


Conv DC-DC 4.5V to 65V Synchronous Step Down Single-Out 2V to 60V 1.5A Automotive 14-Pin HTSSOP EP T/R



Images are for reference only

[Inquiry](#)

Manufacturer:	Texas Instruments, Inc
Package/Case:	HTSSOP14
Product Type:	Power Management ICs
RoHS:	RoHS Compliant/Lead free 
Lifecycle:	Active

General Description

The LM5160-Q1 is a 65-V, 2-A synchronous step-down converter with integrated high-side and low-side MOSFETs. The adaptive constant on-time control scheme requires no loop compensation and supports high step-down ratios with fast transient response. An internal feedback amplifier maintains $\pm 1\%$ output voltage regulation over the entire operating temperature range. The on-time varies inversely with input voltage resulting in nearly constant switching frequency. Peak and valley current limit circuits protect against overload conditions. The undervoltage lockout (EN/UVLO) circuit provides independently adjustable input undervoltage threshold and hysteresis. The LM5160-Q1 is programmed through the FPWM pin to operate in continuous conduction mode (CCM) from no load to full load or to automatically switch to discontinuous conduction mode (DCM) at light load for higher efficiency. Forced CCM operation supports multiple-output and isolated Fly-Buck applications using a coupled inductor.

The LM5160-Q1 is qualified to automotive AEC-Q100 grade 1 and is available in 14-pin HTSSOP package with 0.65-mm pin pitch.

Key Features

AEC-Q100 Qualified for Automotive Applications

Temperature Grade 1: $-40^{\circ}\text{C} \leq \text{TA} \leq 125^{\circ}\text{C}$

HBM ESD Classification Level 2

CDM ESD Classification Level C5

Wide 4.5-V to 65-V Input Voltage Range

Integrated High-Side and Low-Side Switches

No External Schottky Diode Required

2-A Maximum Load Current

Meets CISPR 25 EMI Standard

Adaptive Constant On-Time Control

Fast Transient Response

Selectable Forced PWM or DCM Operation

FPWM Supports Multi-Output Fly-Buck

Nearly Constant Switching Frequency

Resistor Adjustable up to 1 MHz

Programmable Soft-Start Time

Prebiased Start-Up

Inherent Protection Features for Robust Design

Peak Current Limiting Protection

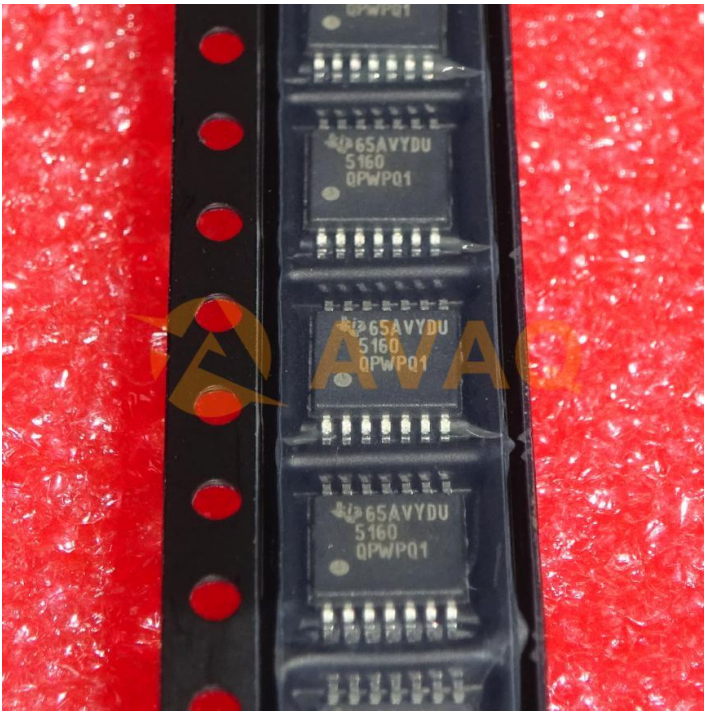
Adjustable Input UVLO and Hysteresis

VCC and Gate Drive UVLO Protection

Thermal Shutdown Protection With Hysteresis

14-Pin HTSSOP Package, 0.65-mm Pitch

Create a Custom Design Using the LM5160-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

LM5576MH

Texas Instruments, Inc
TSSOP20

LMQ61460AFSQRJRRQ1

Texas Instruments, Inc
VQFN-14

LM5071MIX-80

Texas Instruments, Inc
TSSOP16