HDSP-431G/433G QDSP-499G

10 mm Three Digit Slim Font with 2-Colons Seven Segment Displays

Data Sheet





Description

The 10 mm (0.4 inch) Three Digit Slim Font with 2-Colons Seven Segment Displays incorporates a new slim font character design. This slim font features narrow width, specially mitered segments to give a fuller appearance to the illuminated character. Faces of these displays are painted a neutral gray for enhanced on/off contrast.

All devices are available in either common anode or common cathode configuration with tinted green segments.

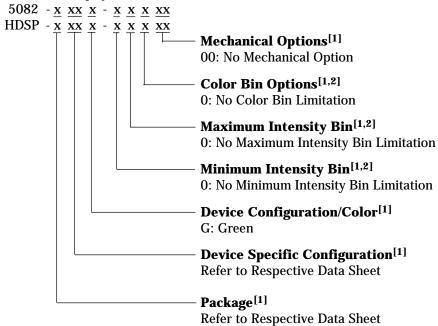
Devices

Green	Description
HDSP-431G	3 Digit, Common Anode, Untinted- Diffused, 0.4" Display
HDSP-433G	3 Digit, Common Cathode, Untinted- Diffused, 0.4" Display
QDSP-499G	3 Digit, Common Anode, Untinted- Diffused, 0.4" Display, without Pin 6 and No DP.

Features

- Excellent appearance
- · Slim font design
- · Mitered corners, evenly illuminated segments
- · Gray face for optimum on/off contrast
- · Choice of colors: green
- · Choice of character size: 10 mm (0.4 inch)
- Characterized for luminous intensity

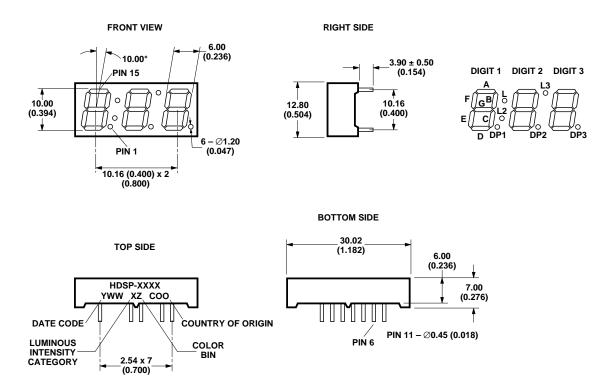




Notes:

- 1. For codes not listed in the figure above, please refer to the respective data sheet or contact your nearest Avago representative for details.
- 2. Bin options refer to shippable bins for a part-number. Color and Intensity Binbs are typically restricted to 1 bin per tube (exceptions may apply). Please refer to respective data sheet for specific bin limit information.

Package Dimensions (HDSP-431G/HDSP-433G/QDSP-499G)



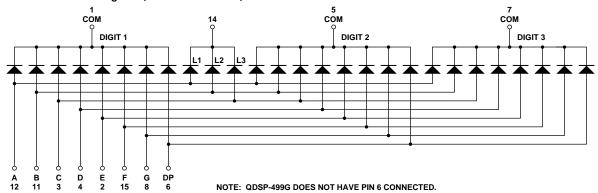
NOTE: QDSP-499G DOES NOT HAVE PIN 6 AND THEREFORE DP1, DP2, AND DP3 ARE NOT DISPLAYED.

NOTES:

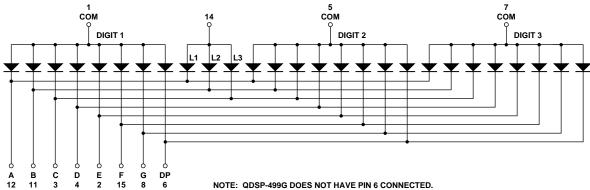
- 1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES).
- 2. UNLESS OTHERWISE STATED, TOLERANCES ARE \pm 0.25 mm.

PIN	FUNCTION		
1	DIGIT 1 COMMON A/C		
2	E		
3	С		
4	D		
5	DIGIT 2 COMMON A/C		
6	DP		
7	DIGIT 3 COMMON A/C		
8	G		
9	NO PIN		
10	NO PIN		
11	В		
12	A		
13	NO PIN		
14	L1, L2, & L3 COMMON A/C		
15	F		

Internal Circuit Diagram (Common Cathode)



Internal Circuit Diagram (Common Anode)



Absolute Maximum Ratings at T_A = 25°C

Description	Green	Units
Average Power per Segment or DP	65	mW
Peak Forward Current per Segment or DP	100	mA
DC Forward Current per Segment or DP	25	mA
Operating Temperature Range	-40 to +105	°C
Storage Temperature Range	-40 to +105	°C
Reverse Voltage per Segment or DP	3	V
Wave Soldering Temperature for 3 Seconds 1.59 mm below Body	250	°C

Note:

Electrical/Optical Characteristics at T_A = 25°C

Device Series	Parameter	Symbol	Min.	Тур.	Max.	Units	Test Conditions
HDSP-431G/ HDSP-433G/ QDSP-499G	Luminous Intensity/ Segment (Digit Average)	ly	3.200	5.000		mcd	I _F = 10 mA
	Forward Voltage/ Segment or DP	V _F		2.25	2.50	V	I _F = 20 mA
	Peak Wavelength	λρεΑΚ		568		nm	$I_F = 20 \text{ mA}$
	Dominant Wavelength	λ_{d}		573		nm	$I_F = 20 \text{ mA}$
	Reverse Current	I _R			100	μΑ	V _R = 5 V

Notes

- 1. Typical specification for reference only. Do not exceed absolute maximum ratings.
- 2. The dominant wavelength, λ_i is derived from the CIE chromaticity diagram and is that single wavelength which defines the color of the device.

^{1.} Derate above 40°C at 0.33 mA/°C for Green.

Intensity Bin Limits (mcd)

Green

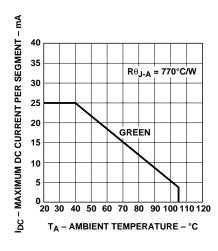
HDSP-431G/433G/QDSP-499G				
IV Bin Category	Min.	Max.		
L	3.200	5.050		
M	5.051	8.000		

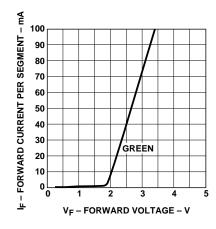
Color Categories

		Dominant Wavelength (nm)		
Color	Bin	Min.	Max.	
Green	3	570.0	574.0	
	4	567.0	571.0	

Note:

 All categories are established for classification of products. Products may not be available in all categories. Please contact your Avago representatives for further clarification/information.





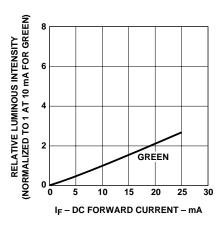


Figure 1. Maximum allowable DC current vs. ambient temperature.

Figure 2. Forward current vs. forward voltage.

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

Contrast Enhancement

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

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.

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

