

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

<b>Manufacturer:</b>	<a href="#">Texas Instruments, Inc</a>	<a href="#">LMR23630AQDDARQ1 Image</a>
<b>Package/Case:</b>	SOP8	Images are for reference only
<b>Product Type:</b>	Power Management ICs	<a href="#">Inquiry</a>
<b>RoHS:</b>	RoHS Compliant/Lead free 	
<b>Lifecycle:</b>	Active	

### 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  $\mu$ 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:  $-40^{\circ}\text{C}$  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- $\mu\text{A}$  Quiescent Current at No Load for PFM Option

Power-Good Option

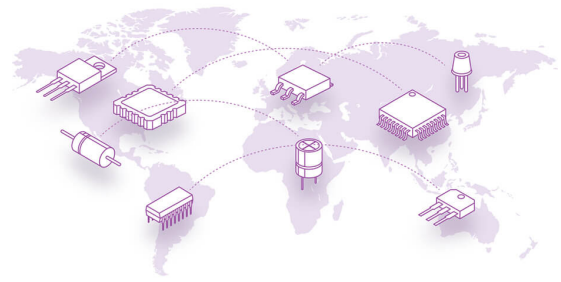
Soft Start into a Prebiased Load

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



## 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

WSO-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

WSO-10

### **LM5160QPWPRQ1**

Texas Instruments, Inc

HTSSOP14

### **LM5576MH**

Texas Instruments, Inc

TSSOP20

### **LMQ61460AFSQRJRRQ1**

Texas Instruments, Inc

VQFN-14