

Conv DC-DC 4V to 36V Synchronous Step Down Single-Out 1V to 28V 3A Automotive 8-Pin HSOIC EP T/R



Images are for reference only

Manufacturer: [Texas Instruments, Inc](#)

Package/Case: SOP8

Product Type: Power Management ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

[Inquiry](#)

General Description

The LMR23630-Q1 SIMPLE SWITCHER is an easy-to-use 36-V, 3-A synchronous step-down regulator. With a wide input range from 4 V to 36 V, the device is suitable for various applications from industrial to automotive for power conditioning from unregulated sources. Peak-current-mode control is employed to achieve simple control-loop compensation and cycle-by-cycle current limiting. A quiescent current of 75 μ A makes it suitable for battery powered systems. Internal loop compensation means that the user is free from the tedious task of loop compensation design. This also minimizes the external components. The device has option for constant frequency FPWM mode to achieve small output voltage ripple at light load. An extended family is available in 1-A (LMR23610-Q1), 1.5-A (LMR23615-Q1), and 2.5-A (LMR23625-Q1) load current options in pin-to-pin compatible package which allows simple, optimum PCB layout. A precision enable input allows simplification of regulator control and system power sequencing. Protection features include cycle-by-cycle current limit, hiccup-mode short-circuit protection, and thermal shutdown due to excessive power dissipation.

Key Features

Qualified for Automotive Applications

AEC-Q100 Qualified With the Following Results:

Device Temperature Grade 1: -40°C to $+125^{\circ}\text{C}$ Ambient Operating Temperature

Device HBM ESD Classification Level 2

Device CDM ESD Classification:

SOIC and WSON With RT — Level C4B

WSON With PGOOD — Level C5

4-V to 36-V Input Range

3-A Continuous Output Current

Minimum Switch-On Time: 60 ns

Internal Compensation for Ease of Use

400 kHz Switching Frequency and Adjustable Switching Frequency Options

PFM and Forced PWM Mode Options at Light Load

Frequency Synchronization to External Clock

75- μA Quiescent Current at No Load for PFM Option

Power-Good Option

Soft Start into a Prebiased Load

High Duty-Cycle Operation Supported

Output Short-Circuit Protection With Hiccup Mode

8-Pin HSOIC and 12-Pin WSON Wettable Flank with PowerPAD[®] Package Options

Create a Custom Design Using the LMR23630-Q1 With the WEBENCH[®] Power Designer

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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