



STR-ADAS-PREREGULATOR-GEVK: Strata Enabled Flexible ADAS Power Solution

The STR-ADAS-PREREGULATOR-GEVK is an optimized power management solution for automotive systems such as Infotainment or ADAS with an I²C programmable output voltage between 0.6V-3.3V and a fixed 5V output. The system boasts a high efficiency up to 98% and its adaptability allows for implementation in several high performance applications. The key featured components are the [NCV6357](#) Adaptive-On-Time and programmable buck converter, the [NCV88193](#) low quiescent buck synchronous controller and the 40V, high thermal performance and compact [NVMF55C460NL](#) MOSFETs. Thanks to the [Strata visual interface](#), users can not only monitor telemetry data, such as, voltage, current, efficiency or temperature; but also adjust the output voltage. Strata ready-to-use laboratory environment enables a fast system and component evaluation. The development kit include the STR-ADAS-PREREGULATOR-GEVB, the Strata plug-in board, USB cable and load resistors. See the Strata webpage at www.onsemi.com/strata for more details!



Features and Applications

Features

- Vin 6.0 - 16.0 V, 40.0 V peak
- Vo1 5.0 V @ 10.0 A peak
- Vo2 0.6V - 3.3 V @ 5.0 A peak I²C programmable in 12.5mV steps
- Telemetry monitoring: Temperature, voltage, current, INT
- Adaptive-On-Time (AOT) and spread spectrum hardware functionalities
- NCV881930: Low Quiescent Current 410 kHz A Synchronous Buck Controller
- NCV6357: Synchronous Buck Converter, Processor Supply, I²C Programming, 5.0 A
- NCT375MNR2G: Digital temperature sensing SMBus
- Low Voltage rail switching frequency up to 2.4Mhz
- PFM and PPWM with automatic transition
- AEC-Q101 qualified
- STR-ADAS-PREREGULATOR-GEVB, Strata plug-in board, USB cable and load resistors included in the kit.

Applications

- Automotive DC-DC sub system
- Advanced driver-assistance systems (ADAS)
- Automotive POL
- Instrumentation

Evaluation/Development Tool Information

Product	Status	Compliance	Short Description	Parts Used	Action
STR-ADAS-PREREGULATOR-GEVK	Active	Pb-free	Strata Enabled Flexible ADAS Power Solution	2V7002WT1G , CAT24C512C8UTR , NCS214RSQT2G , NCT375MNR2G , NCV6357MTWDTXG , NCV881930MW00R2G , NRVBAF360T3G , NVATS5A108PLZT4G , NVMF55C460NLAFT1G , SZ1SMB5937BT3G , SZBZX84C15LT1G	» Contact Local Sales Office

Technical Documents

Type	Document Title	Document ID/Size	Rev
Video	Automotive ADAS Preregulator Strata	WVD17350/D	
Eval Board: Schematic	STR-ADAS-PREREGULATOR-GEVK Schematic	STR-ADAS-PREREGULATOR-GEVK_SCHEMATIC - 139 KB	0
Eval Board: Gerber	STR-ADAS-PREREGULATOR-GEVK Gerber Layout Files (Zip Format)	STR-ADAS-PREREGULATOR-GEVK_GERBER - 593 KB	0
Design Notes	STR-ADAS-PREREGULATOR-GEVK Block Diagram	STR-ADAS-PREREGULATOR-GEVK_BLOCK_DIAGRAM - 70 KB	0
Design Notes	STR-ADAS-PREREGULATOR-GEVK Test Report	STR-ADAS-PREREGULATOR-GEVK_TEST_REPORT - 1989 KB	0

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