

# High Reliability 1.08-inch 3.5mm 5x7 Dot Matrix LED Displays

# SDM-4570/2 SDM-4577/9

## GENERAL DESCRIPTION

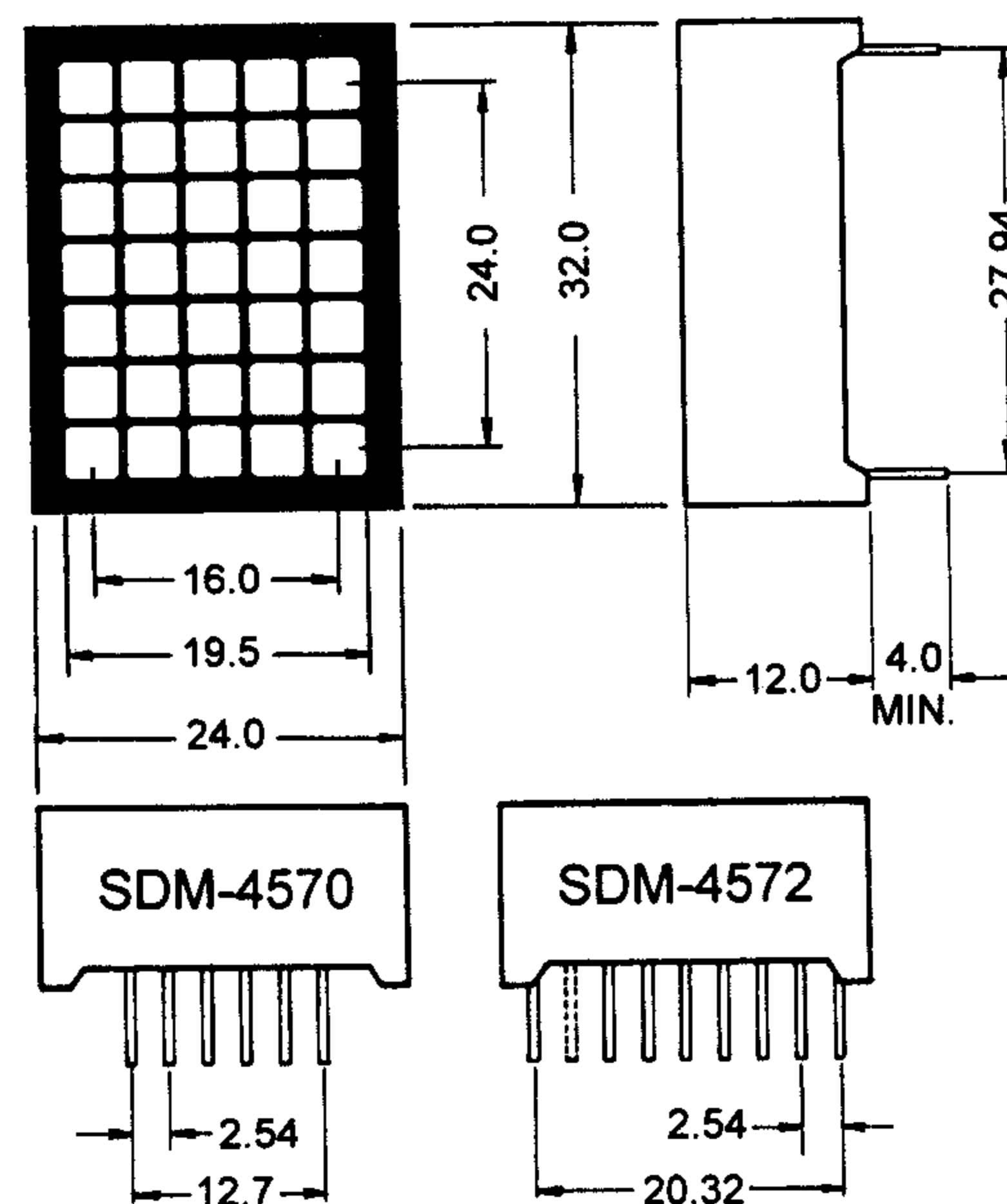
The SDM-4570 and the SDM-4577 are 1.08 inch (27.5mm) height epoxy molded 3.5x3.5mm Square Dot matrix LED displays. The standard units are available in red, green, orange and yellow-green emitting colors, with 5x7 array and x-y select and also available in dual color types SDM-4572 and SDM-4579.

## FEATURES

1. High brightness with high contrast
2. Wide angle viewing
3. Low power consumption;  
Directly drive with I.C
4. Solid state reliability;  
Long operation life
5. Cathode-row (SDM-4570/2) and cathode column (SDM-4577/9) types available

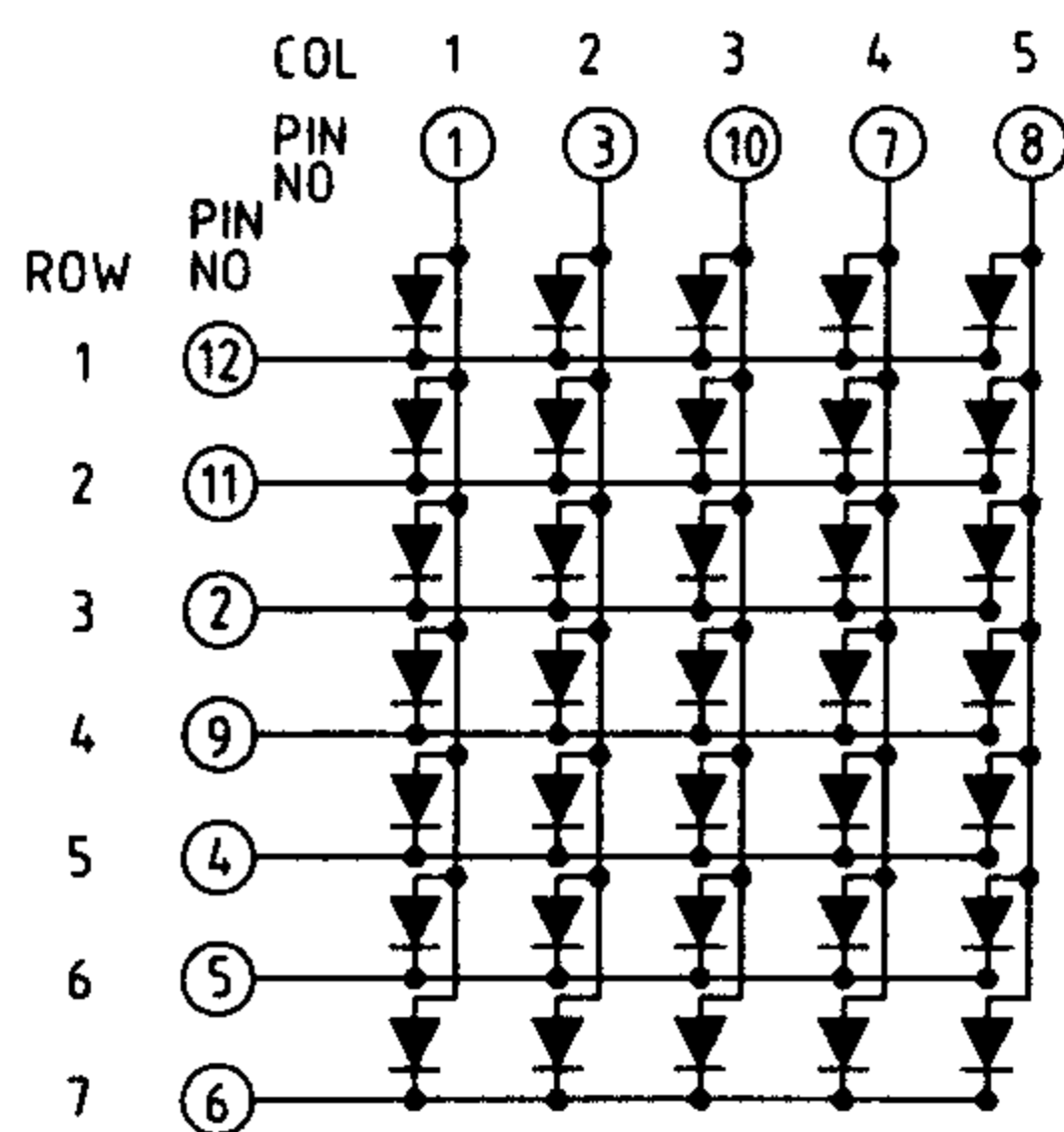
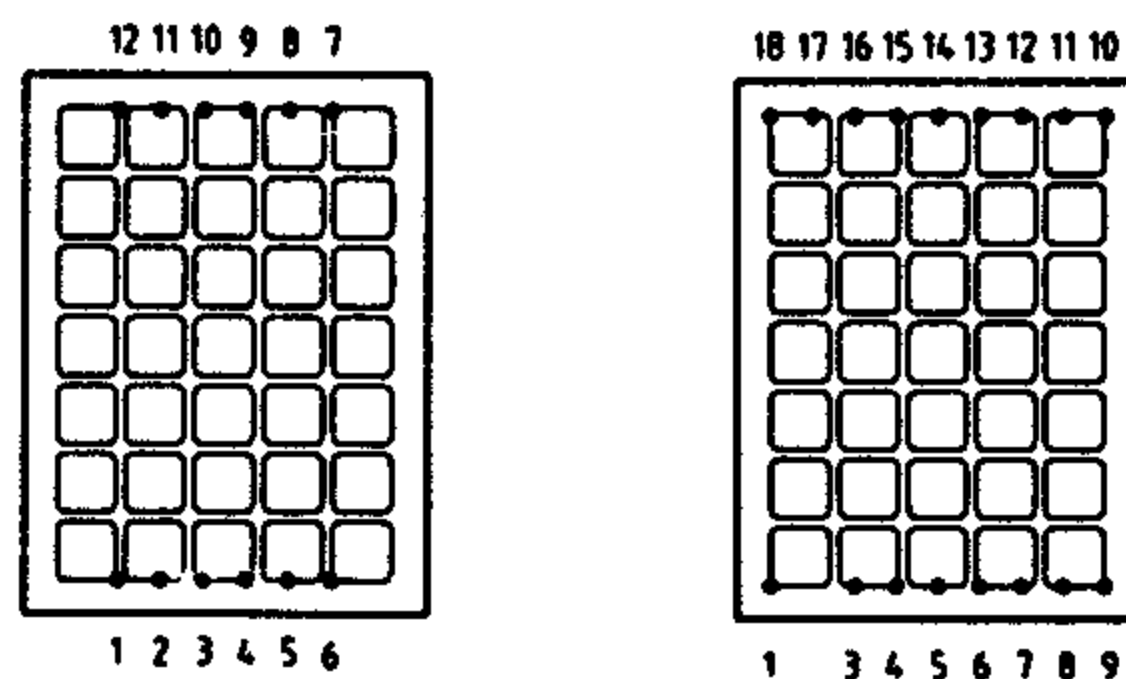
## PACKAGE DIMENSIONS

SCALE 1:1 (mm)

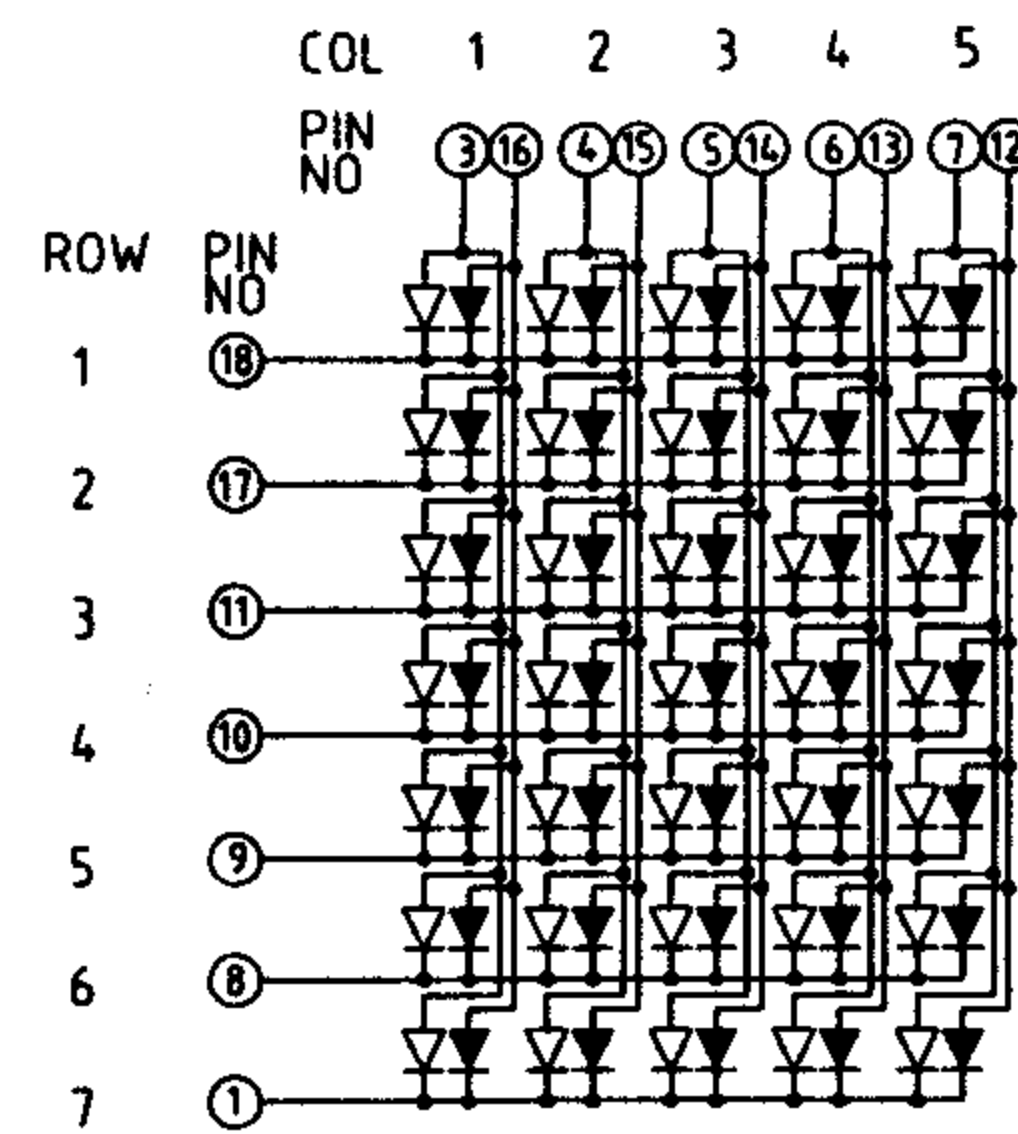


## PIN ARRANGEMENT

(Top View)



SDM-4570 (Cathode row)



SDM-4572 (Cathode row)

SDM-4577/9 (Cathode column) All diodes are reversed polarity

**三光半導体株式会社**  
**SAM KWANG SEMICONDUCTOR CO., LTD.**

803 Silla Techno Vil., 39-3 Dang-dong Kunpo-City Kyungki-do, Korea,  
TEL:031-456-1444/1484, FAX:031-456-4224

## Red SDM 4570/4577UR (GaAlAs)

Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Power dissipation/Total	1400	mW
Power dissipation/Dot	30	mW
Forward current	15	mA
Peak forward current	60*	mA
Reverse voltage	4	V
Operating temperature	-25 ~ +85	$^\circ\text{C}$
Storage temperature	-55 ~ +100	$^\circ\text{C}$

Electrical/Optical Characteristics ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Conditions	Min	Typ	Max.	Unit
Forward voltage/Dot	$V_F$	$I_F = 10\text{mA}$	—	1.9	2.1	V
Reverse current/Dot	$I_R$	$V_R = 4\text{V}$	—	—	10	$\mu\text{A}$
Luminous intensity/Dot	$I_V$	$I_F = 10\text{mA}$	1300	2500	—	$\mu\text{cd}$
Peak wavelength	$\lambda_P$	$I_F = 10\text{mA}$	—	660	—	nm
Spectral line halfwidth	$\Delta\lambda$	$I_F = 10\text{mA}$	—	20	—	nm

## Orange SDM 4570/4577SR (GaAsP/GaP)

Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Power dissipation/Total	1400	mW
Power dissipation/Dot	30	mW
Forward current	15	mA
Peak forward current	60*	mA
Reverse voltage	4	V
Operating temperature	-25 ~ +85	$^\circ\text{C}$
Storage temperature	-55 ~ +100	$^\circ\text{C}$

Electrical/Optical Characteristics ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Conditions	Min	Typ	Max.	Unit
Forward voltage/Dot	$V_F$	$I_F = 10\text{mA}$	—	2.0	2.2	V
Reverse current/Dot	$I_R$	$V_R = 4\text{V}$	—	—	10	$\mu\text{A}$
Luminous intensity/Dot	$I_V$	$I_F = 10\text{mA}$	500	1000	—	$\mu\text{cd}$
Peak wavelength	$\lambda_P$	$I_F = 10\text{mA}$	—	635	—	nm
Spectral line halfwidth	$\Delta\lambda$	$I_F = 10\text{mA}$	—	35	—	nm

## Yellow-green SDM 4570/4577UG (GaP)

Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Power dissipation/Total	1400	mW
Power dissipation/Dot	30	mW
Forward current	15	mA
Peak forward current	60*	mA
Reverse voltage	4	V
Operating temperature	-25 ~ +85	$^\circ\text{C}$
Storage temperature	-55 ~ +100	$^\circ\text{C}$

Electrical/Optical Characteristics ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Conditions	Min	Typ	Max.	Unit
Forward voltage/Dot	$V_F$	$I_F = 10\text{mA}$	—	2.1	2.3	V
Reverse current/Dot	$I_R$	$V_R = 4\text{V}$	—	—	10	$\mu\text{A}$
Luminous intensity/Dot	$I_V$	$I_F = 10\text{mA}$	600	1200	—	$\mu\text{cd}$
Peak wavelength	$\lambda_P$	$I_F = 10\text{mA}$	—	565	—	nm
Spectral line halfwidth	$\Delta\lambda$	$I_F = 10\text{mA}$	—	30	—	nm

\* Pulse Width . . . . . 1 ms  
Duty Cycle . . . . . 1/5