

Product Overview

NCV3163: Buck / Boost / Inverting Converter, Switching Regulator, 3.4 A, 50-300 Hz

For complete documentation, see the data sheet

Product Description

The NCP3163 Series is a performance enhancement to the popular MC33163 and MC34163 monolithic dc-dc converters. These Buck Boost Inverting Switching Regulators consist of an internal temperature compensated reference, comparator, controlled duty cycle oscillator with an active current limit circuit, driver and high current output switch. This controller was specifically designed to be incorporated in step-down (buck), step-up (boost), or voltage-inverting applications with a minimum number of external components. The NCP3163 Buck Boost Inverting Switching Regulator comes in an exposed pad package which can greatly increase the power dissipation of the built in power switch. An automotive qualified version is available as NCV3163.

Features	Benefits
<ul style="list-style-type: none"> • Output Switch Current in Excess of 3.0 A • 3.4 A Peak Switch Current • Frequency is Adjustable from 50 kHz to 300 kHz • Operation from 2.5 V to 40 V Input • Precision 2% Reference for Accurate Output Voltage Control • Cycle-by-Cycle Current Limiting • Internal Thermal Shutdown Protection • Exposed Pad Power Package • Excel Based Design Tool Available 	<ul style="list-style-type: none"> • Integrated output switch with high current capability • The burst mode architecture allows higher peak current to achieve higher average output current • Higher efficiency at slower Fsw Reduced output cap at higher Fsw • Wide input voltage for use in many applications • Accurate Output Voltage Control • System level protection • System level protection • Thermally enhanced package for higher output current

Applications	End Products
<ul style="list-style-type: none">• Pre-Regulator for Linear Regulators• Automotive DC-DC• Distributed Power Systems• High Power LED	<ul style="list-style-type: none">• xDSL / Cable Modems / DC-DC Modules• Battery Charger

Part Electrical Specifications

Product	Compliance	Status	Topology	Control Mode	V _{CC} Min (V)	V _{CC} Max (V)	V _O Typ (V)	I _O Typ (A)	Efficiency (%)	f _{sw} Typ (kHz)	Package Type
NCV3163MNR2G	AEC Qualified	Active	Step-Down	Hysteretic	2.5	40	1.25 to 40	3	80	Up to 300	DFN-18
	PPAP Capable		Step-Up								
	Pb-free		Step-Up/Step-Down								
	Halide free										
NCV3163PWR2G	AEC Qualified	Active	Step-Down	Hysteretic	2.5	40	1.25 to 40	3	80	Up to 300	SOIC-16W EP
	PPAP Capable		Step-Up								
	Pb-free		Step-Up/Step-Down								
	Halide free										

Application Diagram

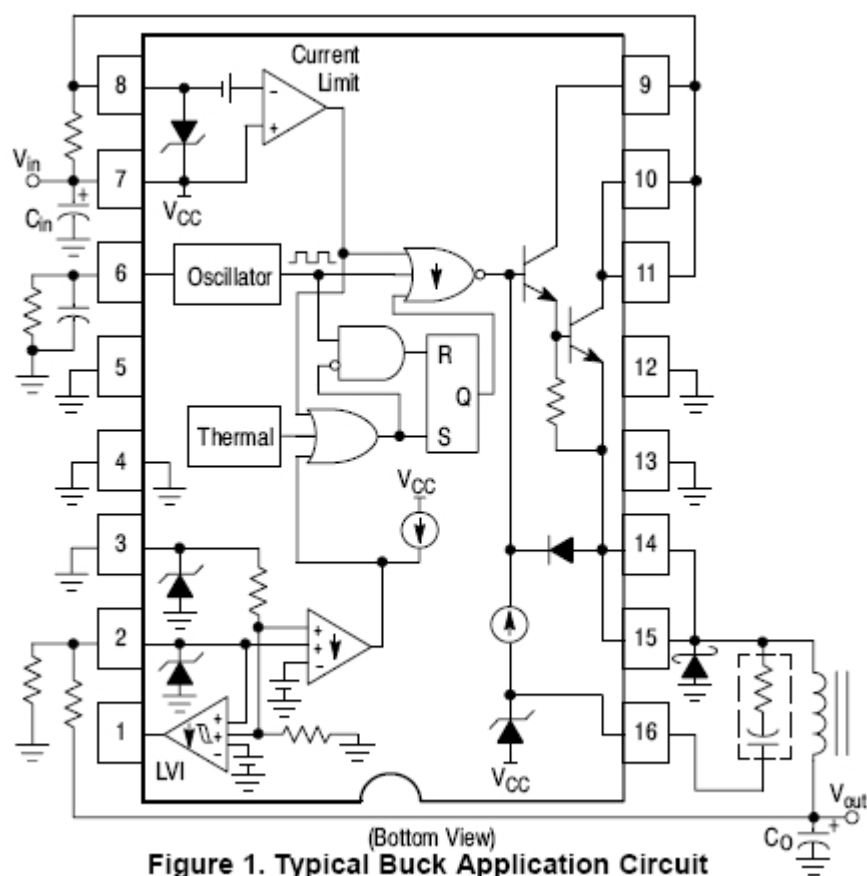


Figure 1. Typical Buck Application Circuit

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

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