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FAN54151 High Current Charging Switch with Protection

Features

- Integrated Back-to-Back Common Source N-channel MOSFETs with combined $R_{ON} = 17\text{ m}\Omega$
- Over-Voltage Input Protection to +20 V
- Hardware-based Safety and Protection for:
 - Input Over-Voltage Protection and Lockout
 - Input Under-Voltage Lockout
 - Fast and Slow Output Over-Voltage Protection
 - Over-Current Protection with Selectable Limits
 - Safe Operating Temperature
 - Charger Detach Protection
- True Reverse Current Blocking (TRCB)
- Fully Integrated I²C Slave with Configurable Address
- Configurable Host Interrupts

Applications

- High Current Battery Charging for:
 - Mobile Devices
 - Tablets

Description

The FAN54151 is a low loss, high current, I²C controlled switch.

Built in protection monitors the ICs input and output for over- and under-voltage as well as over- and under-current. The system protection is provided by controlling the gate voltages of a pair of N-channel MOSFETs to ensure that the output stays within a safe operating range. If a fault is detected, the FAN54151 will turn off the N-channel FETs and notify the host system via configurable interrupts.

Additionally, the FAN54151 includes an integrated temperature sensor and battery cell voltage monitor that provides additional protection.

The FAN54151 utilizes a 20-Bump, 0.5 mm pitch WLCSP package.

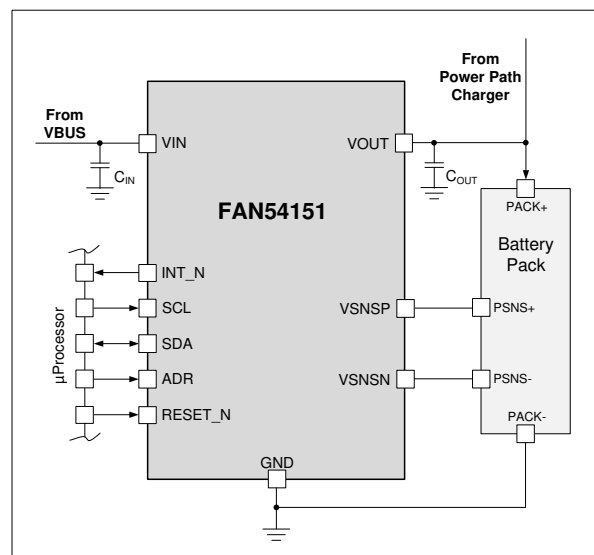
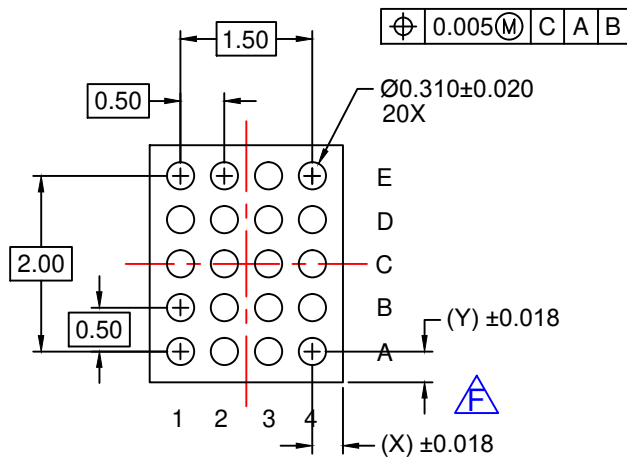
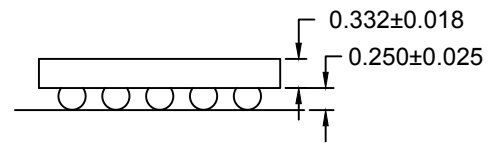
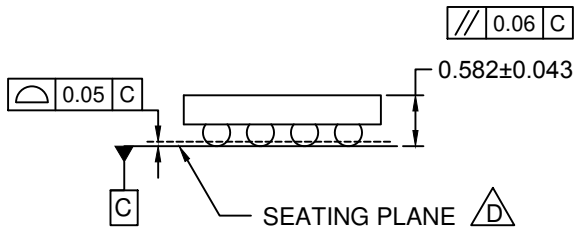
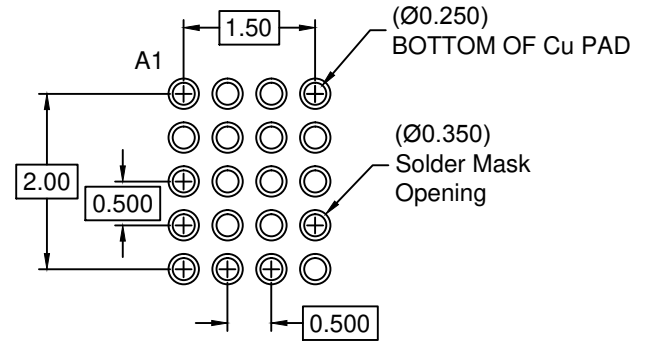
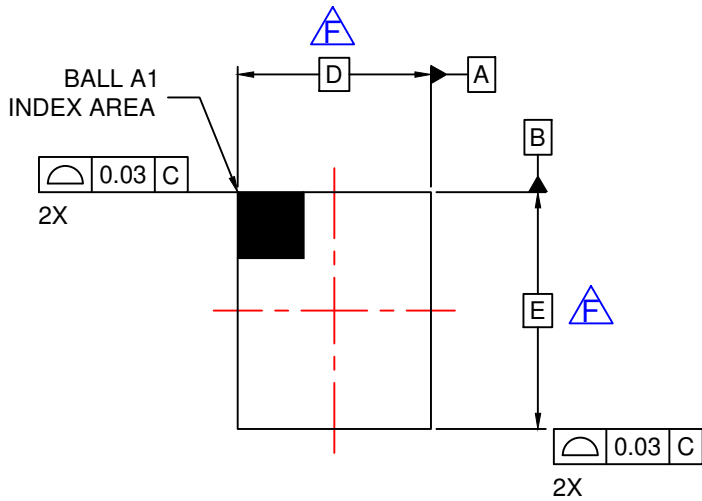


Figure 1. Typical Application



BOTTOM VIEW

NOTES:

- A. NO JEDEC REGISTRATION APPLIES.
- B. DIMENSIONS ARE IN MILLIMETERS.
- C. DIMENSIONS AND TOLERANCES PER ASME Y14.5M, 2009.
- $\triangle D$ SEATING PLANE IS DEFINED BY THE SPHERICAL CROWNS OF THE BALLS.
- E. PACKAGE NOMINAL HEIGHT IS 582 MICRONS ±43UM (539 - 625 MICRONS).
- $\triangle F$ FOR DIMENSIONS D,E,X,+Y SEE DATASHEET
- G. DRAWING FILENAME: MKT-UC020ABrev3.



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