

# RAYCONN ELECTRONICS CO., LTD.

## SPECIFICATION FORM

### FEATURES

- ✧  $\Phi$ 3.0MM DOT SIZE
- ✧ 22.80MM×39.10MM OUTLINE
- ✧ 5×7 FORMAT
- ✧ DUAL COLOR DOT MATRIX
- ✧ LOW POWER REQUIREMENT
- ✧ HIGH CONTRAST
- ✧ HIGH BRIGHTNESS
- ✧ SOLID STATE RELIABILITY

### DESCRIPTION

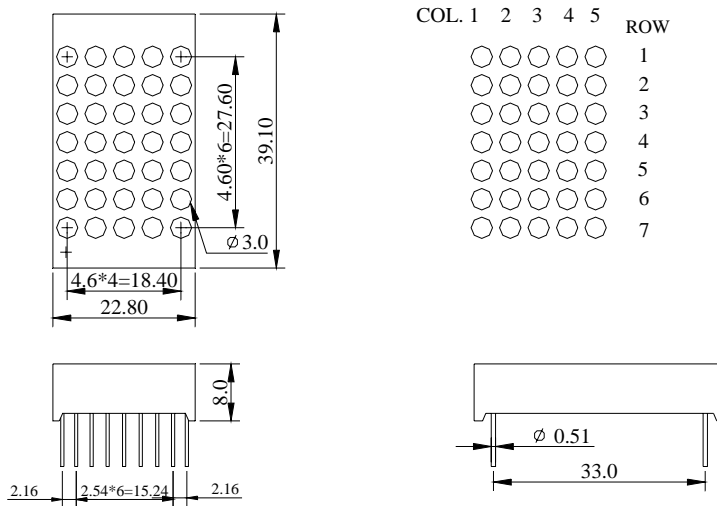
The REC-M1057CSR2 is a  $\phi$ 3.0 dot size, 22.80mm×39.10mm outline, 5×7 format, dual color (super-red and yellow-green), row cathode, LED dot matrix display. This display utilizes super-red LED chips fabricated from GaAlAs epiwafer on GaAs substrate grown by liquid phase epitaxy and yellow-green LED chips fabricated from GaP epiwafer on GaP substrate grown by liquid phase epitaxy. The devices have black face and white dots.

### DEVICE

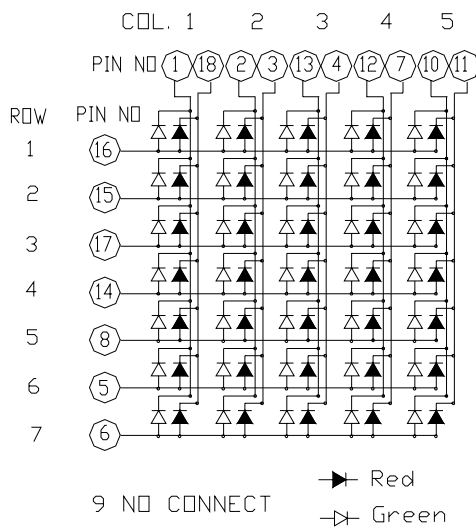
PART NO.	EMITTING COLOR	DESCRIPTION
REC-M1057CSR2	Super-Red and Yellow-Green	Row cathode, Black face, White dot

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## PACKAGE DIMENSION



## INTERNAL CIRCUIT DIAGRAM



## PIN CONNECTION

PIN NO.	CONNECTION	PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Cathode column 1 G	7	Cathode column 4 R	13	Cathode column 3 G
2	Cathode column 2 G	8	Anode Row 5	14	Anode Row 4
3	Cathode column 2 R	9	Cathode column 2	15	Anode Row 2
4	Cathode column 3 R	10	Cathode column 5 G	16	Anode Row 1
5	Anode Row 6	11	Cathode column 5 R	17	Anode Row 3
6	Anode Row 7	12	Cathode column 4 G	18	Cathode column 1 R

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## ABSOLUTE MAXIMUM RATING AT $T_A=25^\circ\text{C}$

PARAMETER	RED	GREEN
Power Dissipation per dot, $P_{AD}$ (mW)	60	75
Peak Forward Current per dot, $I_{PF}$ (mA)	80	80
Continuous Forward Current per dot, $I_{AF}$ (mA)	20	20
Reverse Voltage per dot, $V_R$ (V)	5	5
Operating Temperature Range, $T_{opr}$	- 25° C to + 60° C	
Storage Temperature Range, $T_{stg}$	- 30° C to + 85° C	
Solder Temperature : 1 / 16 inch below seating plane for 3 seconds at 260° C		

## ELECTRO - OPTICAL CHARACTERISTICS AT $T_A=25^\circ\text{C}$

PARAMETER	RED			GREEN		
	MIN	TYP	MAX	MIN	TYP	MAX
Luminous Intensity per chip, $I_V$ (mcd, $I_F=20\text{mA}$ )	7	10	15	10	15	20
Peak Emission Wavelength, $\lambda_P$ (nm, $I_F=20\text{mA}$ )		640			568	
Domonant Wavelength, $\lambda_d$ (nm, $I_F=20\text{mA}$ )		643			573	
Special Line Half-Width, $\Delta\lambda$ (nm, $I_F=20\text{mA}$ )		20			30	
Forward Voltage per dot, $V_F$ (V, $I_F=20\text{mA}$ )	1.6	1.75	2.10	1.80	2.15	2.50
Reverse Current per dot, $I_R$ ( $\mu\text{A}$ , $V_R=5\text{V}$ )			50			50
Luminous Intensity Matching Ratio, $I_{V-m}$ ( $I_F=20\text{mA}$ )			2 : 1			2 : 1