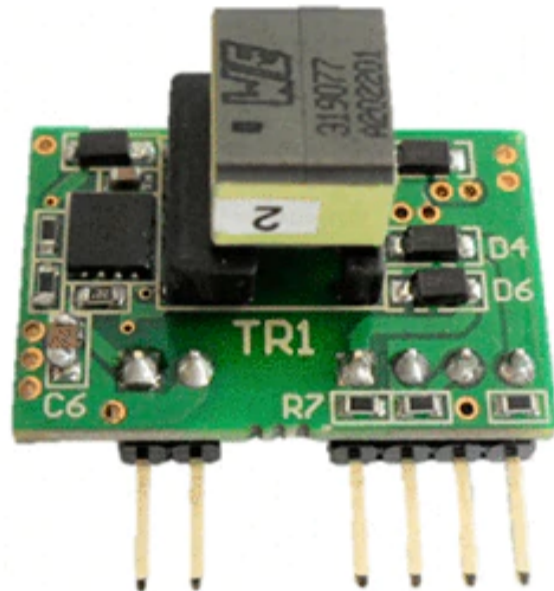


SECO-LVDCDC3064-SIC-GEVB: 6-18 Vdc Input Isolated SiC Gate Driver Supply +20V/-5V/5V with Automotive Qualified NCV3064 Controller Evaluation Board

The SECO-LVDCDC3064-SIC-GEVB is an isolated supply for SiC drivers, providing the necessary stable voltage rails -5 V / 20 V for an efficient switching—as well as an additional 5 V rail—over a wide input voltage range (6 Vdc to 18 Vdc). The converter is implemented as a primary side regulated flyback, with the feedback loop signal (1.25 V) realized via an auxiliary winding regulated at 5V and a voltage divider.

The design leverages the several merits of the NCV3064 regulator, enabling a

low component count, compact and robust design. Among the features of this converter stand out—e.g. an internal temperature compensated reference, a controlled duty cycle oscillator with an active current limit circuit, driver and high current output switch. The board is realized with Automotive qualified parts and is pin compatible with commercial SiC DC/DC supplies, provisioning a ready to use plug-in solutions for power applications.



Collateral

- [NCV3064](#)
- [SECO-LVDCDC3064-IGBT-GEVB](#)
- [SECO-GDBB-GEVB](#)

Features and Applications

Features

- Core Part—NCV3064 (Automotive) / NCP3064 (Industrial)
- Switching Frequency 150 kHz
- Input Voltage 6-18 VDC
- Output Voltage 5 V / 5 V / 20 V
- Operation Mode DCM and CCM
- Output Current 50 mA (for each Branch)
- Efficiency at Full Load 67%
- Size 26.24 x 16.38 x 16.06 mm
- Transformer Basic Parameters
 - Interwinding Capacitance 6.4 pF
 - Dielectric Insulation 4000VAC





Applications

- Isolated SiC Driver Supply
- Automotive Powertrain Systems
- Automotive Auxiliary Power

Evaluation/Development Tool Information					
Product	Status	Compliance	Short Description	Parts Used	Action
SECO-LVDCDC3064-SIC-GEVB	Active	Pb-free	6-18 Vdc Input Isolated SiC Gate Driver Supply +20V/-5V/5V with Automotive Qualified NCV3064 Controller Evaluation Board	NCV3064MNTXG , NRVTS2H60ESFT1G , SZMMSZ18T1G	

Technical Documents			
Type	Document Title	Document ID/Size	Rev
Eval Board: Manual	6-18 Vdc Input Isolated SiC Gate Driver Supply +20V/-5V/5V with Automotive Qualified NCV3064 Controller Evaluation Board User's Manual	EVBUM2764/D - 1760 KB	2
Eval Board: Test Procedure	SECO-LVDCDC3064-SIC-GEVB Test Procedure	SECO-LVDCDC3064-SIC-GEVB_TEST_PROCEDURE - 88 KB	0
Eval Board: BOM	SECO-LVDCDC3064-SIC-GEVB Bill of Materials (ROHS Compliant)	SECO-LVDCDC3064-SIC-GEVB_BOM_ROHS - 133 KB	0
Eval Board: Schematic	SECO-LVDCDC3064-SIC-GEVB Schematic	SECO-LVDCDC3064-SIC-GEVB_SCHEMATIC - 165 KB	0
Eval Board: Gerber	SECO-LVDCDC3064-SIC-GEVB Gerber Layout Files (Zip Format)	SECO-LVDCDC3064-SIC-GEVB_GERBER - 175 KB	0
Video	Designing Silicon Carbide (SiC) based DC Fast Charging System Session 1: 6-Pack Boost Active Front End (AFE) Design	WVD17869/D	
Video	Designing Silicon Carbide (SiC) based DC Fast Charging System Session 2: Dual	WVD17870/D	



	Drivers, Auxiliary Supply, and Thermal Management		
Video	Designing Silicon Carbide (SiC) based DC Fast Charging System Session 4: Measurement Results	WVD17872/D	

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[Technical Documentation](#)

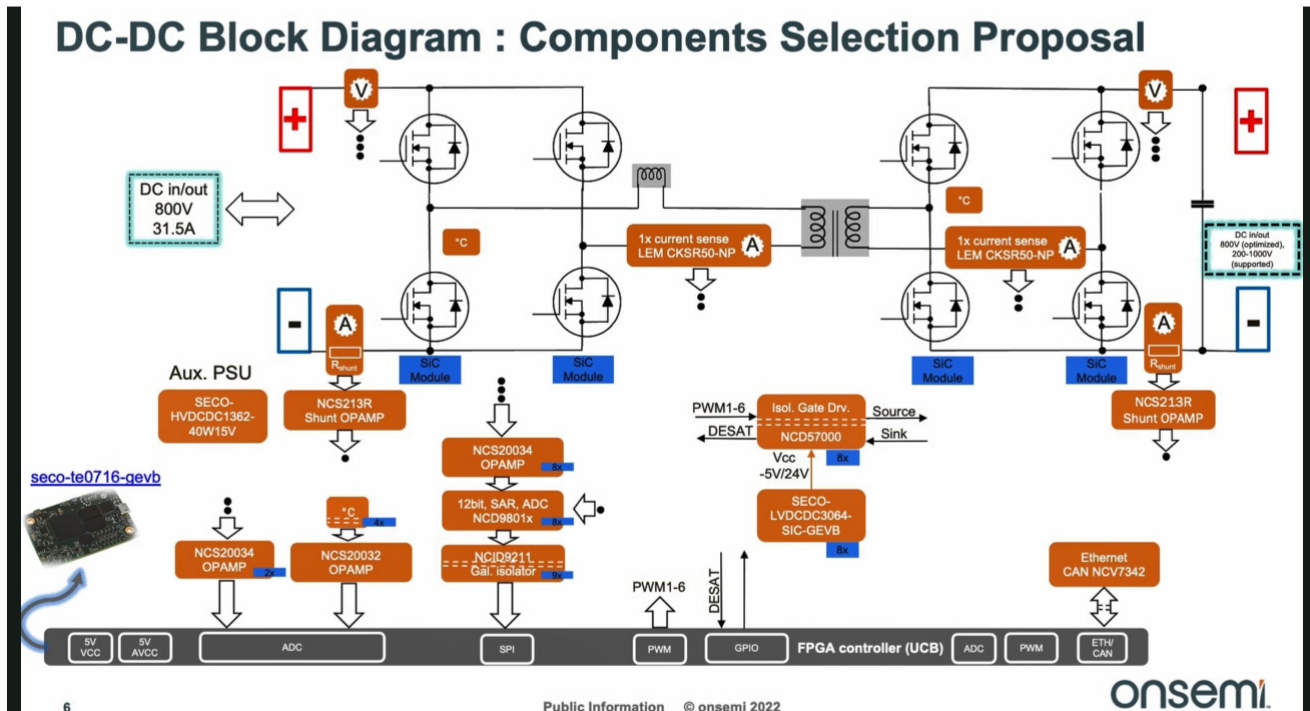
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[Designing Silicon Carbide \(SiC\) based DC Fast Charging System | Session 2: Dual Active Bridge DC-DC Design](#)



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