

# Regulator - Buck-Boost, TinyPower™, I<sup>2</sup>C, 2 A, 1.8 MHz

## FAN49101

### Description

The FAN49101 is a high efficiency buck-boost switching mode regulator which accepts input voltages either above or below the regulated output voltage. Using full-bridge architecture with synchronous rectification, the FAN49101 is capable of delivering up to 2 A while regulating the output at 3.4 V. The FAN49101 exhibits seamless transition between step-up and step-down modes reducing output disturbances. The output voltage and operation mode of the regulator can be programmed through an I<sup>2</sup>C interface.

At moderate and light loads, Pulse Frequency Modulation (PFM) is used to operate the device in power-save mode to maintain high efficiency. In PFM mode, the part still exhibits excellent transient response during load steps. At moderate to heavier loads or Forced PWM mode, the regulator switches to PWM fixed-frequency control. While in PWM mode, the regulator operates at a nominal fixed frequency of 1.8 MHz, which allows for reduced external component values.

### Features

- 24  $\mu$ A Typical PFM Quiescent Current
- Above 95% Efficiency
- Total Layout Area = 11.61 mm<sup>2</sup>
- Input Voltage Range: 2.5 V to 5.5 V
- I<sup>2</sup>C Compatible Interface
- 1.8 MHz Fixed-Frequency Operation in PWM Mode
- Automatic / Seamless Step-up and Step-down Mode Transitions
- Forced PWM and Automatic PFM/PWM Mode Selection
- 0.5  $\mu$ A Typical Shutdown Current
- Low Quiescent Current Pass-Through Mode
- Internal Soft-Start and Output Discharge
- Low Ripple and Excellent Transient Response
- Internally Set, Automatic Safety Protections (UVLO, OTP, SCP, OCP)

### ORDERING INFORMATION

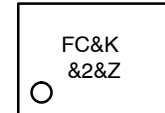
Part Number	Output Discharge	Temperature Range	Package	Packing Method†
FAN49101AUC340X	Yes	-40 to 85°C	WLCSP20 2.015x1.615x0.586 (Pb-Free and Halide Free)	3000 / Tape and Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.



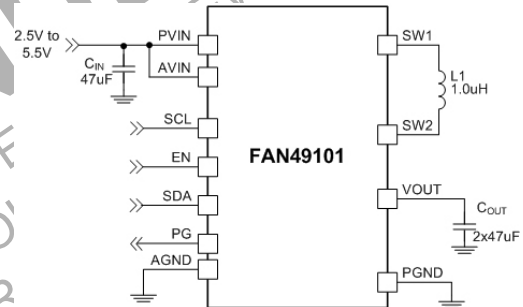
WLCSP20 2.015x1.615x0.586  
CASE 567QK

### MARKING DIAGRAM



FC = Specific Device Code  
 &K = 2-Digits Lot Run Traceability Code  
 &2 = 2-Digit Date Code  
 &Z = Assembly Plant Code

### TYPICAL APPLICATION



### Applications

- Smart Phones
- Tablets, Netbooks®, Ultra-Mobile Pcs
- Portable Devices with Li-ion Battery
- 2G/3G/4G Power Amplifiers
- NFC Applications

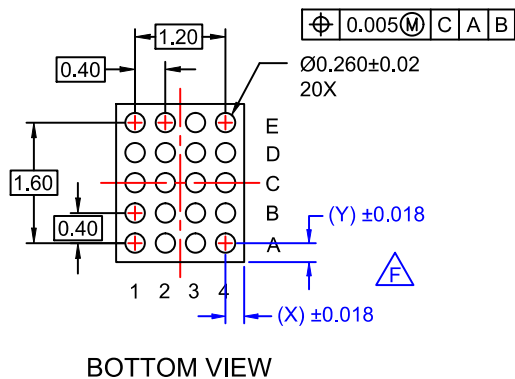
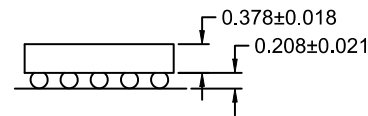
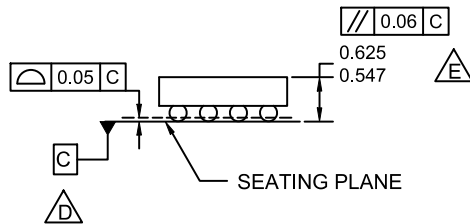
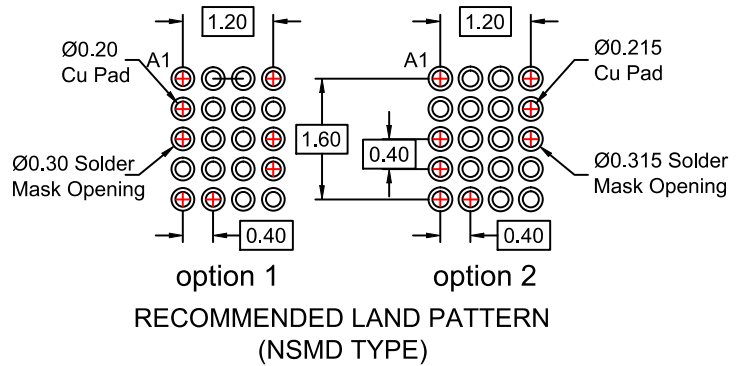
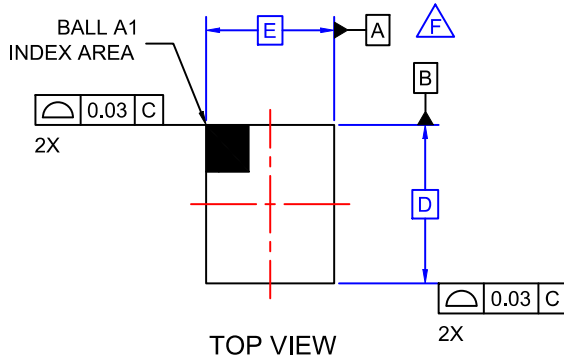
### Additional Information

- For the full datasheet, please contact a onsemi Sales Representative.

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**WLCSP20 2.015x1.615x0.586**  
CASE 567QK  
ISSUE O

DATE 31 OCT 2016



**NOTES:**

- A. NO JEDEC REGISTRATION APPLIES.
- B. DIMENSIONS ARE IN MILLIMETERS.
- C. DIMENSIONS AND TOLERANCE PER ASMEY14.5M, 2009.
- D. DATUM C IS DEFINED BY THE SPHERICAL CROWNS OF THE BALLS.
- E. PACKAGE NOMINAL HEIGHT IS 586 MICRONS ±39 MICRONS (547-625 MICRONS).
- F. FOR DIMENSIONS D, E, X, AND Y SEE PRODUCT DATASHEET.

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