

Product Overview

UC3844B: High Performance Current Mode PWM Controller

For complete documentation, see the data sheet.

The UC3844B, UC3845B series are high performance fixed frequency current mode controllers. They are specifically designed for Off-Line and dc-to-dc converter applications offering the designer a cost-effective solution with minimal external components. These integrated circuits feature an oscillator, a temperature compensated reference, high gain error amplifier, current sensing comparator, and a high current totem pole output ideally suited for driving a power MOSFET.

Also included are protective features consisting of input and reference undervoltage lockouts each with hysteresis, cycle-by-cycle current limiting, a latch for single pulse metering, and a flip-flop which blanks the output off every other oscillator cycle, allowing output deadtimes to be programmed from 50% to 70%.

These devices are available in an 8-pin dual-in-line and surface mount (SO-8) plastic package as well as the 14-pin plastic surface mount (SO-14). The SO-14 package has separate power and ground pins for the totem pole output stage.

The UC3844B has UVLO thresholds of 16 V (on) and 10 V (off), ideally suited for off-line converters. The UC3845B is tailored for lower voltage applications having UVLO thresholds of 8.5 V (on) and 7.6 V (off).

Features

- Trimmed Oscillator for Precise Frequency Control
- Oscillator Frequency Guaranteed at 250 kHz
- Current Mode Operation to 500 kHz Output Switching Frequency
- Output Deadtime Adjustable from 50% to 70%
- Automatic Feed Forward Compensation
- Latching PWM for Cycle-By-Cycle Current Limiting
- Internally Trimmed Reference with Undervoltage Lockout
- High Current Totem Pole Output
- Undervoltage Lockout with Hysteresis
- Low Startup and Operating Current

For more features, see the data sheet

Part Electrical Specifications

Product	Compliance	Status	Topology	Control Mode	f _{sw} Typ (kHz)	Stand-by Mode	UVLO (V)	Short Circuit Protection	Latch	Soft Start	V _{CC} Max (V)	Drive Cap. (mA)	Package Type
UC3844BD1G	Pb-free Halide free	Active	Step-Up	Current Mode	52	No	Yes	Yes	No	No	25	200 / 200	SOIC-8
			Flyback										
			Forward										
			Step-Down										
UC3844BD1R2G	Pb-free Halide free	Active	Flyback	Current Mode	52	No	Yes	Yes	No	No	25	200 / 200	SOIC-8
			Step-Down										
			Step-Up										
			Forward										
UC3844BDG	Pb-free Halide free	Active	Step-Down	Current Mode	52	No	Yes	Yes	No	No	25	200 / 200	SOIC-14
			Flyback										
			Step-Up										
			Forward										
UC3844BDR2G	Pb-free Halide free	Active	Step-Down	Current Mode	52	No	Yes	Yes	No	No	25	200 / 200	SOIC-14
			Flyback										
			Step-Up										
			Forward										
UC3844BNG	Pb-free Halide free	Active	Flyback	Current Mode	52	No	Yes	Yes	No	No	25	200 / 200	PDIP-8
			Step-Up										
			Step-Down										
			Forward										
UC3844BVD1G	Pb-free Halide free	Active	Flyback	Current Mode	52	No	Yes	Yes	No	Yes	25	200 / 200	SOIC-8
			Forward										
			Step-Down										
			Step-Up										
UC3844BVD1R2G	Pb-free Halide free	Active	Step-Down	Current Mode	52	No	Yes	Yes	No	Yes	25	200 / 200	SOIC-8
			Forward										
			Step-Up										
			Flyback										
UC3844BVDG	Pb-free Halide free	Active	Step-Down	Current Mode	52	No	Yes	Yes	No	Yes	25	200 / 200	SOIC-14
			Flyback										
			Step-Up										
			Forward										
UC3844BVDR2G	Pb-free Halide free	Active	Forward	Current Mode	52	No	Yes	Yes	No	Yes	25	200 / 200	SOIC-14
			Step-Up										
			Step-Down										
			Flyback										

UC3844BVNG	Pb-free Halide free	Active	Forward Step-Down Flyback Step-Up	Current Mode	52	No	Yes	Yes	No	Yes	25	200 / 200	PDIP-8
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Created on: 1/21/2019