UCC21732-Q1 Single Channel Isolated Gate Driver for SiC/IGBT with Advanced Protection and High-CMTI

1 Features

- Single Channel SiC/IGBT Isolated Gate Driver
- AEC-Q100 Qualified for Automotive Applications (Qualification Planned)
- SiC MOSFETs and IGBTs up to 1700 V
- 33-V Maximum Output Drive Voltage (VDD-COM)
- High peak drive current and high CMTI
- Active Miller Clamp
- UVLO with Power Good on RDY
- Small Propagation Delay and Pulse/Part Skew
- Operating Temperature Range –40°C to 125°C
- Safety-Related Certifications (Planned):
  - 8000-V_{PK} V_{IOTM} and 2121-V_{PK} V_{IORM} Reinforced Isolation per DIN V VDE V 0884-11 (VDE V 0884-11): 2017-01
  - 5700-V_{RMS} Isolation for 1 Minute per UL1577

2 Applications

- Traction Inverter for EVs
- On-board Charger and DC Charging Station
- Industrial Motor Drives
- Server, Telecom, and Industrial Power Supplies
- Uninterruptible Power Supplies (UPS)

3 Description

The UCC21732-Q1 is a galvanic isolated single channel gate drivers designed for up to 1700V SiC MOSFETs and IGBTs with advanced protection features, best-in-class dynamic performance and robustness.

The input side is isolated from the output side with SiO_2 capacitive isolation technology, supporting up to 1.5-kV_{RMS} working voltage, 12.8-kV_{PK} surge immunity with longer than 40 years Isolation barrier life, as well as providing low part-to-part skew and high CMTI.

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4 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

DATE	REVISION	NOTES
October 2018	*	Advance Information release

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5 Device and Documentation Support

5.1 Documentation Support

5.1.1 Related Documentation

For related documentation see the following:

- *Isolation Glossary*

5.2 Receiving Notification of Documentation Updates

To receive notification of documentation updates, navigate to the device product folder on ti.com. In the upper right corner, click on *Alert me* to register and receive a weekly digest of any product information that has changed. For change details, review the revision history included in any revised document.

5.3 Community Resource

The following links connect to TI community resources. Linked contents are provided "AS IS" by the respective contributors. They do not constitute TI specifications and do not necessarily reflect TI's views; see TI's Terms of Use.

TI E2E™ Online Community ***TI's Engineer-to-Engineer (E2E) Community.*** Created to foster collaboration among engineers. At e2e.ti.com, you can ask questions, share knowledge, explore ideas and help solve problems with fellow engineers.

Design Support ***TI's Design Support*** Quickly find helpful E2E forums along with design support tools and contact information for technical support.

5.4 Trademarks

E2E is a trademark of Texas Instruments.

5.5 Electrostatic Discharge Caution

This integrated circuit can be damaged by ESD. Texas Instruments recommends that all integrated circuits be handled with appropriate precautions. Failure to observe proper handling and installation procedures can cause damage.

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.

5.6 Glossary

SLYZ022 — *TI Glossary*.

This glossary lists and explains terms, acronyms, and definitions.

6 Mechanical, Packaging, and Orderable Information

The following pages include mechanical packaging and orderable information. This information is the most current data available for the designated devices. This data is subject to change without notice and revision of this document. For browser-based versions of this data sheet, refer to the left-hand navigation.

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