Agilent HDSP-301G, HDSP-303G, QDSP-399G 10 mm One Digit Slim Font Seven Segment Displays

Data Sheet

Description

The Slim Font 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 right hand decimal point.

Features

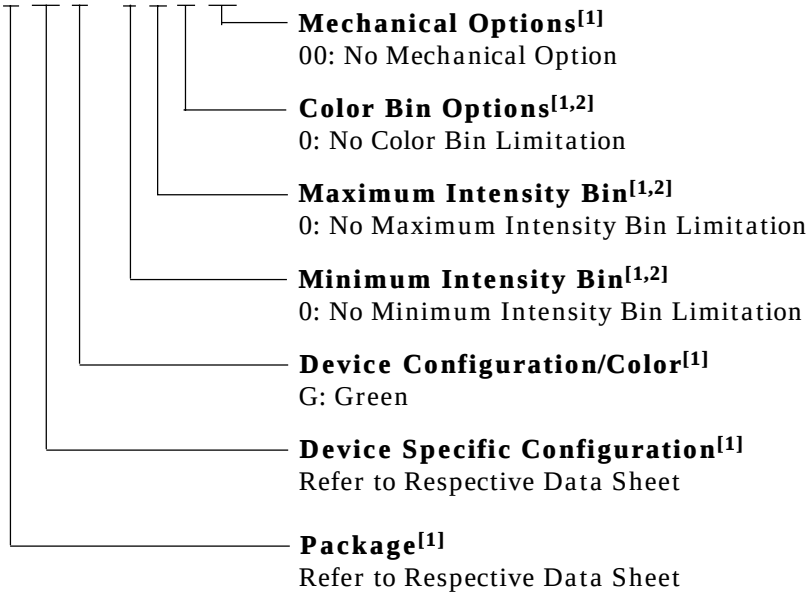
- **Excellent appearance**
- **Slim font design**
- **Mitered corners, evenly illuminated segments**
- **Gray face for optimum on/off contrast**
- **Choice of colors: green**
- **Choice of character size: 10 mm (0.4 inch)**
- **Characterized for luminous intensity**

Devices

Green	Description
HDSP-301G	1 Digit, Common Anode, Untinted-Diffused, 10 mm Display
HDSP-303G	1 Digit, Common Cathode, Untinted-Diffused, 10 mm Display
QDSP-399G	1 Digit, Common Anode, 10 mm Display, Untinted-Diffused, without Pin 6 and DP Does Not Light Up.

Part Numbering System

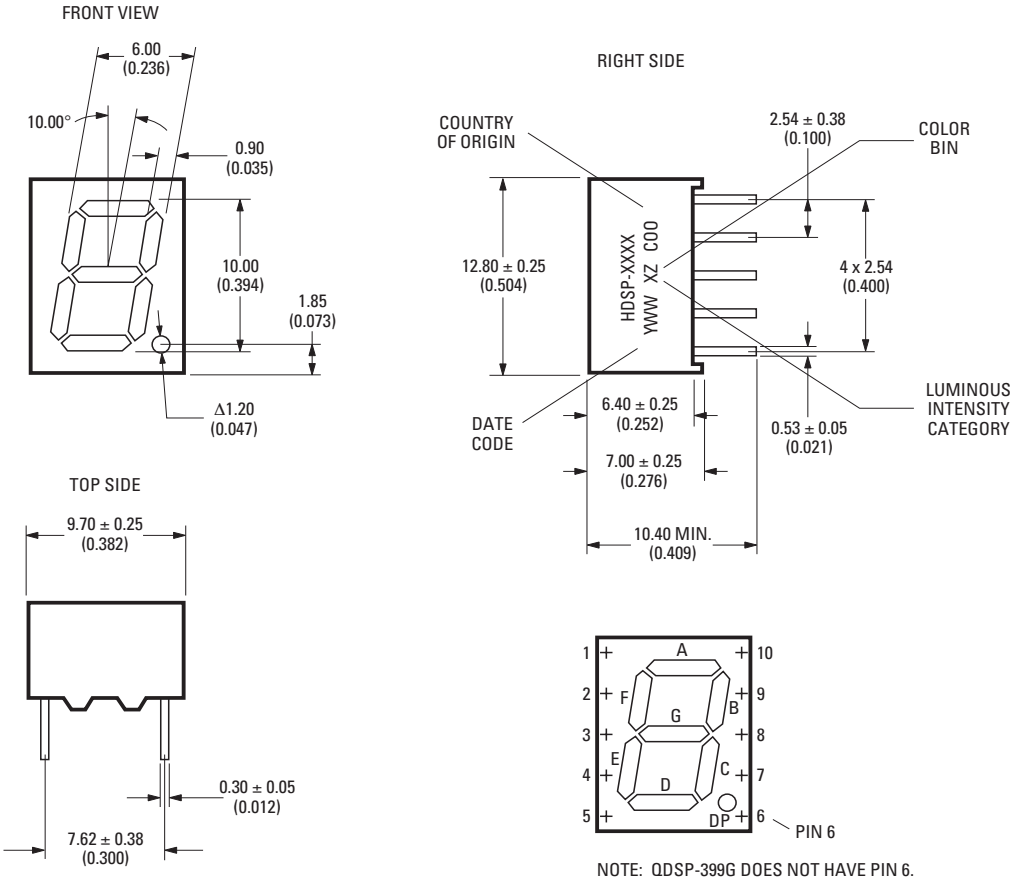
5082 - x xx x - x x x xx
HDSP - x xx x - x x x xx



Notes:

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

Package Dimension Drawing

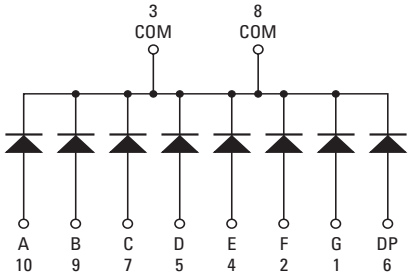


NOTE: QDSP-399G DOES NOT HAVE PIN 6.

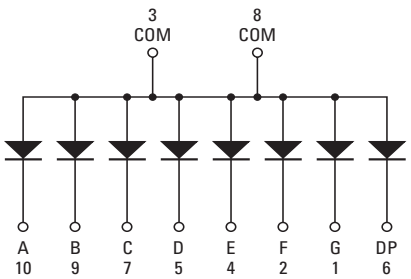
NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES).
2. UNLESS OTHERWISE STATED, TOLERANCES ARE ± 0.25 mm.

PIN	FUNCTION
1	G
2	F
3	COMMON A/C
4	E
5	D
6	DP
7	C
8	COMMON A/C
9	B
10	A

Internal Circuit Diagram (Common Cathode)



Internal Circuit Diagram (Common Anode)



Absolute Maximum Ratings

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:
1. Derate above 40°C at 0.33 mA/°C for Green.

Electrical/Optical Characteristics at T_A = 25°C

Device Series	Parameter	Symbol	Min.	Typ.	Max.	Units	Test Conditions
HDSP-301G/ HDSP-303G/ QDSP-399G	Luminous Intensity/ Segment (Digit Average)	I_V	2.001	3.200		mcd	I_F = 10 mA
	Forward Voltage/ Segment or DP	V_F		2.25	2.50	V	I_F = 20 mA
	Peak Wavelength	λ_{PEAK}		568		nm	I_F = 20 mA
	Dominant Wavelength	λ_d		573		nm	I_F = 20 mA
	Reverse Current	I_R			100	μA	V_R = 5 V

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

Intensity Bin Limits (mcd)

Green

HDSP-301G/303G/QDSP-399G		
IV Bin Category	**Min.**	**Max.**
K	2.000	3.200
L	3.200	5.050

Color Categories

		Dominant Wavelength (nm)	
Color	**Bin**	**Min.**	**Max.**
Green	3	570.50	573.50
	4	567.50	570.50

Note:

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

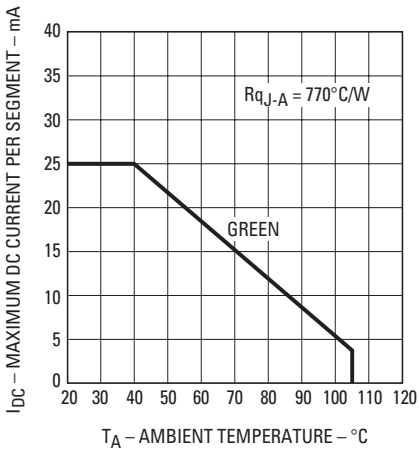


Figure 1. Maximum allowable DC current vs. ambient temperature.

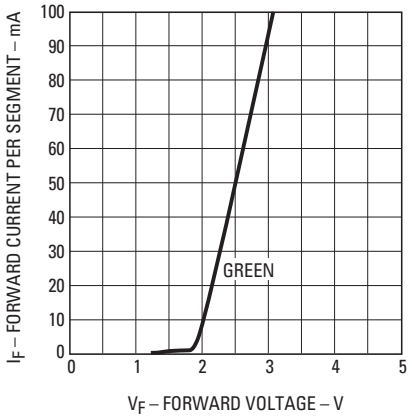


Figure 2. Forward current vs. forward voltage.

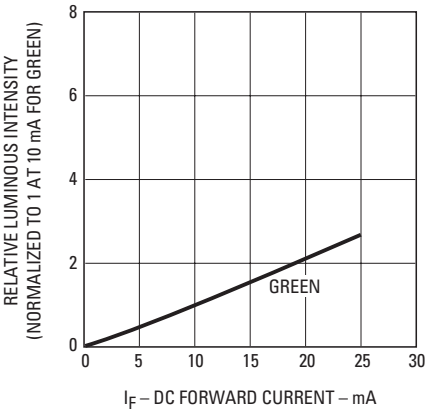


Figure 3. Relative luminous intensity vs. DC forward current.

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.

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For product information and a complete list of distributors, please go to our web site.

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Data subject to change.

Obsoletes 5988-5013EN

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5989-0166EN

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