

Conv DC-DC 4V to 40V Synchronous Step Down Single-Out 0.8V to 28V 5A Automotive 10-Pin WSON EP T/R

Manufacturer:	Texas Instruments, Inc	LMR14050QDPRRQ1 Image
Package/Case:	WSON-10	Images are for reference only
Product Type:	Power Management ICs	Inquiry
RoHS:	RoHS Compliant/Lead free 	
Lifecycle:	Active	

General Description

The LMR14050-Q1 is a 40 V, 5 A step down regulator with an integrated high-side MOSFET. With a wide input range from 4 V to 40 V, it's suitable for various applications from industrial to automotive for power conditioning from unregulated sources. An extended family is available in 2 A and 3.5 A options in pin-to-pin compatible packages, including LMR14020-Q1 and LMR14030-Q1. The regulator's quiescent current is 40 μ A in Sleep-mode, which is suitable for battery powered systems. An ultra-low 1 μ A current in shutdown mode can further prolong battery life. A wide adjustable switching frequency range allows either efficiency or external component size to be optimized. Internal loop compensation means that the user is free from the tedious task of loop compensation design. This also minimizes the external components of the device. A precision enable input allows simplification of regulator control and system power sequencing. The device also has built-in protection features such as cycle-by-cycle current limit, thermal sensing and shutdown due to excessive power dissipation, and output overvoltage protection.

The LMR14050-Q1 is available in an 8-pin HSOIC or 10-pin WSON package with exposed pad for low thermal resistance.

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 ESD Classification Level H1C - Device CDM ESD Classification Level C4A

4 V to 40 V Input Range

5 A Continuous Output Current

Ultra-low 40 μ A Operating Quiescent Current

90 m Ω High-Side MOSFET

Minimum Switch-On Time: 75 ns

Current Mode Control

Adjustable Switching Frequency from 200 kHz to 2.5 MHz

Frequency Synchronization to External Clock

Spread Spectrum Option for Reduced EMI

Internal Compensation for Ease of Use

High Duty Cycle Operation Supported

Precision Enable Input

1 μ A Shutdown Current

External Soft-start

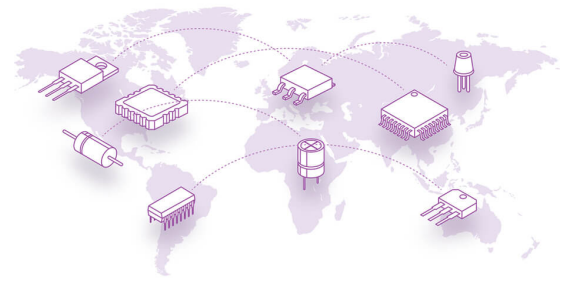
Thermal, Overvoltage and Short Protection

8-Pin HSOIC with PowerPAD[®] Package

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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

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