


## Conv DC-DC 3.8V to 36V Synchronous Step Down Single-Out 1V to 24V 3A Automotive 12-Pin VQFN-HR T/R

<b>Manufacturer:</b>	<a href="#">Texas Instruments, Inc</a>
<b>Package/Case:</b>	VFQFN12
<b>Product Type:</b>	Power Management ICs
<b>RoHS:</b>	RoHS Compliant/Lead free 
<b>Lifecycle:</b>	Active



Images are for reference only

[Inquiry](#)

### General Description

The LMR33630-Q1 automotive-qualified regulator is an easy-to-use, synchronous, step-down DC/DC converter that delivers best-in-class efficiency for rugged applications. The LMR33630-Q1 drives up to 3 A of load current from an input of up to 36 V. The LMR33630-Q1 provides high light load efficiency and output accuracy in a very small solution size. Features such as a power-good flag and precision enable provide both flexible and easy-to-use solutions for a wide range of applications. The LMR33630-Q1 automatically folds back frequency at light load to improve efficiency. Integration eliminates most external components and provides a pinout designed for simple PCB layout. Protection features include thermal shutdown, input undervoltage lockout, cycle-by-cycle current limit, and hiccup short-circuit protection. The LMR33630-Q1 is available in a 12-pin 3 mm × 2 mm next generation VQFN package with wettable flanks.

## Key Features

AEC-Q100 qualified for automotive applications:  
Temperature grade 1: -40°C to +125°C, T<sub>A</sub>

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

Configured for rugged automotive applications  
Input voltage range: 3.8 V to 36 V

Output voltage range: 1 V to 24 V

Output current: 3 A

75-mΩ/50-mΩ R<sub>DS-ON</sub> power MOSFETs

Peak-current-mode control

Short minimum on-time of 68 ns

Frequency: 400 kHz, 1.4 MHz, 2.1 MHz

Integrated compensation network

Low EMI and switching noise  
HotRod package

Parallel input current paths

High power conversion at all loads  
Peak efficiency > 95%

Low shutdown quiescent current of 5 μA

Low operating quiescent current of 25 μA

Create a custom design using the LMR33630-Q1 with the WEBENCH Power Designer

## Recommended For You

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### 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

WSON-10

**LM5160QPWPRQ1**

Texas Instruments, Inc

HTSSOP14

**LM5576MH**

Texas Instruments, Inc

TSSOP20

**LMQ61460AFSQRJRRQ1**

Texas Instruments, Inc

VQFN-14