

# HDSP-H571/H573

5 x 7 General Purpose Dot Matrix Displays  
53.2 mm (2.09 inch) Package



## Data Sheet

### Description

This display comprises 7 rows by 5 columns of 5.0 mm diameter dots on a pitch of 7.62 mm. The device is available in common row cathode and common row anode configurations. The displays come in black face paint. Each dot has high efficiency red.

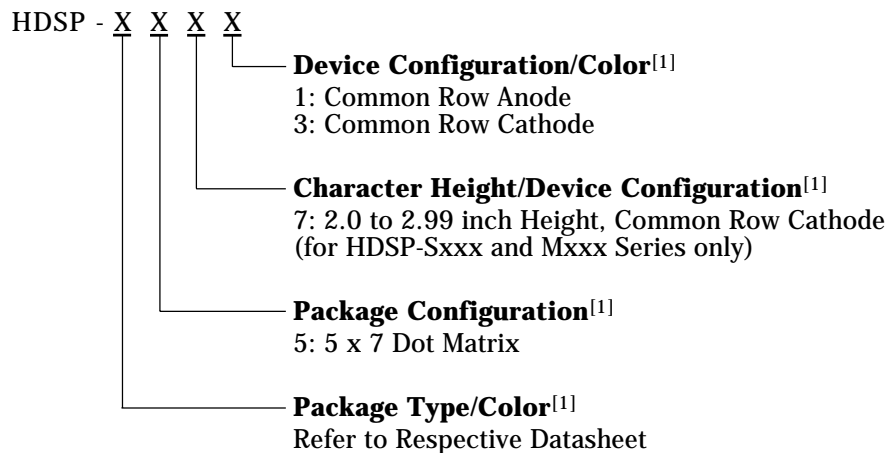
### Features

- 5 x 7 Dot matrix
  - Dot diameter 5.0 mm
  - Dot pitch 7.62 mm
- High Efficiency Red (HER)
- Black face paint

### Device Selection Guide

	Description
HDSP-H571	Common Row Anode
HDSP-H573	Common Row Cathode

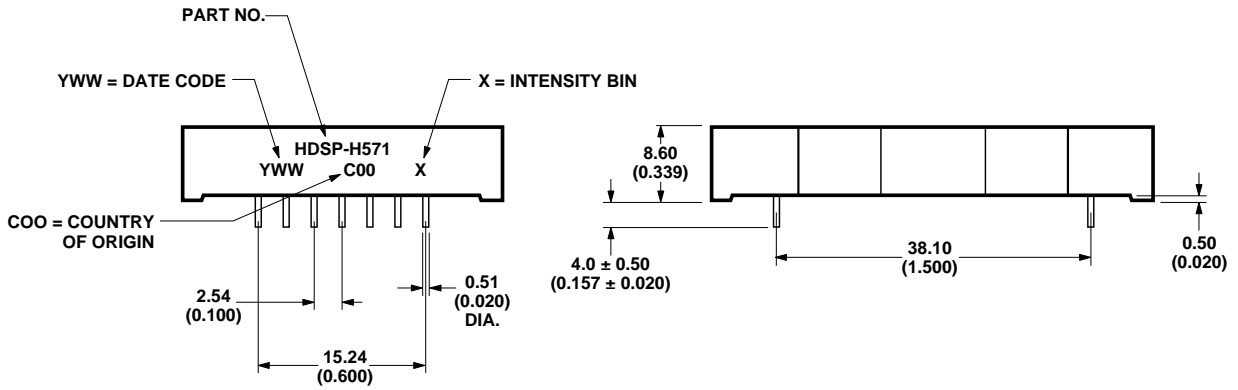
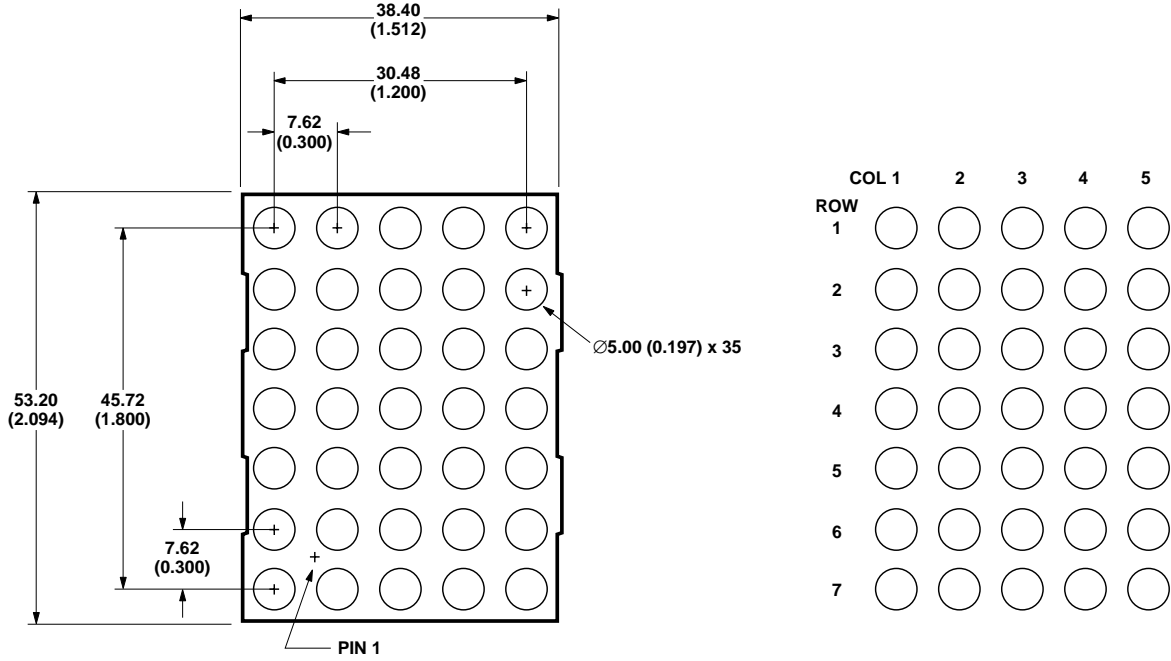
### Part Numbering System



### Note:

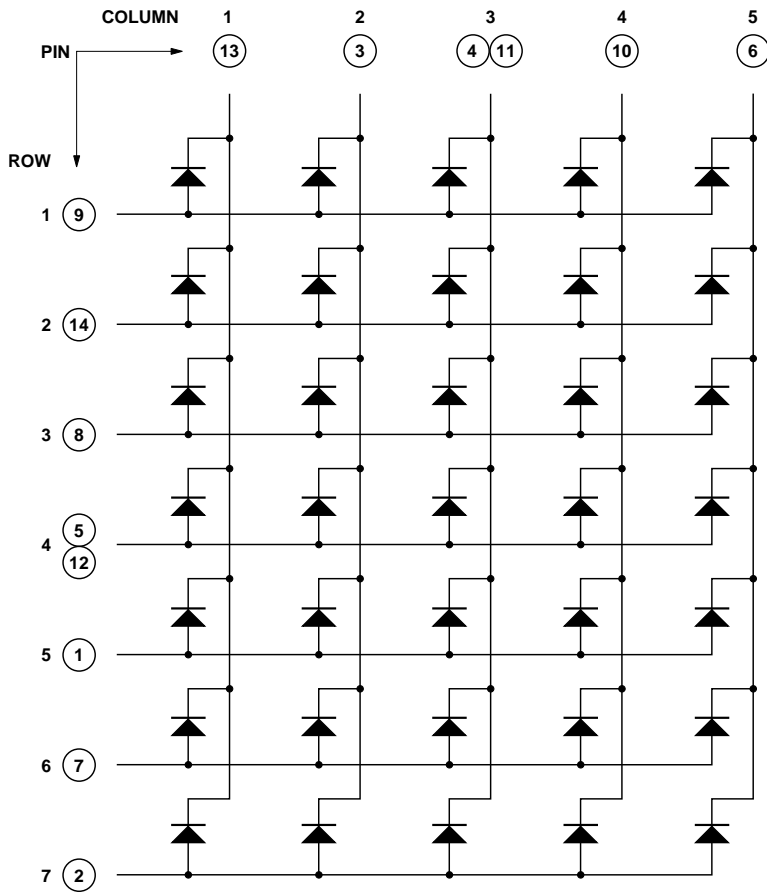
1. For codes not listed in the figure above, please refer to the respective datasheet or contact your nearest Avago representative for details.

# Package Dimensions



- NOTES:
1. DIMENSIONS IN MILLIMETERS (INCHES).
  2. UNLESS OTHERWISE STATED, TOLERANCE IS  $\pm 0.25$  mm.

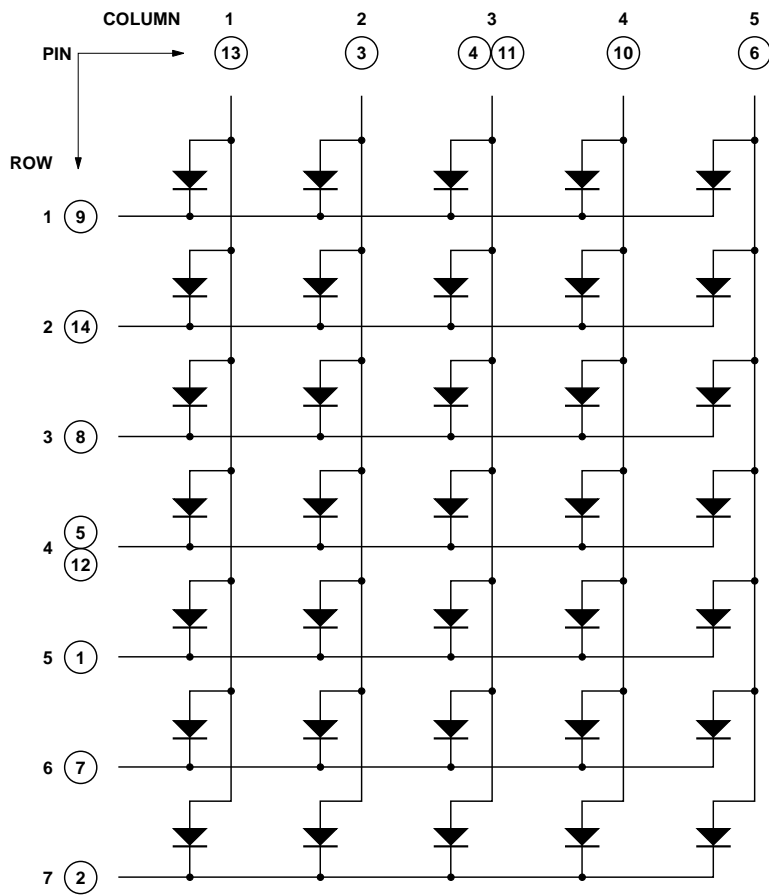
**Internal Circuit Diagram**  
Common Row Anode



PIN NO.	FUNCTION
1	ROW 5 ANODE
2	ROW 7 ANODE
3	COLUMN 2 CATHODE
4	COLUMN 3 CATHODE
5	ROW 4 ANODE
6	COLUMN 5 CATHODE
7	ROW 6 ANODE
8	ROW 3 ANODE
9	ROW 1 ANODE
10	COLUMN 4 CATHODE
11	COLUMN 3 CATHODE
12	ROW 4 ANODE
13	COLUMN 1 CATHODE
14	ROW 2 ANODE

## Internal Circuit Diagram

Common Row Cathode



PIN NO.	FUNCTION
1	ROW 5 CATHODE
2	ROW 7 CATHODE
3	COLUMN 2 ANODE
4	COLUMN 3 ANODE
5	ROW 4 CATHODE
6	COLUMN 5 ANODE
7	ROW 6 CATHODE
8	ROW 3 CATHODE
9	ROW 1 CATHODE
10	COLUMN 4 ANODE
11	COLUMN 3 ANODE
12	ROW 4 CATHODE
13	COLUMN 1 ANODE
14	ROW 2 CATHODE

### Absolute Maximum Ratings at $T_A = 25^\circ\text{C}$

Parameter	Symbol	High Efficiency Red (HER)	Units
Power Dissipation per Dot	$P_D$	60	mW
Peak Forward Current per Dot	$I_{PEAK}$	80	mA
Average Forward Current per Dot	$I_F$ AVG	25 <sup>[1]</sup>	mA
Reverse Voltage per Dot	$V_R$	5	V
Operating Temperature	$T_O$	-40 to +85	$^\circ\text{C}$
Storage Temperature	$T_S$	-40 to +85	$^\circ\text{C}$
Wave Soldering Conditions (2 mm [0.079 in.] below Body)	Temperature Time	250 3	$^\circ\text{C}$ s

**Note:**

1. Derate above  $50^\circ\text{C}$  at  $0.36\text{ mA}/^\circ\text{C}$ .

### Optical/Electrical Characteristics at $T_A = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Units	Test Conditions
Forward Voltage	$V_F$		2.1	2.6	V	$I_F = 20\text{ mA}$
Reverse Voltage per Dot	$V_R$	5.0			V	$I_R = 100\ \mu\text{A}$
Intensity per Dot	$I_V$	2.20	3.30		mcd	$I_{FP} = 40\text{ mA}$ , 1/8Duty
Peak Wavelength	$\lambda_P$		632		nm	$I_F = 20\text{ mA}$
Dominant Wavelength	$\lambda_D$		622		nm	$I_F = 20\text{ mA}$
Spectral Line Half Wavelength	$\Delta\lambda$		40		nm	$I_F = 20\text{ mA}$
Thermal Resistance LED Junction-to-Pin	$R\theta_{J-PIN}$		320		$^\circ\text{C}/\text{W}/\text{Dot}$	

**Notes:**

- The digits are categorized for luminous intensity. The intensity category is designated by a letter on the side of the package.
- Typical specification for reference only. Do not exceed absolute maximum ratings.

### Intensity Bin Limits ( $I_{FP} = 40\text{ mA}$ at 1/8 Duty Factor)

Bin	$I_V$ , Min. (mcd)	$I_V$ , Max. (mcd)
G	2.20	3.30
H	3.31	4.97

Tolerance of each minimum and maximum =  $\pm 15\%$ .

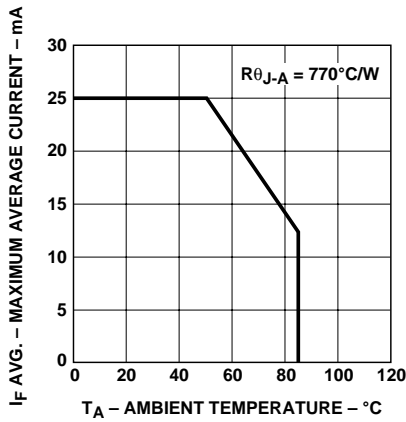


Figure 1. Maximum allowable average current per dot vs. ambient temperature.

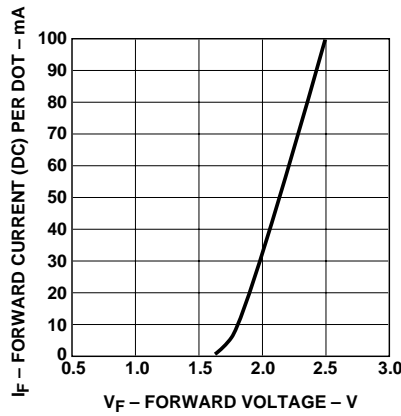


Figure 2. Forward current (DC) vs. forward voltage.

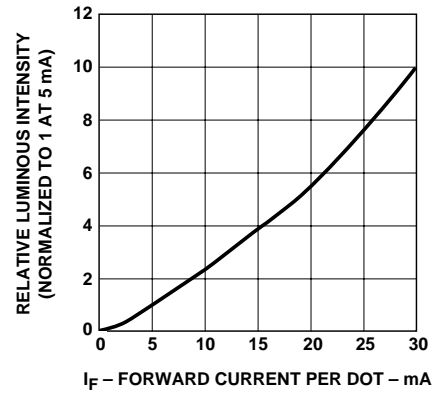


Figure 3. Relative luminous intensity vs. DC forward current.

### Contrast Enhancement

For information on contrast enhancement, please see Application Note 1015.

For information on soldering LEDs, please refer to Application Note 1027 and Application Note 1060.

### Soldering/Cleaning

Cleaning agents from the ketone family (acetone, methyl ethyl ketone, etc.) and from the chlorinated hydrocarbon family (methylene chloride, trichloroethylene, carbon tetrachloride, etc.) are not recommended for cleaning LED parts. All of these various solvents attack or dissolve the encapsulating epoxies used to form the package of plastic LED parts.

### Device Reliability

For reliability information, please see the reliability data sheet *5 x 7 Bi-Color General Purpose Dot Matrix Displays*.

For product information and a complete list of distributors, please go to our website: [www.avagotech.com](http://www.avagotech.com)

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