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April 2016

FAN54151
High Current Charging Switch with Protection

Features

- Integrated Back-to-Back Common Source N-channel MOSFETs with combined R_{ON} = 17 mΩ
- 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 I^2C 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, I^2C 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.

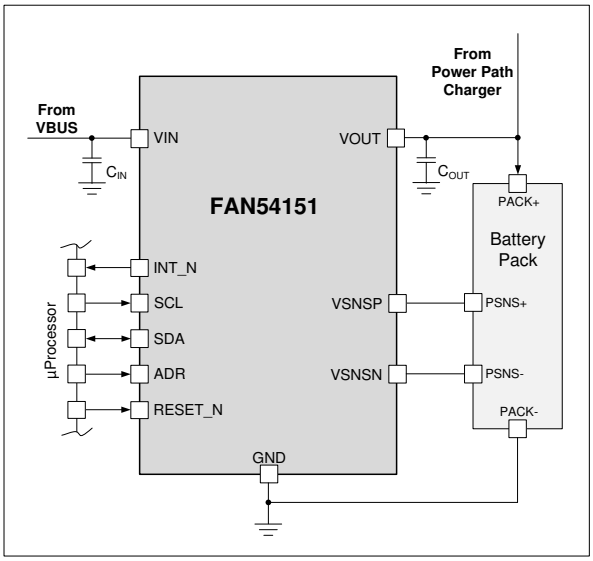
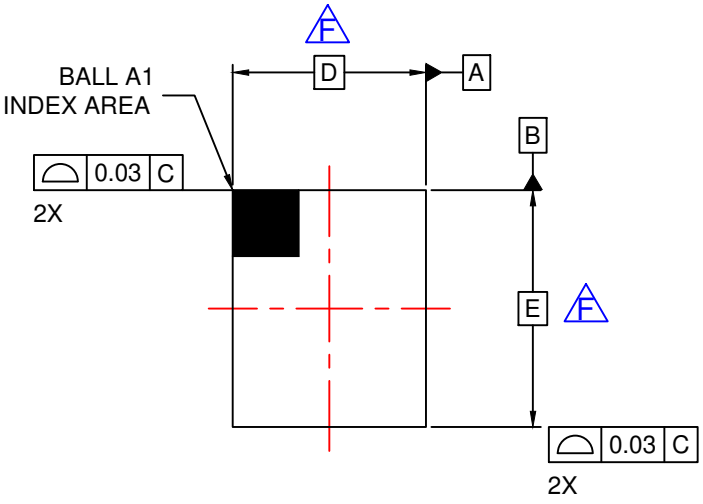
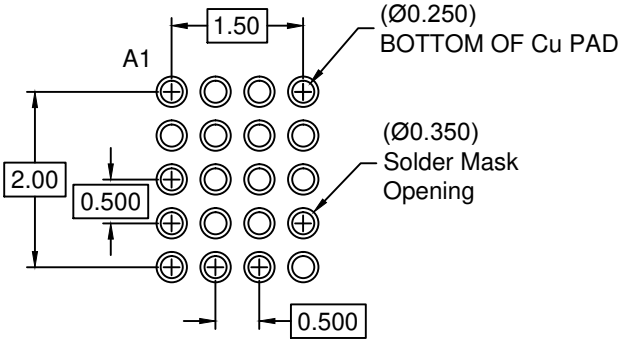
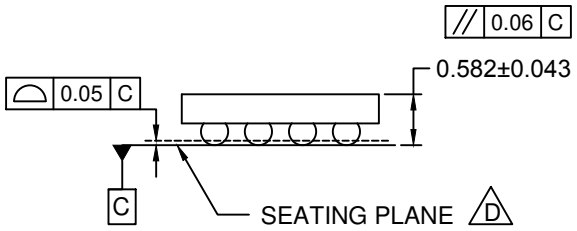


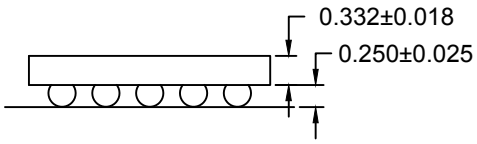
Figure 1. Typical Application

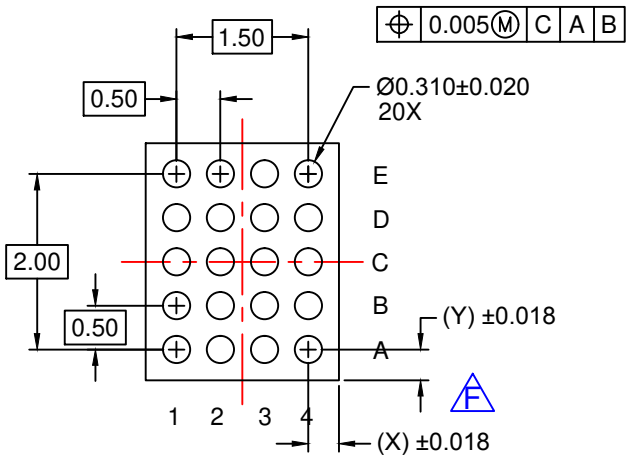
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BOTTOM VIEW

NOTES:

A. NO JEDEC REGISTRATION APPLIES.

B. DIMENSIONS ARE IN MILLIMETERS.

C. DIMENSIONS AND TOLERANCES PER ASME Y14.5M, 2009.

D. SEATING PLANE IS DEFINED BY THE SPHERICAL CROWNS OF THE BALLS.

E. PACKAGE NOMINAL HEIGHT IS 582 MICRONS ±43UM (539 - 625 MICRONS).

F. FOR DIMENSIONS D,E,X,+Y SEE DATASHEET

G. DRAWING FILENAME: MKT-UC020ABrev3.

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