

Conv DC-DC 3.55V to 36V Synchronous Step Down Single-Out 3.3V 1A Automotive 10-Pin WSON EP T/R



Images are for reference only

[Inquiry](#)

Manufacturer: [Texas Instruments, Inc](#)

Package/Case: WSON-10

Product Type: Power Management ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

General Description

The LM53600-Q1 and LM53601-Q1 synchronous buck regulator devices are optimized for automotive applications, providing an output voltage of 5 V, 3.3 V, or an adjustable output. Load current up to 650 mA is supported by the LM53600-Q1, while the LM53601-Q1 supports up to 1000 mA. Advanced high-speed circuitry allows the LM53600-Q1 and LM53601-Q1 devices to regulate from an input of 18 V to an output of 3.3 V at a fixed frequency of 2.1 MHz. Innovative architecture allows the device to regulate a 3.3-V output from an input voltage of only 3.8 V. The input voltage range up to 36 V, with transient tolerance of up to 42 V, eases input surge protection design. An open drain reset output, with filtering and delayed release, provides a true indication of system status. This feature negates the requirement for an additional supervisory component, saving cost and board space. Seamless transitions between PWM and PFM modes, along with a quiescent current of only 23 μ A, ensures high efficiency and superior transient response at all loads. Few external components are needed allowing the generation of compact PCB layout. While the LM53600-Q1 and LM53601-Q1 devices are Q1 rated, electrical characteristics are guaranteed across a junction temperature range of -40°C up to 150°C .

Key Features

Qualified for Automotive Applications

AEC-Q100 Qualified With the Following Results:

Device Temperature Grade 1: -40°C to 125°C

Ambient Operating Temperature Range

Device HBM Classification Level 2

Device CDM Classification Level C5

Wide Operating Input Voltage: 3.55 V to 36 V

Spread Spectrum Option Available

2.1-MHz Fixed Switching Frequency

Low Quiescent Current: 23 μA

Shutdown Current: 1.8 μA

Adjustable, 3.3-V, or 5-V Output

Maximum Current Load: 650 mA for LM53600-Q1,

1000 mA for LM53601-Q1

Pin Selectable Forced PWM Mode

RESET Output with Filter and Delay Release

External Frequency Synchronization

Internal Compensation, Soft Start, Current Limit,

and UVLO

10-Lead, 3-mm \times 3-mm SON Package with

Wettable Flanks



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

LM5160QPWPRQ1

Texas Instruments, Inc
HTSSOP14

LM5576MH

Texas Instruments, Inc
TSSOP20

LMQ61460AFSQRJRRQ1

Texas Instruments, Inc
VQFN-14

LM5071MIX-80

Texas Instruments, Inc
TSSOP16