



Project

Battery Torque Wrench with Digital Torque Settings

Application Characteristics

The advanced battery torque wrench features digital torque settings that allows users to easily increase or decrease the value by 10 ft. lbs. Two buttons are used to set the torque value, which is shown on a four-digit display.



The torque wrench remembers the last set torque value even after the battery has been removed.

Offering a torque range up to 3,000 ft. lbs, the torque wrench is suitable for pre-torque and service jobs where electricity or compressed air is not available.

Application Requirements

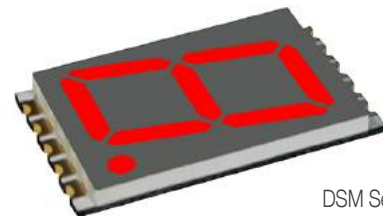
The digital display interface requires an ultra thin display that combines durability with clear character appearance, even in day time. The small LED display needed to draw a low current to reduce power consumption and extend the life of the rechargeable lithium-ion battery. The rugged LED display also required a long operating life.

Solution & Design

VCC's DSM series was the only that was thin enough to fit the design of the digital torque wrench. The ultra thin SMD LED display is developed on patented technology and is the industry's thinnest 7-segment display – up to 45% thinner than standard SMD displays.



The low-current, low-power design delivers a bright light output with optimal visual appearance. The rugged, highly reliable DSM Series single-digit LED display is rated to a Moisture Sensitive Level (MSL) of 2a, and offers a life expectancy of more than 100,000 hours.



DSM Series

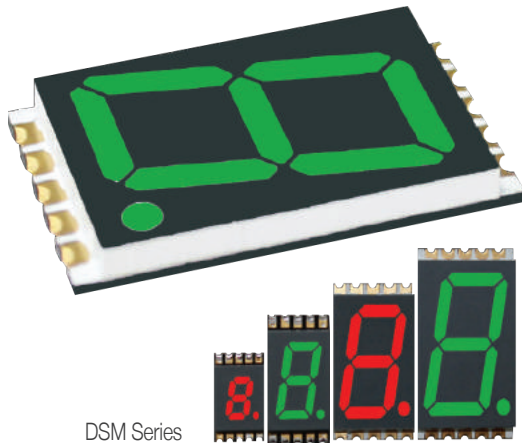
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Case Study

DSM Series

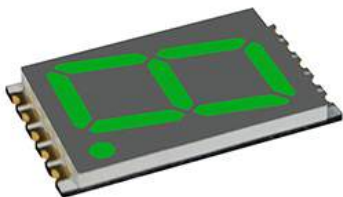
The DSM Series is available in single digit 7-segment numeric display, in 4 different digit heights (0.20, 0.30, 0.56 or 0.70 inch), and in 2 different bright colors (red or pure green).

The DSM Series enables innovative design opportunities due to its minimum thickness of 0.083 inch (2.10mm). It is also packaged in tape and reel for SMT manufacturing to reduce production time and costs.



Exclusive patented SMD LED Display Technology with excellent character appearance.

- **Ultra Thin**- minimum thickness of 0.083 inch (2.10mm).
- **Design Flexibility** - Top-mount and reverse-mount applications reduce overall thickness of PCB which provide cost saving
- **Low Current** - Low current, low power design delivers a bright lightoutput with optimal visual appearance



Results & Benefits

The DSM Series allows manufacturers to reduce the required thickness of a printed circuit board, delivering significant cost savings and expanded design opportunities. The DSM Series supports top mount and reverse mount applications, offering additional design flexibility.



The ultra thin seven-segment LED display is ideal for any application with space constraints, weight restrictions, low power requirements, and high light output needs. This includes a wide range of appliances, automation & controls, industrial devices, food preparation equipment, light control, medical devices, people movers, telecom, transportation, white goods and more.

Value-added Service

VCC understand the importance of visual communications and brings value to your design challenge. VCC becomes an extension of your design team and can provide technical advice and value to your design challenge.

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