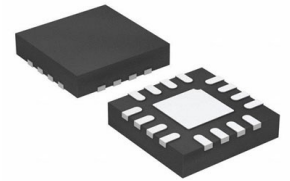


Conv DC-DC 3.5V to 60V Synchronous Step Down Single-Out 1V to 57V 2.5A Automotive 30-Pin WQFN EP T/R



Images are for reference only

Manufacturer: [Texas Instruments, Inc](#)

Package/Case: WQFN-30

Product Type: Power Management ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

[Inquiry](#)

General Description

The LM76002-Q1/LM76003-Q1 regulator is an easy-to-use synchronous step-down DC-DC converter capable of driving up to 2.5 A (LM76002-Q1) or 3.5 A (LM76003-Q1) of load current from an input up to 60 V. The LM76002-Q1/LM76003-Q1 provides exceptional efficiency and output accuracy in a very small solution size. Peak current-mode control is employed. Additional features such as adjustable switching frequency, synchronization, FPWM option, power-good flag, precision enable, adjustable soft start, and tracking provide both flexible and easy-to-use solutions for a wide range of applications. Automatic frequency foldback at light load and optional external bias improve efficiency. This device requires few external components and has a pinout designed for simple PCB layout with best-in-class EMI (CISPR25) and thermal performance. Protection features include input undervoltage lockout, thermal shutdown, cycle-by-cycle current limit, and short-circuit protection. The LM76002-Q1/LM76003-Q1 device is available in the WQFN 30-pin leadless package with wettable flanks.

Key Features

AEC-Q100 qualified for automotive applications

Device temperature grade 1: -40°C to +125°C ambient operating temperature

Device HBM ESD classification level 2

Device CDM ESD classification level C5

Integrated synchronous rectification

Input voltage 3.5 V to 60 V (65 V maximum)

Output voltage 1 V to 95% V_{IN}

15- μ A Quiescent current in regulation

Wide voltage conversion range

t_{ON-MIN} = 65 ns (typical)

$t_{OFF-MIN}$ = 95 ns (typical)

System-level features

Synchronization to external clock

Power-good flag

Adjustable soft-start (6.3 ms default)

Pin-selectable FPWM operation

Adjustable frequency range: 300 kHz to 2.2 MHz

High-efficiency at light-load architecture (PFM)

Protection features

Cycle-by-cycle current limit

Short-circuit protection with hiccup mode

Overtemperature thermal shutdown protection

Create a custom design using the LM76002-Q1/LM76003-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

WSON8

LM74700QDBVRQ1

Texas Instruments, Inc

SOT23-6

LM2991S

Texas Instruments, Inc

TO-263

LM74800QDRRRQ1

Texas Instruments, Inc
WSN-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
WSN-10

LM5160QPWPRQ1

Texas Instruments, Inc
HTSSOP14

LM5576MH

Texas Instruments, Inc
TSSOP20

LMQ61460AFSQRJRRQ1

Texas Instruments, Inc
VQFN-14