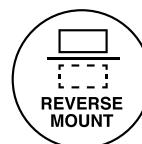
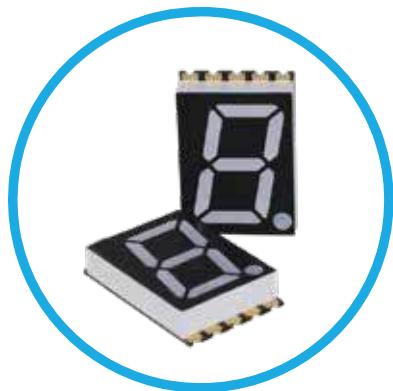


DSM7T Series

Thin Surface Mount Single Digit 7-Segment LED Numeric Display

DSM7TA28101T - 0.28" (7.11mm) Digit Height

Emitting Color: Red (AlGaInP)



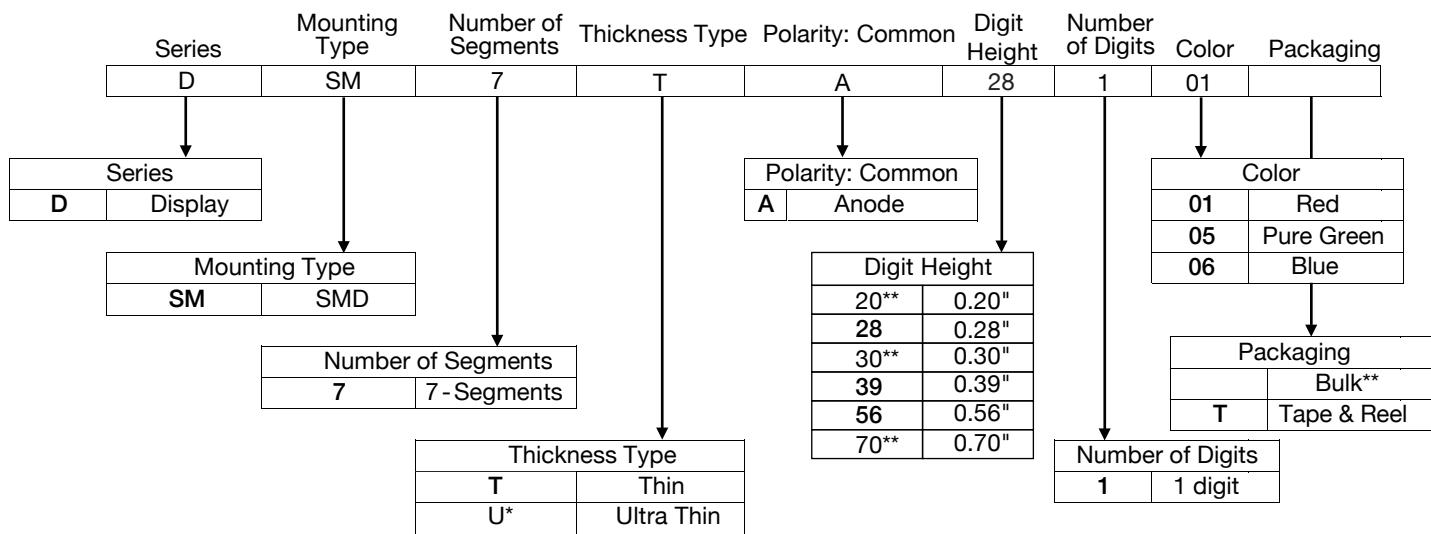
Application

- People Movers
- Home Appliances
- Medical Devices
- Industrial Devices
- Automation and Controls
- Light Control
- IoT
- Transportation
- Food Service Appliances

Key features

- 1-digit seven segment led numeric display
- Includes a decimal point (DP), useful when two or more seven-segment displays are connected to each other to display decimals
- White segments and gray surface
- Substrate: AlGaInP/GaAs
- Outer dimensions: 12.0 x 7.40 x 4.00mm
- High light output
- Excellent character appearance
- Quality tested with the highest industry standard
- Side by side mounting allows space saving
- Provides the ability to reduce overall thickness of PCB, with major cost savings
- Available in 3 different digit heights and widths
- Automation-friendly tape and reel
- Technically and mechanically rugged
- Small and light, easy assembly
- Life expectancy: up to 50,000 hours
- Lower power consumption
- Allow top mount and reverse mount design
- Mechanically rugged
- Moisture Sensitive Level (MSL): 2a
- Available in blue, red and pure green
- Polarity: common anode
- Easy mounting on PC boards or sockets
- Low current operation
- Degree of protection IP50 (Dust-Protected)

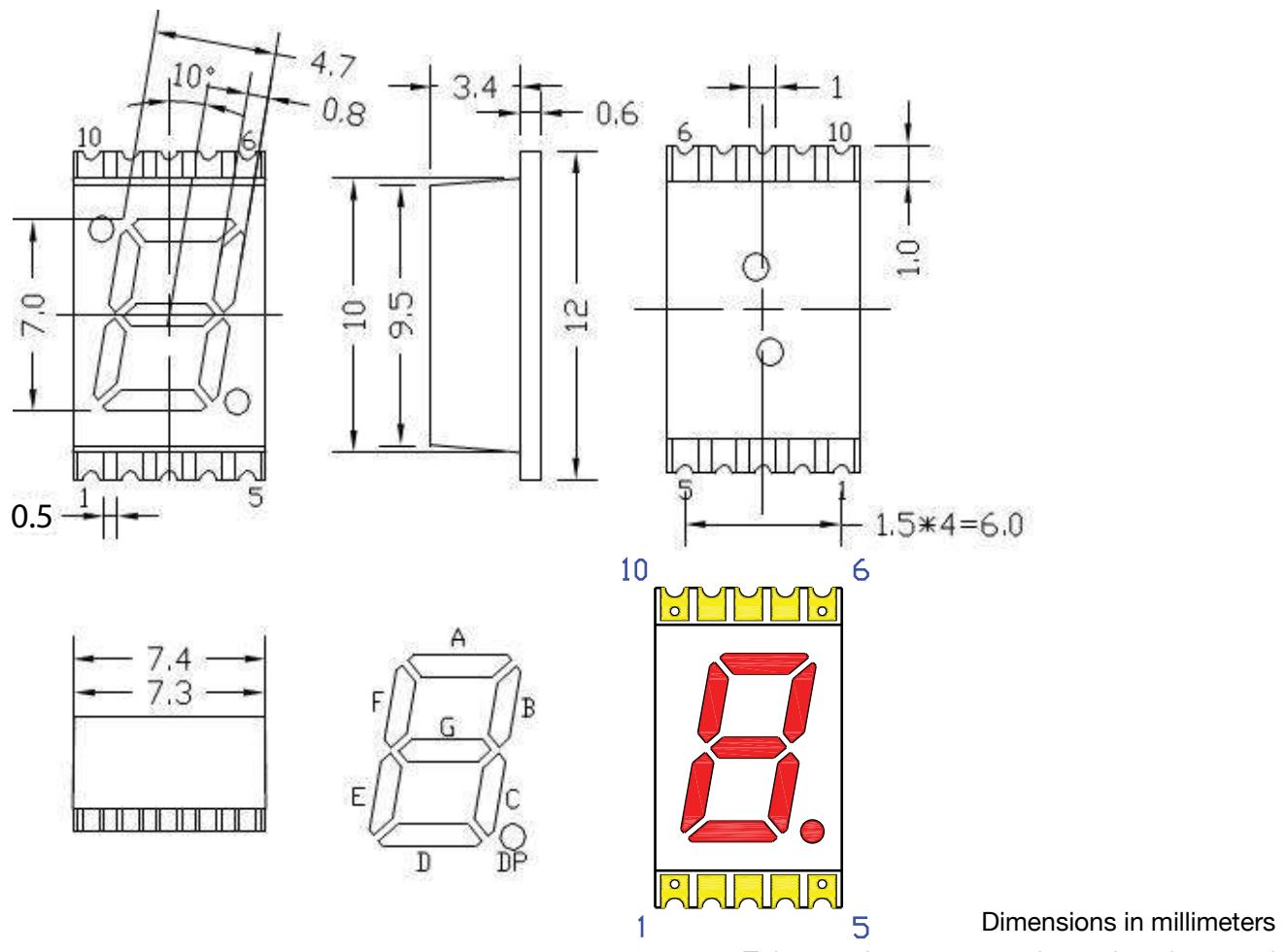
Ordering Data



*Please refer to DSM7U product datasheet for Ultra Thin Version

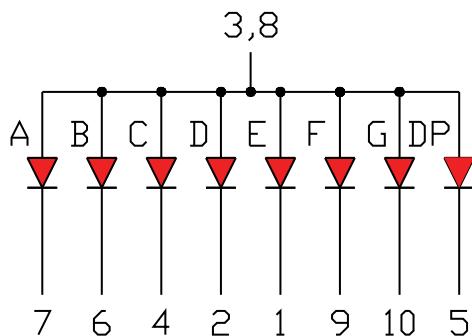
**Only available for DSM7U Version

Dimensions and Internal Circuit Diagram



Internal Circuit Diagram

Pin Connections (Common Anode)



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

Product Specifications

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

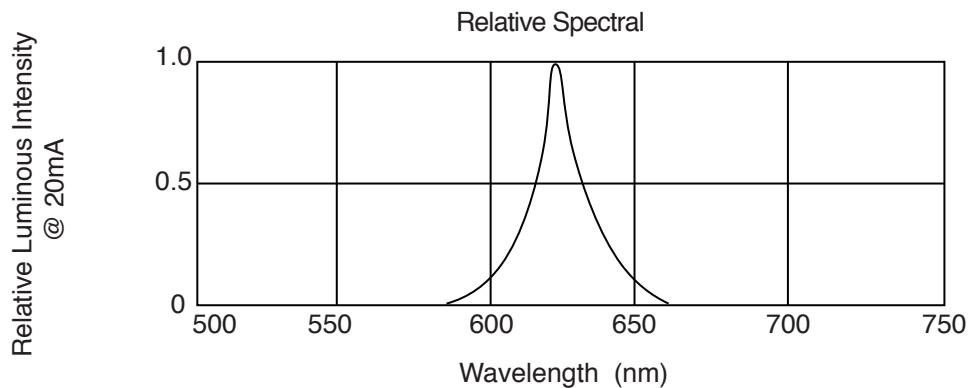
Parameter	Minimum (m)	Maximum (M)	Unit
Forward Current I_F/Seg	--	20	mA
Reverse Voltage V_R/Seg	--	5	V
Operating Temperature T_{OPR}	-30	+85	$^\circ\text{C}$
Storage Temperature T_{STG}	-40	+100	$^\circ\text{C}$
Peak Current I_{FM}/Seg	--	60	mA

(Notice: 1/10th duty cycle, 0.1ms pulse width)

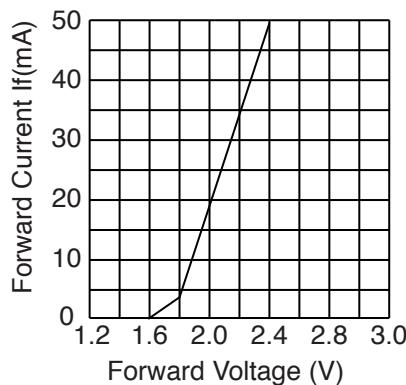
Electrical-Optical Characteristics while $T_a=25^\circ\text{C}$

Parameter	Condition	Unit	Minimum	Typical	Maximum
Forward Voltage V_F/Seg	$IF=20\text{mA}$	V	1.7	2.0	2.4
Reverse Current I_R/Seg	$VR=5\text{V}$	μA	--	--	50
Wavelength λ_P	$IF=20\text{mA}$	nm	620	625	630
Full Width at Half Maximum $\Delta\lambda$	$IF=20\text{mA}$	nm	--	30	--
Luminosity I_v/Seg	$IF=20\text{mA}$	mcd	50	90	120
Viewing angle					

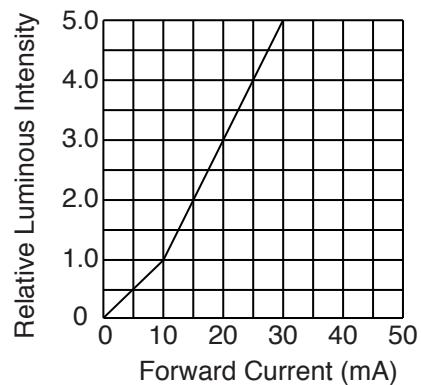
Product Specifications



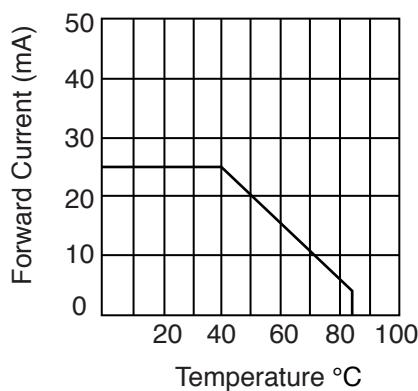
Forward Current vs. Forward Voltage



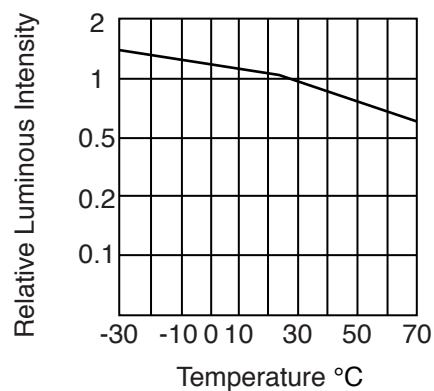
Relative Luminous Intensity vs. Forward current



Forward Current Vs. Temperature

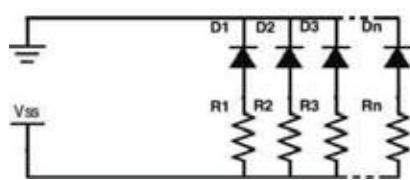


Luminous Intensity vs. Temperature

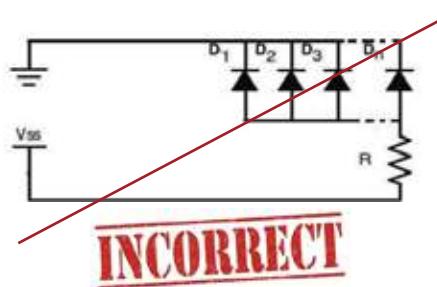


Circuit Design Notes

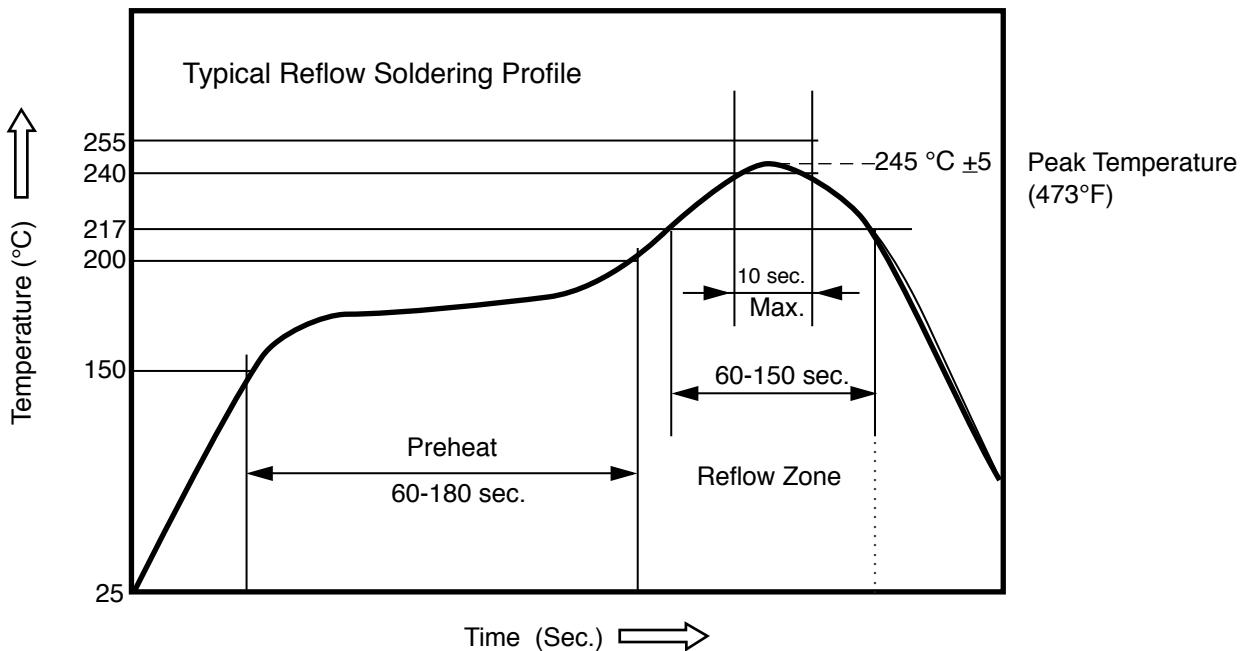
- Always use current limit resistors when necessary
- LEDs could be electrically connected in parallel, with each current limiting resistor



Correct



Recommended Reflow Soldering Profile

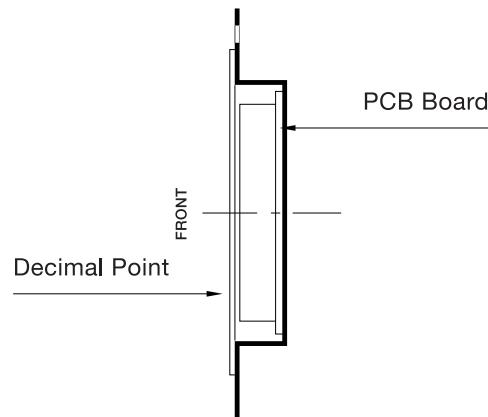
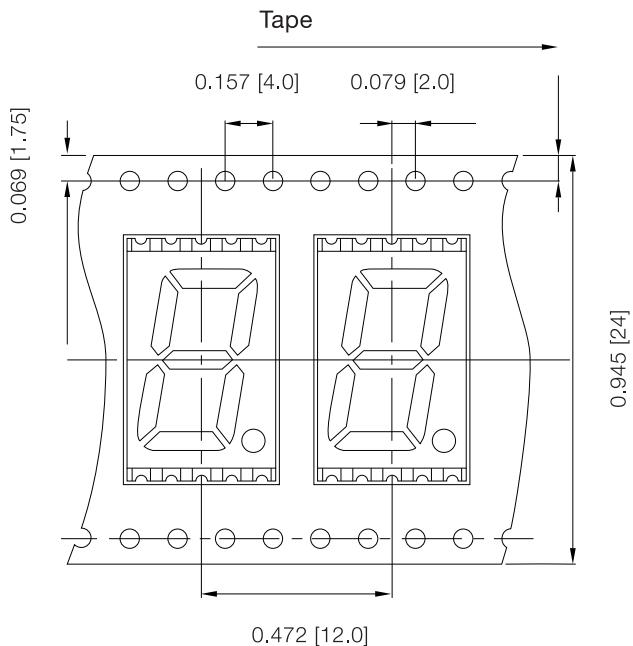


- Manual soldering is suggested
 - Use soldering irons of which power is less than 30 Watt.
 - Keep the temperature of soldering irons below 360 °C
 - Only one soldering is allowed on each bonding pad.
 - The maximum time from when a soldering iron comes into contact with the parts that are to be connected until the joint is finished should not exceed three seconds.
 - Perform other procedures after the soldered pad cools down.
- Suggested storage conditions: 25°C +/-10°C (77°F +/-50°F), relative humidity 65% RH +/- 20% RH.

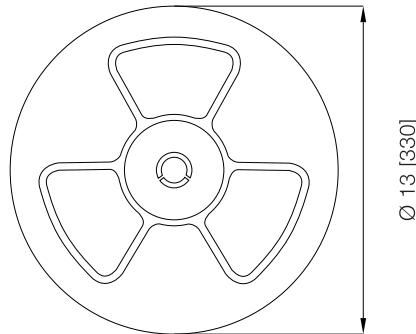
Tape and Reel Dimensions

Carrier band

Electrostatic Discharge (ESD) Package
Anti Static Bags Aluminium Moisture Barrier Bag.

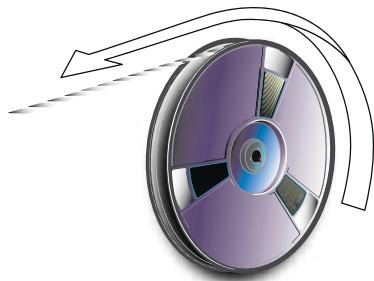


Reel Dimensions

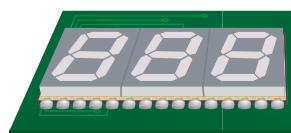


1300PCS/Reel

Direction of the feed



Allow top mount or reverse mount design



Top Mount



Reverse Mount

Dimensions in inches [millimeters]

Compliances and Approvals

