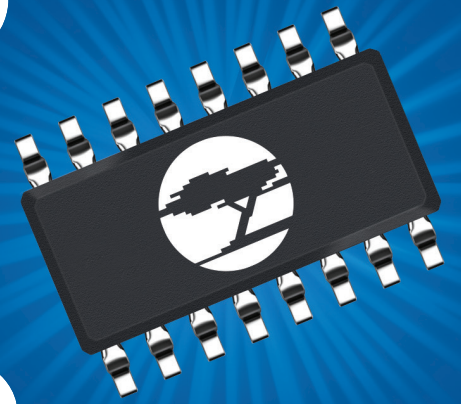


CYPRESS

S6BP201A, 5.0V, 1A OUTPUT BUCK-BOOST DC/DC CONVERTER

HIGH-STABILITY, EASY-TO-INTEGRATE POWER MANAGEMENT SYSTEMS
FOR BODY CONTROL MODULES



PRODUCT OVERVIEW

INTRODUCTION

Cypress S6BP201A is a one-channel, buck-boost DC/DC converter IC for automotive and industrial applications. S6BP201A is ideal for automotive body control modules that need to work under low power conditions, without compromising on performance. These PMICs have low standby current and provide stable power output across a wide range of input voltages. The 5.0V stable power supply overcomes battery fluctuations, cold-cranking and load dumping. S6BP201A is also compatible with idle reduction systems.

SMALL AND COST-EFFECTIVE

Cypress's unique buck-boost technology enables a smaller PMIC system design by shrinking input electrolytic capacitors. This smaller design eliminates large, expensive components and enables you to create one small, affordable and efficient power management solution.

EASE OF DESIGN

S6BP201A is versatile and easy-to-integrate into new or existing automotive systems. Cypress's Easy DesignSim Software further simplifies automotive system design by ensuring connectivity among parts.

FEATURES

- 1-channel buck-boost converter
- Input voltage range: 2.5V–42V
- Maximum output current: 1.0A
- Switching Frequency: 200k–2.1MHz
- Synchronization with external clock from 200kHz–400kHz
- Maximum operating 125°C
- Compliant with AEC-Q100 Grade 1

LOW QUIESCENT CURRENT

- Quiescent current: 20µA

LOW BOM

- Built-in switching transistors, output voltage setting resistors, phase compensation circuits

PROTECT FUNCTION

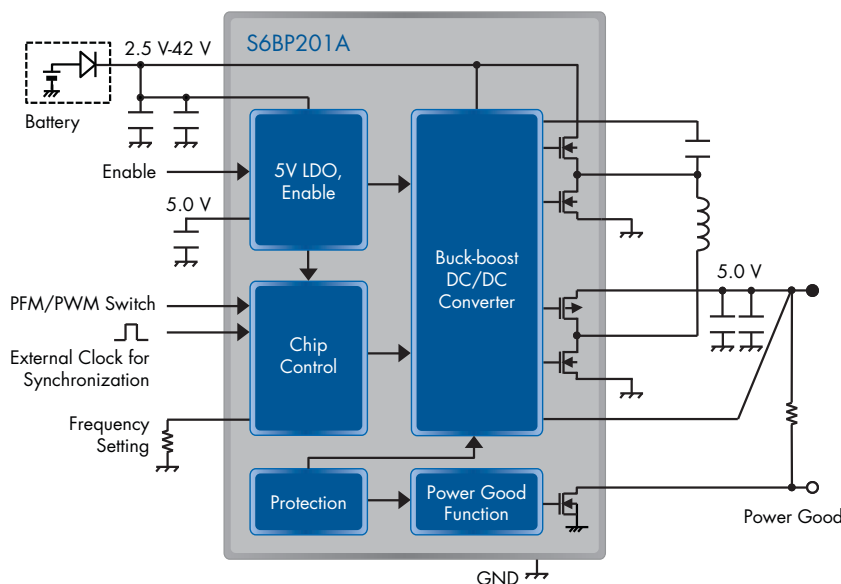
- Power good function
- UVLO, TSD, OCP, OVP, UVP

PACKAGES

- 16-pin Thermally Enhanced TSSOP (5mm x 6.45mm x 1.1mm, 0.65mm pitch)

APPLICATIONS

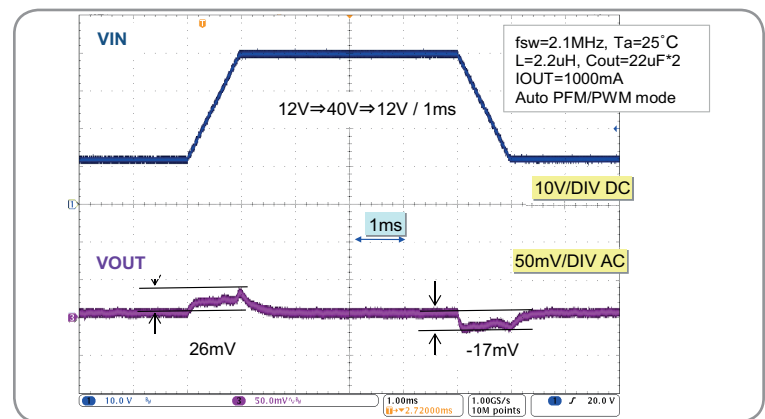
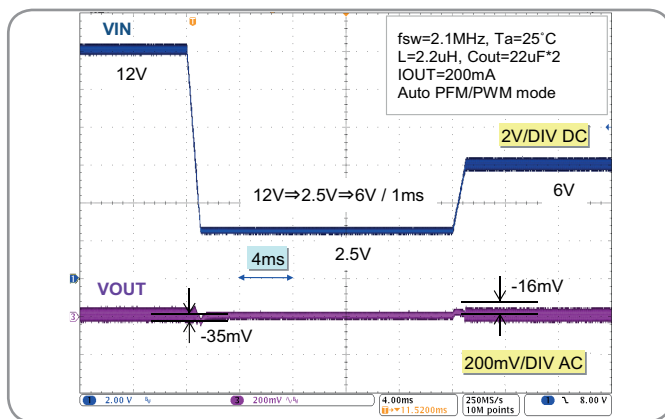
- Body Control Module (BCM)
- Gateway Module
- Automotive and Industrial



Block Diagram

COLD-CRANK TOLERANT/LOAD DUMP TOLERANT

Supplies uninterrupted power to electronic equipment.



1-CHANNEL BUCK-BOOST DC/DC CONVERTER SERIES SELECTOR GUIDE

| Part Number | Input Voltage | Output Voltage | Output Voltage Accuracy | Frequency | Current Capability | Package | Main Application |
|-------------|---------------|---|-------------------------|---|--------------------|-----------|--|
| S6BP201A | 2.5V–42V | 5V, 5.05V, 5.075V, 5.1V, 5.125V, 5.15V, 5.2V (factory preset) | +/- 1.5% | 200kHz - 2.1MHz (synchronization from 200kHz to 400kHz with external clock) | 1000 mA | 16-HTSSOP | Body Control Module (BCM) and Gateway module |
| S6BP202A | 2.5V–42V | 5V, 5.05V, 5.075V, 5.1V, 5.125V, 5.15V, 5.2V (factory preset) | +/- 1.5% | 200kHz - 2.1MHz (synchronization from 200kHz to 400kHz with external clock) | 2400 mA | 16-HTSSOP | Cluster, Advanced Driver Assistance Systems (ADAS), and Gateway module |
| S6BP203A | 2.5V–42V | 3.3V | +/- 1.5% | 200kHz - 2.1MHz (synchronization from 200kHz to 400kHz with external clock) | 2400 mA | 16-HTSSOP | Advanced Driver Assistance Systems (ADAS) |

GET STARTED NOW

For more information on our S6BP201A buck-boost DC/DC Converter for Automotive ECUs, visit:

www.cypress.com/automotive-pmic

Access Easy DesignSim, Cypress's online web simulator software. Just register on cypress.transim.com and access the tool.

Contact your local reseller or Cypress Sales Representative to order the S6BP201A Evaluation Kit S6SBP201A1AVA1001.

Cypress Semiconductor Corporation

198 Champion Court, San Jose CA 95134
 phone +1 408.943.2600 fax +1 408.943.6848
 toll free +1 800.858.1810 (U.S. only) Press "1" to reach your local sales representative

© 2015-2017 Cypress Semiconductor Corporation. All rights reserved. All other trademarks are the property of their respective owners.
 002-02455 Rev*B

