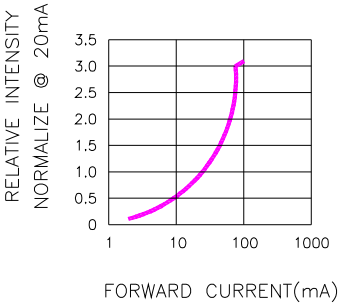


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

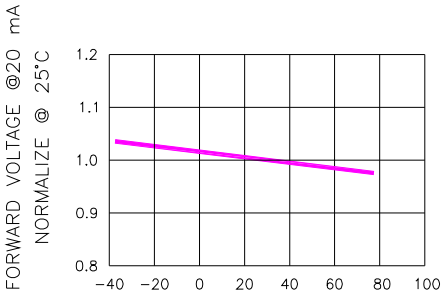


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

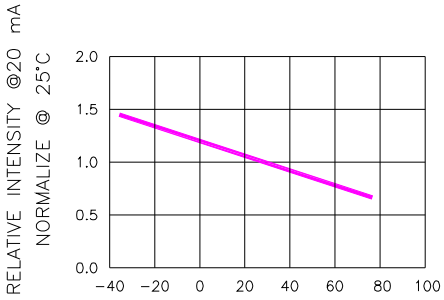


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

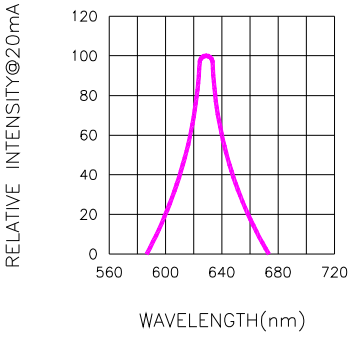


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

Model No：CSS-819VM9

■ Typical Electrical / Optical Charateristics Curves -Yellow-Green

(Ta = 25℃ Unless Otherwise Noted)

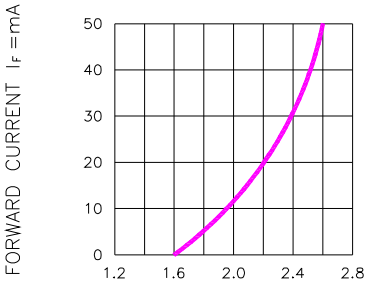


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

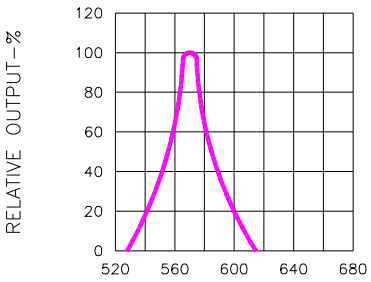


Fig.2 SPECTRAL RESPONSE

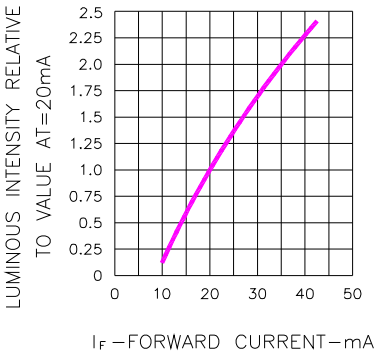


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

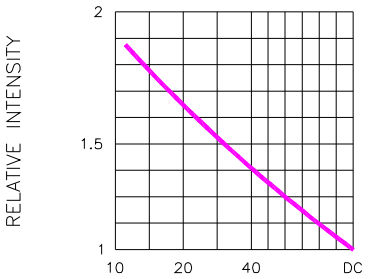


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

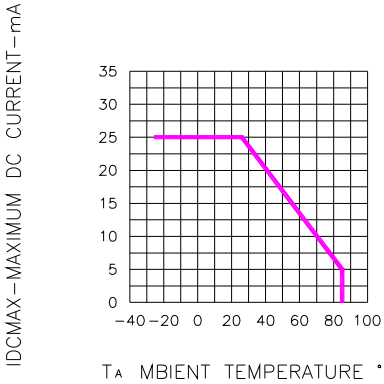


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

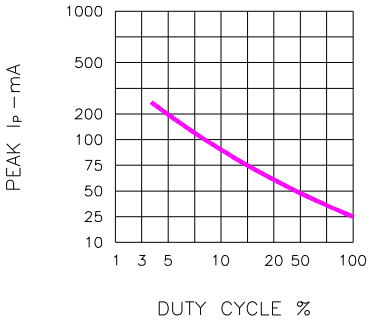


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)

Model No：CSS-819VM9

■ Package Dimensions