

Power Management IC 2.8V to 5.5V Automotive 32-Pin VQFN EP T/R

Manufacturer:	Texas Instruments, Inc	LP87702DRHBTQ1 Image
Package/Case:	VQFN32	Images are for reference only
Product Type:	Power Management ICs	Inquiry
RoHS:	RoHS Compliant/Lead free 	
Lifecycle:	Active	

General Description

The LP87702-Q1 helps meet the power management requirements of the latest platforms, particularly in automotive radar and camera and industrial radar applications. The device contains two step-down DC/DC converters, and a 5-V boost converter to support safety critical applications. The device integrates two voltage monitoring inputs for external power supplies and a window watchdog.

The automatic PWM/PFM (AUTO mode) operation gives high efficiency over a wide output current range for buck converters. The LP87702-Q1 uses remote voltage sensing to compensate IR drop between the converter output and the point-of-load, thus improving the accuracy of the output voltage.

Programmable start-up and shutdown sequences synchronized to the enable signal are supported, including general purpose digital outputs.

During start-up and voltage change, the device controls the output slew rate for minimum output voltage overshoot and inrush current. This device contains one-time-programmable (OTP) memory. Each orderable part number has specific OTP settings for a given application. Details of the default OTP configuration for each orderable part number can be found in the technical reference manual.

Key Features

AEC-Q100 Qualified for Automotive Applications:
Device Temperature Grade 1: -40°C to $+125^{\circ}\text{C}$, T_A

Functional Safety Quality-Managed
Documentation Available to Aid Functional Safety System Design

Two Inputs for External Voltage Monitoring

Two Programmable Power-Good Signals

Dedicated Reference Voltage for Diagnostics

Window Watchdog with Reset Output

Output Short-Circuit and Overload Protection

Overtemperature Warning and Protection

Overvoltage Protection (OVP) and Undervoltage Lockout (UVLO)

Two High-Efficiency Step-Down DC/DC converters:
Maximum Output Current 3.5 A

2-MHz, 3-MHz, or 4-MHz Switching Frequency

Auto PWM/PFM and Forced-PWM Operations

Output Voltage = 0.7 V to 3.36 V

5-V Boost Converter
Maximum Output Current 600 mA

External Clock Input to Synchronize Switching

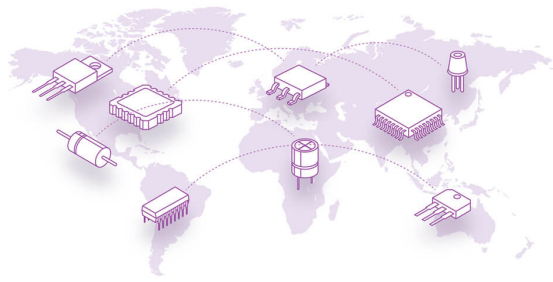
Spread-Spectrum Modulation

Programmable Start-up and Shutdown Delays and Sequencing with Enable Signal

Configurable General Purpose Outputs (GPOs)

I²C-Compatible Interface Supporting Standard (100 kHz), Fast (400 kHz), Fast+ (1 MHz), and High-Speed (3.4 MHz) Modes

Interrupt Function with Programmable Masking



Recommended For You

LP2997MR

Texas Instruments, Inc

SOP-8

LP2951-50QDRGRQ1

Texas Instruments, Inc

SON-8

TL431ILP

Texas Instruments, Inc

TO-92

LP3966ES-ADJ/NOPB

Texas Instruments, Inc

TO263

TPL7407LPWR

Texas Instruments, Inc

TSSOP16

LP2997MR/NOPB

Texas Instruments, Inc

SOP8

TL431CLP

Texas Instruments, Inc

TO-92

LP2996MR/NOPB

Texas Instruments, Inc

SOP-8

LP2951-50QDRQ1

Texas Instruments, Inc

SOP8

LP5912Q1.8DRVRQ1

Texas Instruments, Inc

WSON-6

LP5912Q3.3DRVRQ1

Texas Instruments, Inc

WSON-6

LP2996MX

Texas Instruments, Inc

SOP-8

LP2996MX/NOPB

Texas Instruments, Inc

SOP8

LP2989AIM-3.3/NOPB

Texas Instruments, Inc

SOP8

LP2998MAX/NOPB

Texas Instruments, Inc

SOP8