

**UC3840/UC3841/UC3851 PWM CONTROLLERS
SUMMARY OF FUNCTIONS AND DIFFERENCES**

The UC3840/UC3841 and UC3851 PWM controllers incorporate numerous protection features for switch mode power supplies. The list includes programmable undervoltage lockout thresholds, programmable current limit thresholds, overvoltage protection, soft-start and external stop/reset capability. While these controllers are similar in concept, there are subtle differences amongst

them in the operation of the error latch circuitry, specifically, the external stop and reset inputs. The UC3841 and UC3851 ICs feature an improved circuit design which simplifies the interface to the internal protection circuitry. A summary of the functions and modes of operation is listed below.

EXTERNAL STOP

	UC3840	UC3841/51
Low (<0.8V)	Stop	Defeat E/L Operation
High	Normal	Stop
Open	Normal	Normal
Cap. to GND During Power-up	Not Recommended	Delay E/L Operation at $\approx 13\text{msec}/\mu\text{F}$

E/L= Error Latch

RESET

	UC3840	UC3841/51
High (>3.2V)	Latch	Latch
Low (<2.8V)	Requires UV Cycle to Reset	Reset

SOFT START

	UC3840	UC3841/51
After UV or Reset	Unlatched	Latched ($V_{ss} \leq 0.40\text{V}$)

The UC3851 controller incorporates two additional features, a toggle flip-flop for an accurate 50% maximum duty cycle clamp, and a 1 amp peak totem-pole output for

driving power MOSFETs. Maximum duty cycles and output configurations for each device is shown below.

MAXIMUM DUTY CYCLE ($T_J = 25^\circ\text{C}$)

	UC3840/41	UC3851
$R_T = 20\text{k}$, $C_T = 1\text{nF}$	0-95%	0-46%

PWM OUTPUT

	UC3840/41	UC3851
1A (PK)	Open Collector Active Low	Totem Pole Active High