

Product Announcement

Introducing UC1842 / UC1843 / UC1844 / UC1845 as Bare Die Product from Texas Instruments

Current Mode PWM Controller

The UC1842/3/4/5 family of control devices provides the necessary features to implement off-line or dc-to-dc fixed frequency current mode control schemes with a minimal external parts count. Internally implemented circuits include under-voltage lockout featuring start up current less than 1 mA, a precision reference trimmed for accuracy at the error amp input, logic to insure latched operation, a PWM comparator which also provides current limit control, and a totem pole output stage designed to source or sink high peak current. The output stage, suitable for driving N-Channel MOSFETs, is low in the off state.

Differences between members of this family are the under-voltage lockout thresholds and maximum duty cycle ranges. The UC1842 and UC1844 have UVLO thresholds of 16 V_{ON} and 10 V_{OFF}, ideally suited to off-line applications. The corresponding thresholds for the UC1843 and UC1845 are 8.4 V and 7.6 V. The UC1842 and UC1843 can operate to duty cycles approaching 100%. A range of zero to 50% is obtained by the UC1844 and UC1845 by the addition of an internal toggle flip flop which blanks the output off every other clock cycle.

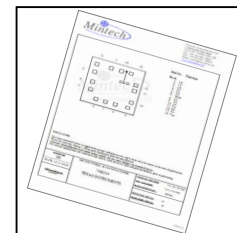
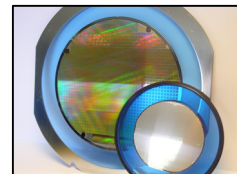
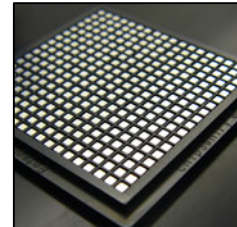
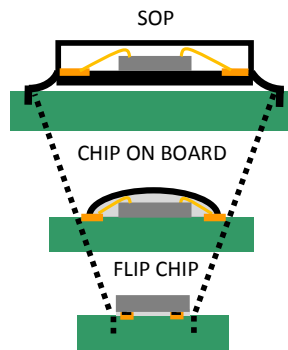
Designing applications using bare die form offers >50% X-Y-Z size reduction when compared with the smallest available package. ∴ Bare die form factor greatly assists size sensitive applications.

Quick Reference Data

Topology	Boost, Flyback, Forward
Control Method	Current Mode
Duty Cycle (Max) (%)	- UC1842 / UC1843 - UC1844 / UC1845
Frequency (Max) (%)	100 50
UVLO Threshold On/Off (V)	8.4 / 7.6 16 / 10
Regulated Outputs (#)	1

Features

- INTERNALLY TRIMMED BANDGAP REFERENCE
- 500-kHz OPERATION
- LOW R_o ERROR AMP
- LOW START-UP CURRENT(<1mA)
- AUTOMATIC FEED FORWARD COMPENSATION
- PULSE-BY-PULSE CURRENT LIMITING
- ENHANCED LOAD RESPONSE CHARACTERISTICS
- UNDER-VOLTAGE LOCKOUT WITH HYSTERESIS
- DOUBLE PULSE SUPPRESSION
- HIGH CURRENT TOTEM POLE OUTPUT
- SMALLEST FORM FACTOR



Please [contact us](#) for the UC184* die geometries.

Applications

- OFFLINE AND DC-TO-DC CONVERTORS
- HYBRID CIRCUITS
- MULTIPLE CHIP MODULES

A full electrical datasheet is available from <http://focus.ti.com/lit/ds/symlink/uc1842.pdf>

For further die technical information and choice of available supply formats please [contact us](#)

Micross Components EU
Unit D2 Meadowbank
Oldham, Lancashire
OL9 8EH England

Tel: +44 (0)161 683 5236
Fax: +44 (0)161 684 1233

Micross Components USA
22 Just Road
Fairfield, NJ 07004-3413
USA

Tel: (973) 227 8007
Fax: (973) 227 4766

Micross Components Asia
299299 Kaiyuan Road
Jiangning, Nanjing
China 211100

Tel: +86-25-6667 8880