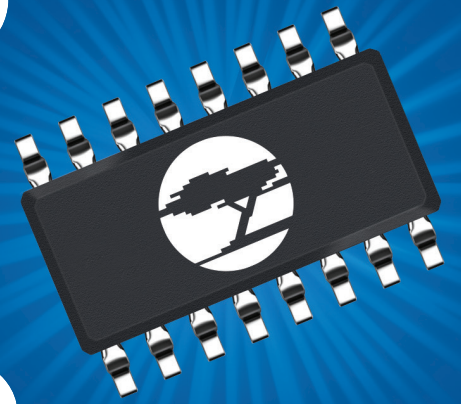


CYPRESS

S6BP202A, 5.0V, 2.4A OUTPUT BUCK-BOOST DC/DC CONVERTER

HIGH-STABILITY, EASY-TO-INTEGRATE POWER MANAGEMENT
SYSTEMS FOR INSTRUMENT CLUSTERS, GATEWAY MODULES AND
ADVANCED DRIVER ASSISTANCE SYSTEMS



PRODUCT OVERVIEW

INTRODUCTION

Cypress S6BP202A is a one-channel, buck-boost DC/DC converter IC for automotive and industrial applications. S6BP202A is ideal for automotive instrument clusters, gateway modules and advanced driver assistance systems that need to work under low power conditions, without compromising on performance. These PMICs have low standby current, high output current capability, 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. S6BP202A 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

S6BP202A 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: 2.4A
- Switching Frequency: 200k–2.1MHz
- Synchronization with external clock from 200kHz–400kHz
- Maximum operating temperature: 125°C
- Compliant with AEC-Q100 Grade 1

LOW QUIESCENT CURRENT

- Quiescent current: 20uA

LOW BOM

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

PROTECT FUNCTION

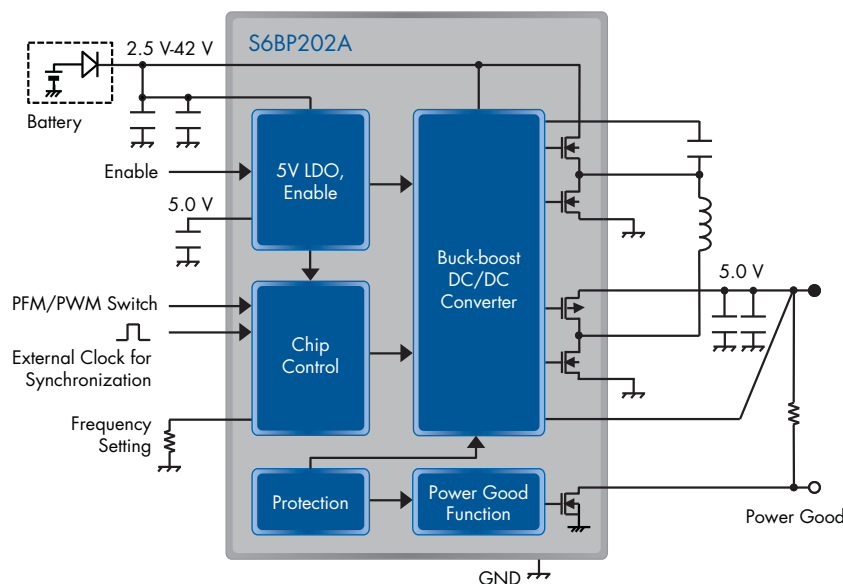
- Power good function
- UVLO, TSD, OCP, OVP, UVP

PACKAGES

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

APPLICATIONS

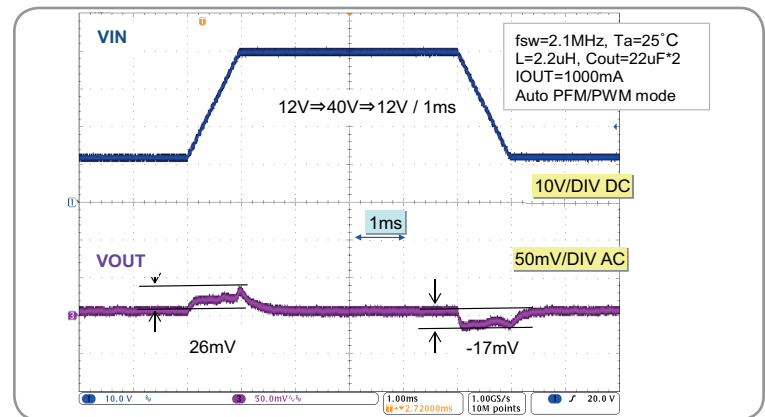
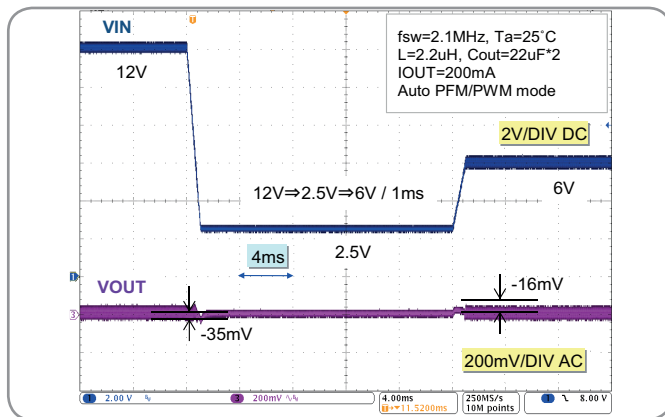
- Instrument Clusters
- Gateway Module
- Automotive and Industrial



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	Instrument 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	Instrument Cluster, Advanced Driver Assistance Systems (ADAS)

GET STARTED NOW

For more information on our S6BP202A 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 www.cypress.com/easy-design-sim and access the tool.

Contact your local reseller or Cypress Sales Representative to order the S6BP202A Evaluation Kit S6SBP202A1FVA1001.

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