UC3854ADW

Power Factor Correction Preregulator 0.3mA 200kHz 16-Pin SOIC Tube

Manufacturer:	Texas Instruments, Inc
Package/Case:	SOP16
Product Type:	Power Management ICs
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Active

Images are for reference only

Inquiry

General Description

The UC3854A/B products are pin compatibleenhanced versions of the UC3854. Like the UC3854, these products provide all of the functions necessary for active power factor corrected preregulators. The controller achieves near unity power factor by shaping the ac input line current waveform to correspond to the ac input line voltage. To do this the UC3854A/B uses average current mode control. Average current mode control maintains stable, low distortion sinusoidal line current without the need for slope compensation, unlike peak current mode control.

A 1%, 7.5-V reference, fixed frequency oscillator, PWM, voltage amplifierwith soft-start, line voltage feedforward (VRMS squarer), input supply voltage clamp, and over current comparator round out the lilst of feataures.

Available in the 16-pin N (PDIP), DW (SOIC Wide), and J (CDIP) and 20-pin Q (PLCC) package. See Ordering Information table for availability by temperature range.

The UC3854A/B products improve upon the UC3854 by offering a wide bandwidth, low offset current amplifier, a faster responding and improved accuracy enable comparator, a VREF GOOD comparator, UVLO threshold options (16 V/10 V for offline, 10.5 V/10 V for startup from an auxiliary 12-V regulator), lower startup supply current, and an enhanced multiply/divide circuit. New features like the amplifier output clamps, improved amplifier current sinking capability, and low offset VAC pin reduce the external component count while improving performance. Improved common mode input range of the multiplier output/current amplifier input allow the designer greater flexibility in choosing amethod for current sensing. Unlike its predecessor, RSET controls only oscillator charging current and has no effect on clamping the maximum multiplier output current. This current is now clamped to a maximum of 2 × IAC at all times which simplifies the design process and provides foldback power limiting during brownout and extreme low line conditions.

Key Features

Controls Boost PWM to Near-Unity Power Factor

Limits Line Current Distortion To <3%

World-Wide Operation Without Switches

Accurate Power Limiting

Fixed-Frequency Average Current-Mode Control

High Bandwidth (5 MHz), Low-Offset Current Amplifier

Integrated Current- and Voltage-Amplifier Output Clamps

Multiplier Improvements: Linearity, 500 mV VAC Offset (Eliminates External Resistor), 0 V to 5 V Multout Common-Mode Range

VREF GOOD Comparator

Faster and Improved Accuracy ENABLE Comparator

UVLO Options (16 V/10 V or 10.5 V/10 V)

300-µA Start-Up Supply Current

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Recommended For You

UCC28064ADR

Texas Instruments, Inc

SOP16

UC3637N

Texas Instruments, Inc

DIP-18

UCC27517DBVR

Texas Instruments, Inc

SOT23-5

UCC2946TPWRQ1

Texas Instruments, Inc

TSSOP8

UCC28730QDRQ1

Texas Instruments, Inc

SOP7

UCC21222QDRQ1

Texas Instruments, Inc

SOP16

UCD9090QRGZRQ1

Texas Instruments, Inc

VQFN-48

UCC27531QDBVRQ1

Texas Instruments, Inc

SOT23-6

UCC27511AQDBVRQ1

Texas Instruments, Inc

SOT23-6

UCC2803QDRQ1

Texas Instruments, Inc

SOP8

UCC28951QPWRQ1

Texas Instruments, Inc

TSSOP24

UCC21320QDWKRQ1

Texas Instruments, Inc

SOIC-14

UCC27322QDGNRQ1

Texas Instruments, Inc

HVSSOP-8

UCC28950QPWRQ1

Texas Instruments, Inc

TSSOP24

UCC2808AQDR-2Q1

Texas Instruments, Inc

SOP8