

LM5156xH Q1 2.2 MHz Wide VIN 65 V Non synchronous Boost SEPIC Flyback Controller with 150 u00B0C Maximum Junction Temperature

Manufacturer: [Texas Instruments, Inc](#)

Package/Case: HTSSOP-14

Product Type: Power Management ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

[LM5156HQPWPRQ1 Image](#)

Images are for reference only

[Inquiry](#)

General Description

The LM5156xH-Q1 (LM5156H-Q1 and LM51561H-Q1) device is a wide input range, non-synchronous boost controller that uses peak current mode control. The device can be used in boost, SEPIC, and flyback topologies.

The device can start up from a 1-cell battery with a minimum of 2.97 V if the BIAS pin is connected to the VCC pin. It can operate with the input supply voltage as low as 1.5 V if the BIAS pin is greater than 3.5 V.

Key Features

AEC-Q100 Qualified for automotive applications
Temperature grade 1: -40°C to $+125^{\circ}\text{C}$ T_A

Maximum operating temperature 150°C T_J

Functional Safety-Capable
Documentation available to aid functional safety system design

Suited for wide input operating range car battery applications
3.5-V to 60-V Operating range (65-V abs max)

2.97-V to 16-V when BIAS = VCC

Minimum boost supply voltage 1.5 V when BIAS \geq 3.5 V

Input transient protection up to 65 V

Minimized battery drain
Low shutdown current ($I_Q \leq 2.6 \mu\text{A}$)

Low operating current ($I_Q \leq 490 \mu\text{A}$)

Small solution size and low cost
Maximum switching frequency of 2.2 MHz

Integrated error amplifier allows primary-side regulation without optocoupler (flyback)

Minimized undershoot during cranking (start-stop application)

EMI mitigation

Selectable dual random spread spectrum

Higher efficiency with low-power dissipation
100-mV $\pm 7\%$ accurate current limit threshold

Strong 1.5-A peak standard MOSFET driver

Supports external VCC supply

Avoid AM band interference and crosstalk
Optional clock synchronization

Dynamically programmable switching frequency from 100 kHz to 2.2 MHz

Integrated protection features
Constant peak current limiting over input voltage

Optional hiccup mode overload protection (see the *Device Comparison Table*)

Programmable line UVLO

OVP protection

Thermal shutdown

Accurate $\pm 1\%$ accuracy feedback reference

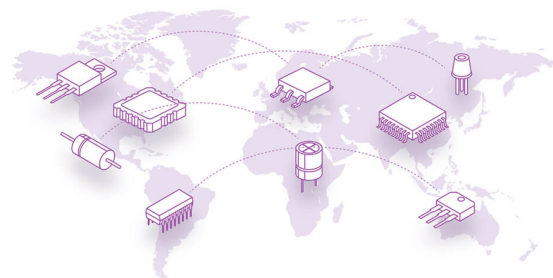
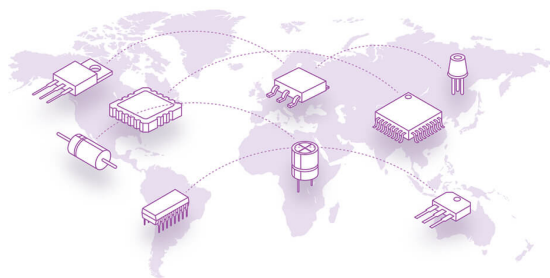
Programmable extra slope compensation

Adjustable soft start

PGOOD indicator

14-Pin HTSSOP package (5.0 mm \times 4.4 mm)

Create a custom design using the LM5156xH-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
WSO8

LM74700QDBVRQ1

Texas Instruments, Inc
SOT23-6

LM2991S

Texas Instruments, Inc
TO-263

LM74800QDRRRQ1

Texas Instruments, Inc
WSO8-12

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
WSO8-10

LM5160QPWPRQ1

Texas Instruments, Inc
HTSSOP14

LM5576MH

Texas Instruments, Inc
TSSOP20

LMQ61460AFSQRJRRQ1

Texas Instruments, Inc
VQFN-14