Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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HDSM-541W/543W

0.56 inch (14.0 mm)
Dual-Digit Surface Mount LED Display

Data Sheet

Description

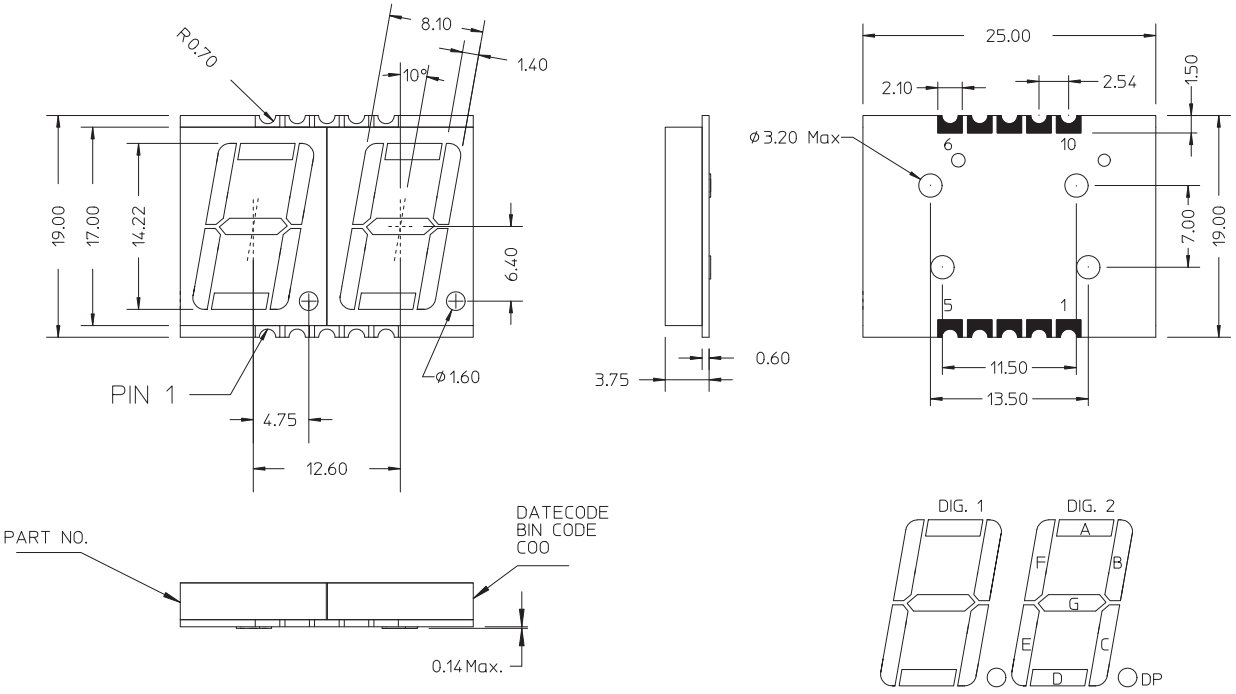
This is 0.56" (14.22 mm) height dual-digit display. This device utilizes white ChipLED. This device comes with top surface gray and white segments.

White HDSM-	Description
541W	Common Anode, Right Hand Decimal
543W	Common Cathode, Right Hand Decimal

Features

- 0.56" digit height
- Low current operation
- Excellent characters appearance
- Available in CA and CC
- 500 pieces per reel
- Moisture Sensitivity Level: Level 3
- RoHS compliant

Package Dimensions



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is 0.25 mm (0.01"), unless otherwise noted.

CAUTION: *LEDs are Class 1A ESD sensitive per JESD22-A114C.01. Please observe appropriate precautions during handling and processing.*

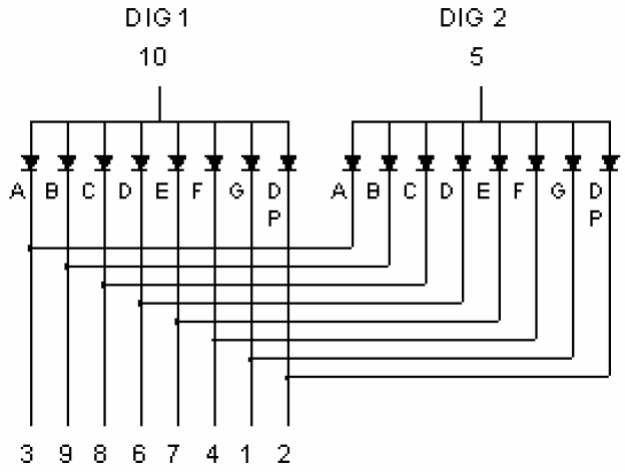
Pin Connection (Common Anode)

Pin No.	Connection
1	CATHODE G
2	CATHODE DP
3	CATHODE A
4	CATHODE F
5	COMMON ANODE DIG2
6	CATHODE D
7	CATHODE E
8	CATHODE C
9	CATHODE B
10	COMMON ANODE DIG1

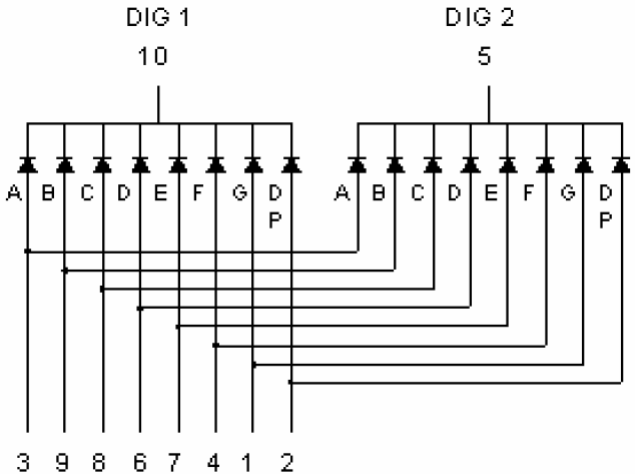
Pin Connection (Common Cathode)

Pin No.	Connection
1	ANODE G
2	ANODE DP
3	ANODE A
4	ANODE F
5	COMMON CATHODE DIG2
6	ANODE D
7	ANODE E
8	ANODE C
9	ANODE B
10	COMMON CATHODE DIG1

Internal Circuit Diagram (Common Anode)



Internal Circuit Diagram (Common Cathode)



Absolute Maximum Ratings @ $T_A = 25\ °C$

Parameter	White	Unit
Power Dissipation Per Segment	39	mW
Peak Forward Current Per Segment (1/10 Duty Cycle., 0.1 ms pulse width)	80	mA
Continuous Forward Current Per Segment	10	mA
Derating Linearly From 25 °C Per Segment	0.083	mA/°C
Reverse Voltage Per Segment	Not designed for reverse bias	V
Operating Temperature Range	-40 °C to +85 °C	
Storage Temperature Range	-40 °C to +85 °C	

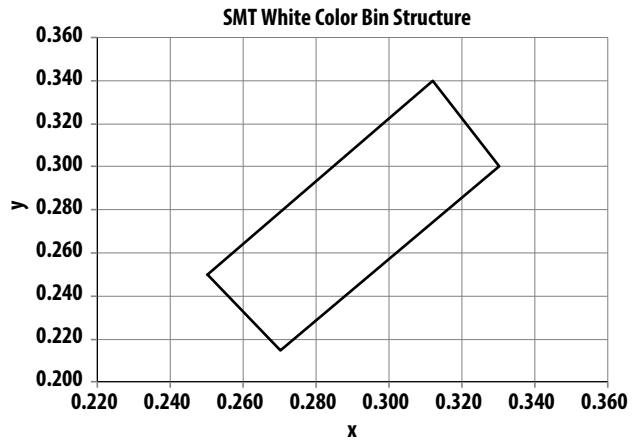
Electrical / Optical Characteristics @ $T_A = 25\ °C$

White

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity	I_V	28	44	–	mcd	$I_F = 5$ mA
Chromaticity Coordinates	(x,y)		See Figure 1			$I_F = 5$ mA
Forward Voltage, Per Segment	V_F	–	2.95	3.8	V	$I_F = 5$ mA
Reverse Current, Per Segment [1]	I_R	–	–	100	μA	$V_R = 5$ V
Luminous Intensity Matching Ratio	$I_{V\text{-}m}$	–	–	2:1	–	$I_F = 5$ mA

Note 1. Indicates production final test condition only. Long term reverse biasing is not recommended.

Typical Electrical / Optical characteristic Curves @ $T_A = 25\ ^\circ C$



Chromaticity Coordinates				
x	0.250	0.270	0.330	0.312
y	0.250	0.215	0.300	0.340

Figure 1. Color bin limit (CIE 1931 Chromatically Diagram) [Tolerance: ±0.02]

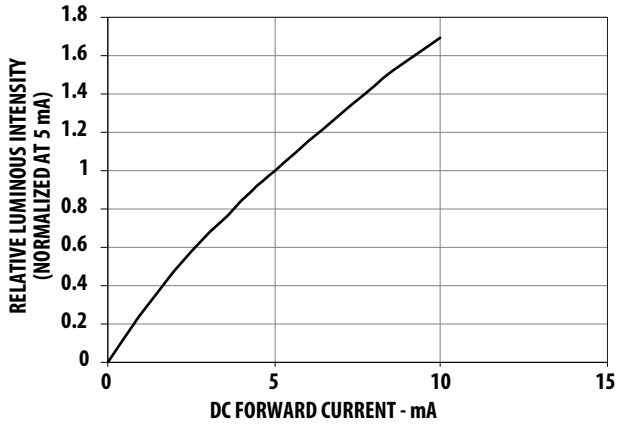


Figure 2. Relative luminous intensity versus forward current

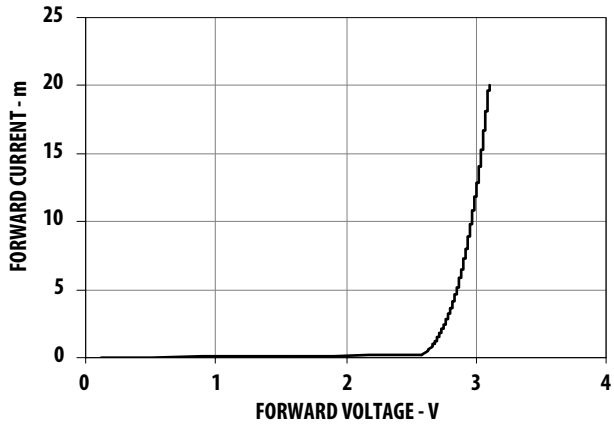


Figure 3. Forward current versus forward voltage

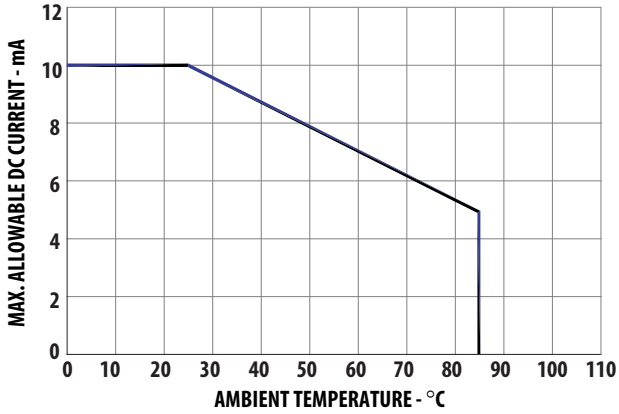
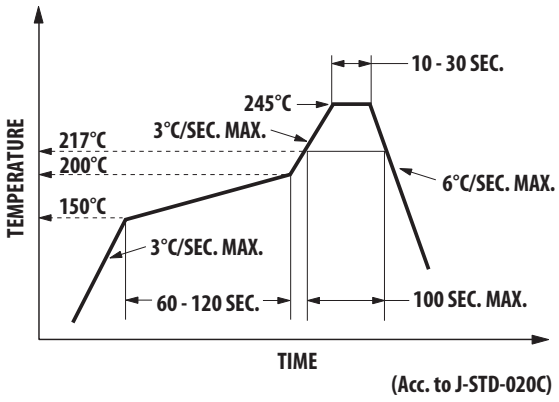


Figure 4. Allowable DC Current Versus Ambient Temperature

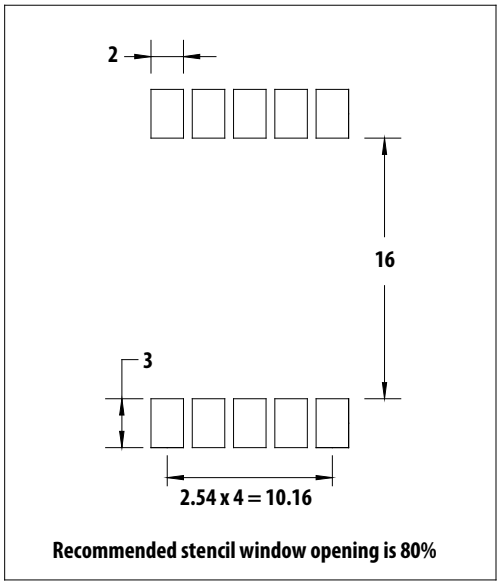
SMT Soldering Profile

Pb-free reflow soldering Profile



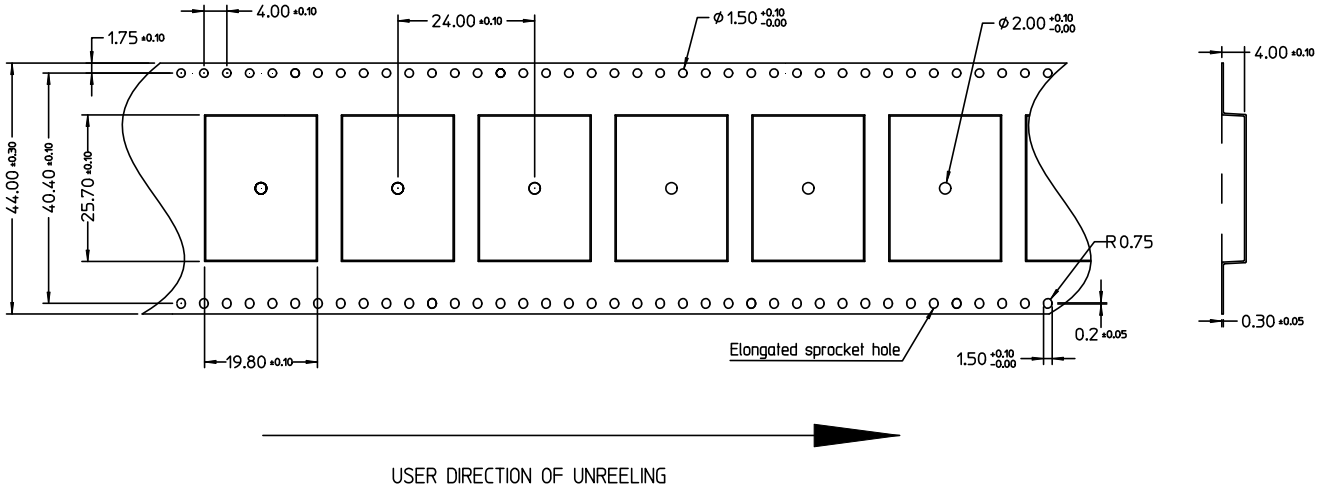
Notes:
1. The peak temperature refers to the peak package body temperature.
2. Number of reflow process shall be limited to maximum 2 times only. Cooling process to normal temperature is required between first and second soldering process.

Recommended Soldering Pattern (unit: mm)



Recommended stencil window opening is 80%

Tape Specification (unit: mm)



For product information and a complete list of distributors, please go to our web site: **www.avagotech.com**

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