

## Driver 6A 2-OUT High and Low Side Half Brdg Automotive 14-Pin SOIC T/R



Images are for reference only

**Manufacturer:** [Texas Instruments, Inc](#)

**Package/Case:** SOIC-14

**Product Type:** Drivers

**RoHS:** RoHS Compliant/Lead free 

**Lifecycle:** Active

[Inquiry](#)

### General Description

The UCC21530-Q1 is an isolated dual-channel gate driver with 4-A source and 6-A sink peak current. It is designed to drive IGBTs, Si MOSFETs, and SiC MOSFETs up to 5-MHz with best-in-class propagation delay and pulse-width distortion.

The input side is isolated from the two output drivers by a 5.7-kV<sub>RMS</sub> reinforced isolation barrier, with a minimum of 100-V/ns common-mode transient immunity (CMTI). Internal functional isolation between the two secondary-side drivers allows a working voltage of up to 1850 V.

This driver can be configured as two low-side drivers, two high-side drivers, or a half-bridge driver with programmable dead time (DT). The EN pin pulled low shuts down both outputs simultaneously and allows for normal operation when left open or pulled high. As a fail-safe measure, primary-side logic failures force both outputs low.

The device accepts VDD supply voltages up to 25 V. A wide input VCCI range from 3 V to 18 V makes the driver suitable for interfacing with both analog and digital controllers. All the supply voltage pins have under voltage lock-out (UVLO) protection.

## Key Features

AEC-Q100 qualified with:

Device temperature grade 1

Device HBM ESD classification level H2

Device CDM ESD classification level C6

Functional Safety Quality-Managed

Documentation available to aid functional safety system design

Universal: dual low-side, dual high-side or half-bridge driver

Wide body SOIC-14 (DWK) package

3.3-mm spacing between driver channels

Switching parameters:

19-ns typical propagation delay

10-ns minimum pulse width

5-ns maximum delay matching

6-ns maximum pulse-width distortion

Common-mode transient immunity (CMTI) greater than 100-V/ns

Isolation barrier life >40 years

4-A peak source, 6-A peak sink output

TTL and CMOS compatible inputs

3-V to 18-V input VCCI range

Up to 25-V VDD output drive supply

8-V and 12-V VDD UVLO options

Programmable overlap and dead time

Rejects input pulses and noise transients shorter than 5 ns

Operating temperature range -40 to +125°C

Safety-related certifications:

8000-V

PK

5.7-kV

RMS

CSA certification per IEC 60950-1, IEC 62368-1, IEC 61010-1 and IEC 60601-1 end equipment standards

CQC certification per GB4943.1-2011

## Recommended For You

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### UCC28064ADR

Texas Instruments, Inc  
SOP16

### UC3637N

Texas Instruments, Inc  
DIP-18

### UCC27517DBVR

Texas Instruments, Inc  
SOT23-5

### UCC2946TPWRQ1

Texas Instruments, Inc  
TSSOP8

### UCC28730QDRQ1

Texas Instruments, Inc  
SOP7

### UCC21222QDRQ1

Texas Instruments, Inc  
SOP16

### UCD9090QRGZRQ1

Texas Instruments, Inc  
VQFN-48

### UCC27531QDBVRQ1

Texas Instruments, Inc  
SOT23-6

### UCC27511AQDBVRQ1

Texas Instruments, Inc  
SOT23-6

### UCC2803QDRQ1

Texas Instruments, Inc  
SOP8

### UCC28951QPWRQ1

Texas Instruments, Inc  
TSSOP24

### UCC21320QDWKRQ1

Texas Instruments, Inc  
SOIC-14

### UCC27322QDGNRQ1

Texas Instruments, Inc  
HVSSOP-8

### UCC28950QPWRQ1

Texas Instruments, Inc  
TSSOP24

### UCC2808AQDR-2Q1

Texas Instruments, Inc  
SOP8