

Product Overview

NCP1238: Controller, Fixed Frequency, Current Mode, for Flyback Converters

For complete documentation, see the data sheet.

The NCP1238 is a new generation of the NCP12xx fixed-frequency current-mode controllers featuring Dynamic Self-Supply (DSS), pin to pin compatible with the previous generation. The DSS function greatly simplifies the design of the auxiliary supply and the V_{CC} capacitor by activating the internal start-up current source to supply the controller during transients. Due to its proprietary Soft-Skip™ mode combined with frequency foldback, the controller exhibits excellent efficiency in light load condition while still achieving very low standby power consumption. This Soft-Skip feature also dramatically reduces the risk of acoustic noise, which enables the use of inexpensive transformers and capacitors in the clamping network. Internal frequency jittering, ramp compensation, and a versatile latch input make this controller an excellent candidate for converters where ruggedness and components cost are the key constraints. In addition, the controller includes a new high voltage circuitry that combines a startup current source and a brown-out / line OVP detector able to sense the input voltage either from the rectified ac line or the dc filtered bulk voltage. Finally, due to a careful design, the precision of critical parameters is well controlled over the entire temperature range (-40°C to +125°C), enabling easier design and increased safety (e.g. $\pm 5\%$ for the peak current limit, $\pm 7\%$ for the oscillator).

Features

- Timer-Based Overload Protection with AutoRecovery (Option B) or Latched (Option A) Operation
 - Frequency Jittering
 - Frequency Foldback transitioning into Soft-Skip
 - High-Voltage Current Source with DSS with Built-in Brown-out and Line Overvoltage Protections
 - Fixed-Frequency Current-Mode Operation with Built-in Ramp Compensation
 - Adjustable Overpower Compensation
 - Latch-off Input for Severe Fault Conditions, with Direct Connection of an NTC for Overtemperature Protection (OTP)
 - Protection Against Winding Short-Circuit
 - 65 kHz Oscillator (100 kHz and 133 kHz Versions Available Upon Request)
 - V_{CC} Operation up to 28 V
- For more features, see the data sheet

Benefits

- Overload protection independent of the auxiliary voltage
- Reduced EMI Signature
- Improved Performance in Standby

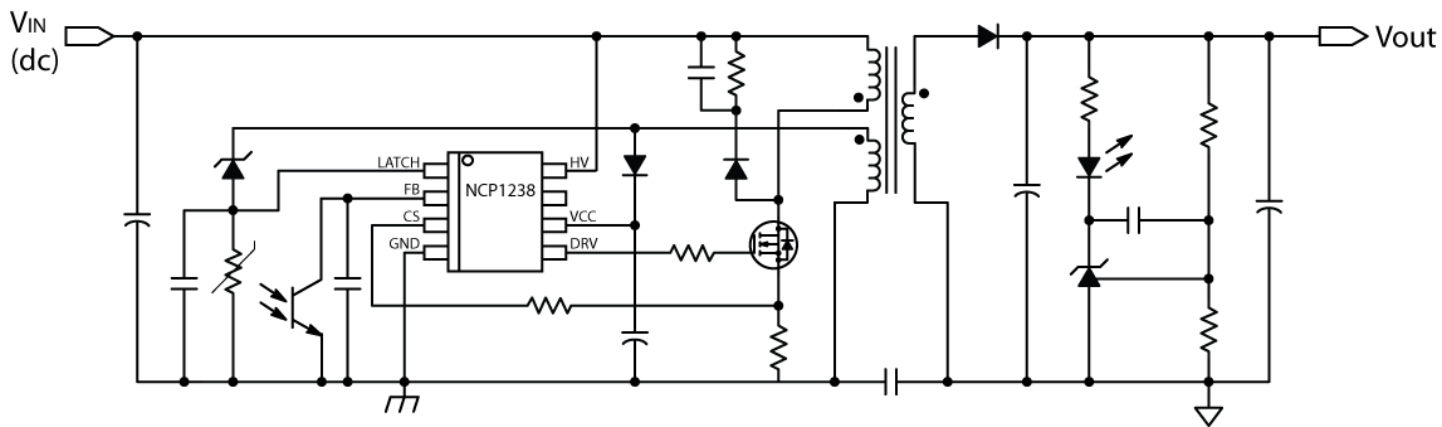
Applications

- Ac-dc Adapters for Notebooks, LCD, and Printers
- Offline Battery Chargers
- Consumer Electronic Power Supplies
- Auxiliary/Housekeeping Power Supplies

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
NCP1238AD65R2G	Pb-free	Active	Flyback	Current Mode	65	Yes	9.5	Yes	Yes	Yes	28	1000 / 1000	SOIC-7
	Halide free												
NCP1238BD65R2G	Pb-free	Active	Flyback	Current Mode	65	Yes	9.5	Yes	Yes	Yes	28	1000 / 1000	SOIC-7
	Halide free												

Application Diagram



For more information please contact your local sales support at www.onsemi.com.

Created on: 2/21/2019