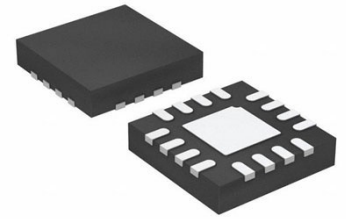


DC/DC Cntrlr Single-OUT Step Up 2300kHz Automotive 16-Pin WQFN EP T/R



Images are for reference only

Manufacturer: [Texas Instruments, Inc](#)

Package/Case: WQFN-16

Product Type: Power Management ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

[Inquiry](#)

General Description

The LM5150-Q1 device is a wide input range automatic boost controller. The device is suitable for use as a pre-boost converter which maintains the output voltage from a vehicle battery during automotive cranking or from a back-up battery during the loss of vehicle battery.

The LM5150-Q1 switching frequency is programmed by a resistor from 220 kHz to 2.3 MHz. Fast switching (≥ 2.2 MHz) minimizes AM band interference and allows for a small solution size and fast transient response.

The LM5150-Q1 operates in low I_Q standby mode when the input or output voltage is above the preset standby thresholds and automatically wakes up when the output voltage drops below the preset wake-up threshold.

The device transients in and out of the low I_Q standby mode to extend battery life at light load. A single resistor programs the target output regulation voltage as well as the configuration. Additional features include low shutdown current, boost status indicator, adjustable cycle-by-cycle current limit, and thermal shutdown.

Key Features

AEC-Q100 qualified:

Device temperature grade 1: -40°C to +125°C ambient operating temperature range

Device HBM ESD classification level 2

Device CDM ESD classification level C4B

Functional Safety-Capable

Documentation available to aid functional safety system design

Wide VIN input range from 1.5 V to 42 V when VOUT ≥ 5 V (65-V absolute maximum)

Low shutdown current ($I_Q \leq 5 \mu\text{A}$)

Low standby current ($I_Q \leq 15 \mu\text{A}$)

Four programmable output voltage options and two selectable configurations

6.8 V, 7.5 V, 8.5 V, or 10.5 V

Start-stop or e-call configurations

Adjustable switching frequency from 220 kHz to 2.3 MHz

Automatic wake-up and standby mode transition

Optional clock synchronization

Boost status indicator

1.5-A peak MOSFET gate driver

Adjustable cycle-by-cycle current limit

Thermal shutdown

16-pin WQFN with wettable and non-wettable flank options

Create a custom design using the LM5150-Q1 with the WEBENCH Power Designer

Recommended For You

LM2637M

Texas Instruments, Inc

SOP24

LM5116MH

Texas Instruments, Inc

TSSOP20

LM234Z-3

Texas Instruments, Inc

TO-92

LM27761DSGR

Texas Instruments, Inc

WSON8

LM74700QDBVRQ1

Texas Instruments, Inc

SOT23-6

LM2991S

Texas Instruments, Inc

TO-263

LM74800QDRRRQ1

Texas Instruments, Inc

WSON-12

LMR14030SDDAR

Texas Instruments, Inc

SOP8

LM2940CT-12

Texas Instruments, Inc

TO-220

LM536035QPWPTQ1

Texas Instruments, Inc

HTSSOP-16

LM5575MH

Texas Instruments, Inc

TSSOP16

LM536013QDSXTQ1

Texas Instruments, Inc

WSON-10

LM5160QPWPRQ1

Texas Instruments, Inc

HTSSOP14

LM5576MH

Texas Instruments, Inc

TSSOP20

LMQ61460AFSQRJRRQ1

Texas Instruments, Inc

VQFN-14