CHINA
SEMICONDUCTOR
CORPORATION

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

PRODUCT SPECIFICATION

Model No：CSM-57271SG/CSM-57281SG

Descriptions:
• 2.0Inch Dot-Matrix Display
• Dot Pitch 7.62mm
• 5*7 Array with X-Y Select.
• CSM-57271: Column Anode, Row Cathode
• CSM-57281: Column Cathode, Row Anode
• Emitting Color：Super Bright Red & Yellow 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:86-0575-88623888
Fax:86-0575-88623112

Model No：CSM-57271SG/CSM-57281SG

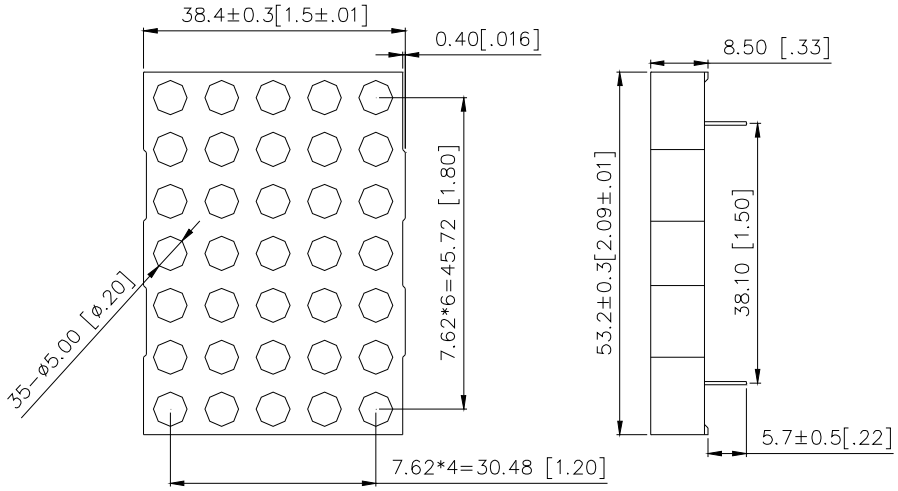
■ Features -

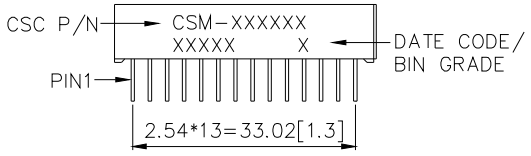
1. 2.0 inch (50.7mm) Matrix height.
2. Case mold type.
3. RoHs compliant.
4. Low power consumption.
5. Easy mounting on P.C. board or socket.

■ Device Selection Guide -

Part No.	Chip		Description	
	Material	Emitted Color	Column	Row
CSM-57271SG	AlGaAs	Super Bright Red	Anode	Cathode
	GaP	Yellow Green		
CSM-57281SG	AlGaAs	Super Bright Red	Cathode	Anode
	GaP	Yellow Green		

■ Package Dimensions -

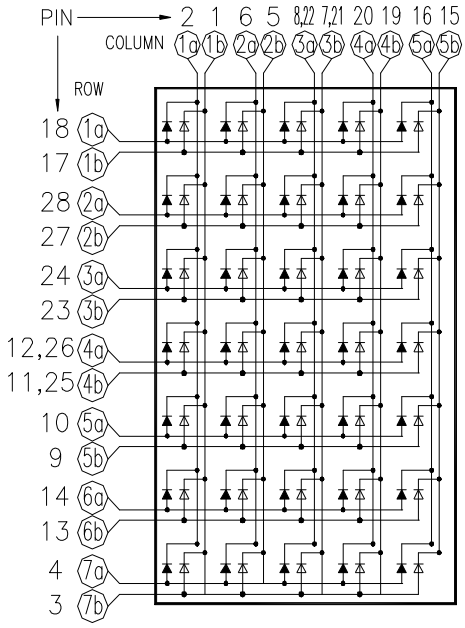




NOTE:
1 All pins are ø0.5(.02).
2 All dimensions are in millimeters (inch), tolerance is ±0.25 (.01) unless otherwise noted.

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■ Internal Circuit Diagrams -



CSM−57271		CSM−57281	
PIN NO. FUNCTION	PIN NO. FUNCTION	PIN NO. FUNCTION	PIN NO. FUNCTION
1 Anode Column 1b	15 Anode Column 5b	1 Cathode Column 1b	15 Cathode Column 5b
2 Anode Column 1a	16 Anode Column 5a	2 Cathode Column 1a	16 Cathode Column 5a
3 Cathode Row 7b	17 Cathode Row 1b	3 Anode Row 7b	17 Anode Row 1b
4 Cathode Row 7a	18 Cathode Row 1a	4 Anode Row 7a	18 Anode Row 1a
5 Anode Column 2b	19 Anode Column 4b	5 Cathode Column 2b	19 Cathode Column 4b
6 Anode Column 2a	20 Anode Column 4a	6 Cathode Column 2a	20 Cathode Column 4a
7 Anode Column 3b	21 Anode Column 3b	7 Cathode Column 3b	21 Cathode Column 3b
8 Anode Column 3a	22 Anode Column 3a	8 Cathode Column 3a	22 Cathode Column 3a
9 Cathode Row 5b	23 Cathode Row 3b	9 Anode Row 5b	23 Anode Row 3b
10 Cathode Row 5a	24 Cathode Row 3a	10 Anode Row 5a	24 Anode Row 3a
11 Cathode Row 4b	25 Cathode Row 4b	11 Anode Row 4b	25 Anode Row 4b
12 Cathode Row 4a	26 Cathode Row 4a	12 Anode Row 4a	26 Anode Row 4a
13 Cathode Row 6b	27 Cathode Row 2b	13 Anode Row 6b	27 Anode Row 2b
14 Cathode Row 6a	28 Cathode Row 2a	14 Anode Row 6a	28 Anode Row 2a

NOTE: "a" for Super Bright Red color chip.
"b" for Yellow Green color chip

Model No：CSM-57271SG/CSM-57281SG

■ Absolute Maximum Rating -

Super Bright Red (Ta=25℃)

Parameter	Symbol	Rating	Unit
Power Dissipation Per Dice	P_{AD}	75	mW
Continuous Forward Current Per Dice	I_{AF}	30	mA
Peak Current Per Dice(duty cycle 1/10, 1kHz)	I_{PF}	120	mA
Derating Linear From 25℃ Per Dice	-	0.42	mA/℃
Reverse Voltage Per Dice	V_R	5	V
Operating Temp.	Topr	-35 ~ +85	℃
Storage Temp.	Tstg	-35 ~ +85	℃
Solder temperature 1/16 inch below seating plane for 3 seconds at 260℃			

Yellow Green (Ta=25℃)

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℃ Per Dice	-	0.33	mA/℃
Reverse Voltage Per Dice	V_R	5	V
Operating Temp.	Topr	-35 ~ +85	℃
Storage Temp.	Tstg	-35 ~ +85	℃
Solder temperature 1/16 inch below seating plane for 3 seconds at 260℃			

Model No：CSM-57271SG/CSM-57281SG

■ Electro-optical Characteristics -

Super Bright Red (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage Per Segment	V_F	-	1.8	2.5	V	I_F=20mA
Luminous Intensity Per Segment	Iv	-	9	-	mcd	I_F=10mA
Peak Emission Wavelength	λp	-	660	-	nm	I_F=20mA
Dominant Wavelength	λd	-	644	-	nm	I_F=20mA
Spectrum Radiation Bandwidth	Δλ	-	20	-	nm	I_F=20mA
Reverse Current	IR	-	-	100	μA	V_R=5V
Luminous Intensity Matching Ratio	IV-m	-	-	2:1	-	Ip=80mA 1/16Duty

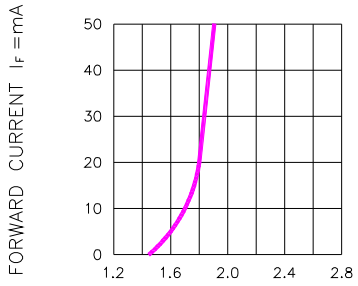
Yellow Green (Ta=25℃)

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	Iv	-	7	-	mcd	I_F=10mA
Peak Emission Wavelength	λp	-	568	-	nm	I_F=20mA
Dominant Wavelength	λd	-	572	-	nm	I_F=20mA
Spectrum Radiation Bandwidth	Δλ	-	30	-	nm	I_F=20mA
Reverse Current	IR	-	-	100	μA	V_R=5V
Luminous Intensity Matching Ratio	IV-m	-	-	2:1	-	Ip=80mA 1/16Duty

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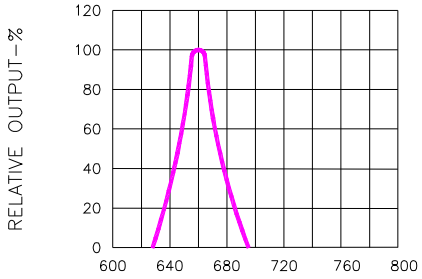
■ Typical Electrical / Optical Charateristics Curves -Super Bright Red

(Ta = 25℃ Unless Otherwise Noted)



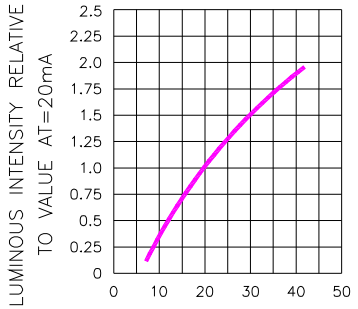
FORWARD VOLTAGE (V_F)—VOLTS

Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE



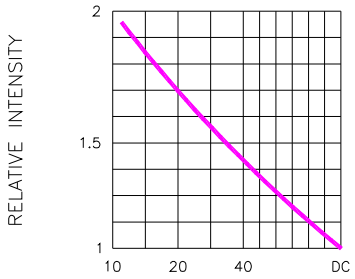
WAVELENGTH (λ)—nm

Fig.2 SPECTRAL RESPONSE



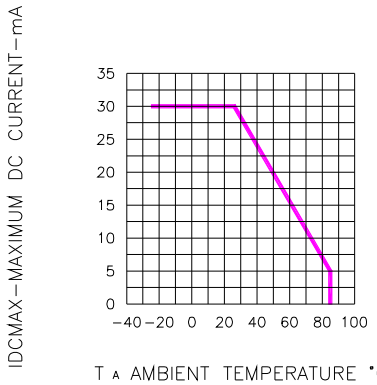
I_F—FORWARD CURRENT—mA

Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT



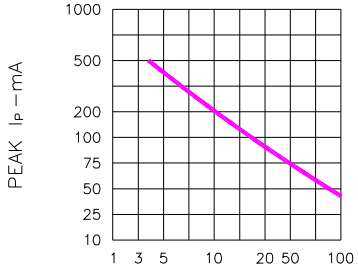
DUTY CYCLE % PER SEGMENT
(AVERAGE I_F=10mA)

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)

Model No：CSM-57271SG/CSM-57281SG

■ Yellow Green

(Ta = 25℃ Unless Otherwise Noted)

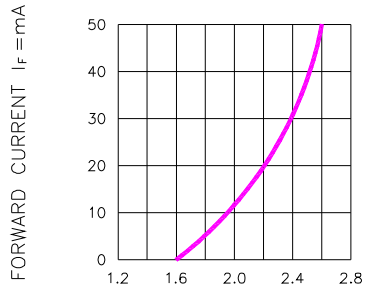


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

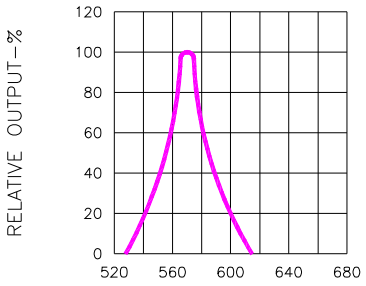


Fig.2 SPECTRAL RESPONSE

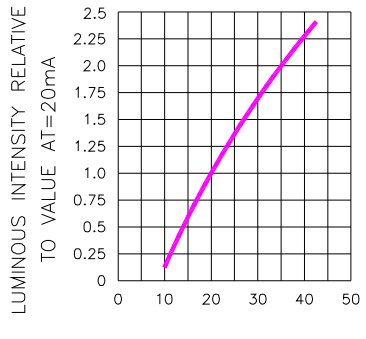


Fig.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

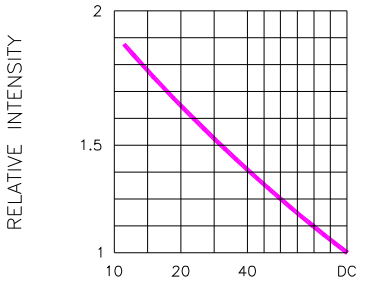


Fig.5 LUMINOUS INTENSITY VS. DUTY CYCLE

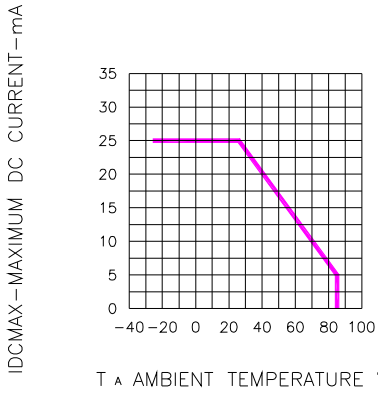


Fig.4 MAXIMUM ALLOWABLE DC CURRENT PER SEGMENT VS. A FUNCTION OF AMBIENT TEMPERATURE

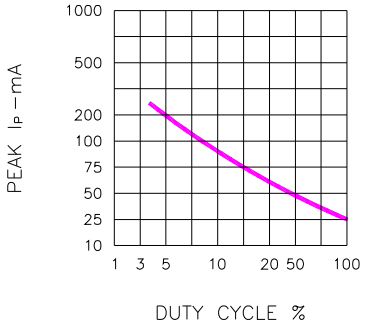
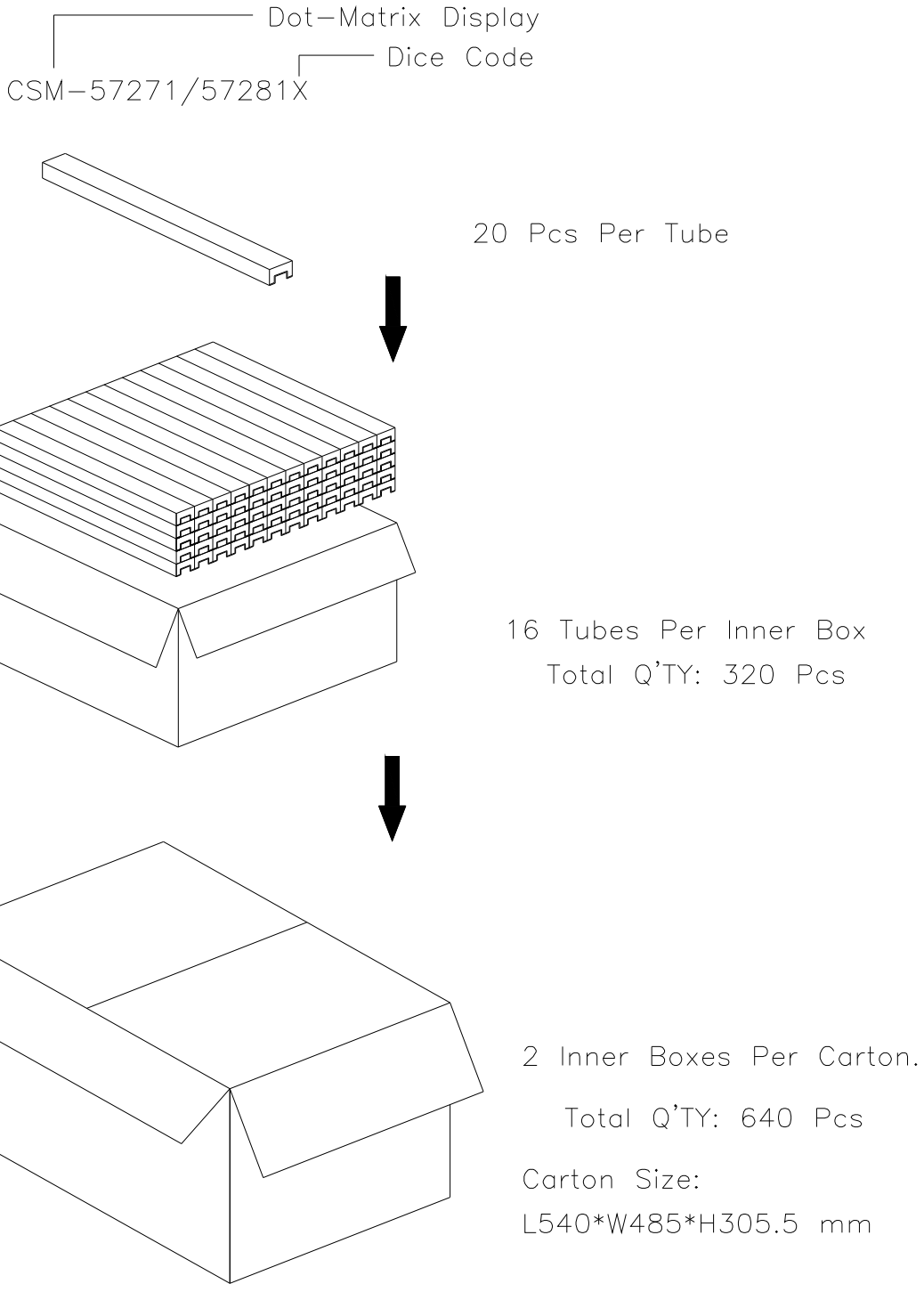


Fig.6 MAX PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE f=1 KHz)

Model No：CSM-57271SG/CSM-57281SG

■ Package Dimensions



Note: The specifications are subject to change without notice. Please contact us for updated information.