

## DC/DC Cntrlr Single-OUT Step Down 20A 220kHz/530kHz 20-Pin HTSSOP EP T/R

<b>Manufacturer:</b>	<a href="#">Texas Instruments, Inc</a>	<a href="#">LM5117PMHX/NOPB Image</a>
<b>Package/Case:</b>	HTSSOP-20	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 LM5117 is a synchronous buck controller intended for step-down regulator applications from a high voltage or widely varying input supply. The control method is based upon current mode control utilizing an emulated current ramp. Current mode control provides inherent line feed-forward, cycle-by-cycle current limiting and ease of loop compensation. The use of an emulated control ramp reduces noise sensitivity of the pulse-width modulation circuit, allowing reliable control of very small duty cycles necessary in high input voltage applications.

The operating frequency is programmable from 50 kHz to 750 kHz. The LM5117 drives external high-side and low-side NMOS power switches with adaptive dead-time control. A user-selectable diode emulation mode enables discontinuous mode operation for improved efficiency at light load conditions. A high voltage bias regulator that allows external bias supply further improves efficiency. The LM5117's unique analog telemetry feature provides average output current information. Additional features include thermal shutdown, frequency synchronization, hiccup mode current limit, and adjustable line undervoltage lockout.

## Key Features

LM5117-Q1 is Qualified for Automotive Applications

AEC-Q100 Qualified With the Following Results:

Device Temperature Grade 1: -40°C to 125°C

Ambient Operating Temperature Range

Emulated Peak Current Mode Control

Wide Operating Range from 5.5 V to 65 V

Robust 3.3-A Peak Gate Drives

Adaptive Dead-Time Output Driver Control

Free-Run or Synchronizable Clock up to 750 kHz

Optional Diode Emulation Mode

Programmable Output from 0.8 V

Precision 1.5% Voltage Reference

Analog Current Monitor

Programmable Current Limit

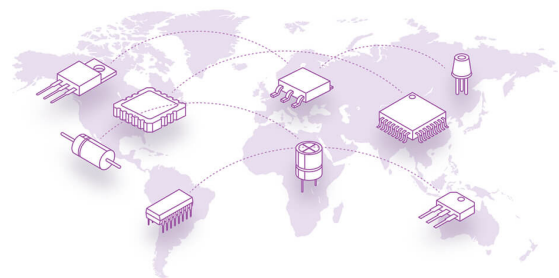
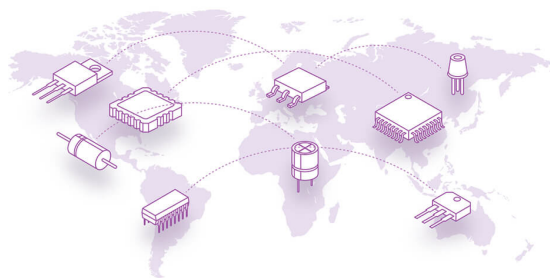
Hiccup Mode Overcurrent Protection

Programmable Soft-Start and Tracking

Programmable Line Undervoltage Lockout

Programmable Switchover to External Bias Supply

Thermal Shutdown



## 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  
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