

Integrated Device Technology

INTERFACE AND CONNECTIVITY

IDT P9122: Two Channel Synchronous Step-Down Switcher with Integrated FET

MEMORY AND LOGIC

POWER MANAGEMENT

FEATURES

- Input voltage range: 2.7 V to 5.5 V
- 2 step-down converters with integrated FETs
 - Buck 1: 2 A
 - Buck 2: 3 A
- Switching frequency 2 MHz
- · Buck 2 with optional 'analog switch mode'
- Low quiescent current: 25 μA (No load, PFM mode)
- Device sleep mode with less than 1μA Iq
- Factory programmable output voltage: 0.8 3.4 V
- Automatic PFM/PWM or forced PWM mode
- Power Good and/or Power On Reset output
- Optional programmable sequence mode
- QFN 24-lead 4 x 4 mm x 0.8 mm
- Optional reference voltage output (VREF)
- No external filter/compensation
- · Benchmarking efficiency

BENEFITS

- Configurable PMIC solution
- Minmal external component count
- · Optional in-circuit programming

TARGET APPLICATIONS

- · Point-of-load regulation in a variety of low power applications:
 - Solid State Disk Drive (SSD) Power Management
 - Low power USB powered applications
 - Set Top Box / TV power supply
 - Portable gaming

FB1 FB1 PV_{IN}1 PV_{IN}1 LX1 LX1 PV_{IN}2 $PV_{IN}2$ PGND1 PGND1 **VINSEL** V_{REF (optional)} V_{REF (optional)} V_{GND} V_{GND} **VINSEL** DEVSLPIN DEVSLPIN GP13 GP13 FB2 FB2 **GPI014 GPI014** LX2 LX2 **GPI015 GPI015** GP016 **GP016 GPI017** PGND2 **GPI017** PGND2 VINSEL (pin 4) in Buck Configuration for Volute V_{IN}SEL (pin 4) in Switch Configuration for V_{OUT}2

The IDT P9122 supports several modes to control the two buck regulators and to generate status information like PG (power good) or POR (power on reset).

The IDT P9122 is a fully integrated power management IC designed to provide two programmable, high efficiency voltage regulator outputs with ultra-low quiescent currents during sleep mode or no-load conditions. To support low power operation, the IDT P9122 supports both sleep and standby modes.

The device can operate the second regulator in either buck or pass through switch configuration to support 5 V or 3.3 V supplied systems with a single solution.

Flexible production programming options allow for selectable direct buck enable inputs or programmable sequencing with power good and power on reset generation as well as programmable output voltages without the need for external adjustment components.

The P9122 is available in a 4 mm x 4 mm, 24-lead, QFN package and is guaranteed to operate over the industrial ambient temperature range of -40°C to +85°C.





Graphical User Interface



Various device features can be configured during production using one time programmable fuse memory (OTP). During evaluation, the options can be evaluated using the compatible IDT P9120 Evaluation Kit (IDTP9120-EVAL) and USB-Bridge (USB-BRIDGEV2-EVAL).

For More Information Visit www.idt.com/go/pmic