

**Driver 3.6V 0.42A 1-OUT High Side/Low Side H Brdg Inv/Non-Inv  
Automotive 32-Pin VQFN EP T/R**

<b>Manufacturer:</b>	<a href="#">Texas Instruments, Inc</a>	<a href="#">DRV8702QRHBRQ1 Image</a>
<b>Package/Case:</b>	VQFN32	Images are for reference only
<b>Product Type:</b>	Drivers	<a href="#">Inquiry</a>
<b>RoHS:</b>	RoHS Compliant/Lead free 	
<b>Lifecycle:</b>	Active	

## General Description

The DRV870x-Q1 devices are small single H-bridge gate drivers that use four external N-channel MOSFETs targeted to drive a bidirectional brushed-DC motor.

A PH/EN, independent H-Bridge, or PWM interface allows simple interfacing to controller circuits. An internal sense amplifier provides adjustable current control. Integrated Charge-Pump allows for 100% duty cycle support and can be used to drive external reverse battery switch.

Independent Half Bridge mode allows sharing of half bridges to control multiple DC motors sequentially in a cost-efficient way. The gate driver includes circuitry to regulate the winding current using fixed off-time PWM current chopping.

The DRV870x-Q1 devices include Smart Gate Drive technology to remove the need for any external gate components (resistors and Zener diodes) while protecting the external FETs. The Smart Gate Drive architecture optimizes dead time to avoid any shoot-through conditions, provides flexibility in reducing electromagnetic interference (EMI) with programmable slew-rate control and protects against any gate-short conditions. Additionally, active and passive pulldowns are included to prevent any dv/dt gate turn on.

## Key Features

AEC-Q100 Qualified for Automotive Applications

Device Temperature Grade 1: -40°C to +125°C Ambient Operating Temperature

Functional Safety-Capable

Documentation available to aid DRV8702-Q1 DRV8703-Q1 functional safety system design

Single H-Bridge Gate Driver

Drives Four External N-Channel MOSFETs

Supports 100% PWM Duty Cycle

5.5 to 45-V Operating Supply-Voltage Range

Three Control-Interface Options

PH/EN, Independent H-Bridge, and PWM

Serial Interface for Configuration (DRV8703-Q1)

Smart Gate Drive Architecture

Adjustable Slew-Rate Control

Independent Control of Each H-Bridge

Supports 1.8-V, 3.3-V, and 5-V logic inputs

Current-Shunt Amplifier

Integrated PWM Current Regulation

Low-Power Sleep Mode

Protection Features

Supply Undervoltage Lockout (UVLO)

Charge-Pump Undervoltage (CPUV) Lockout

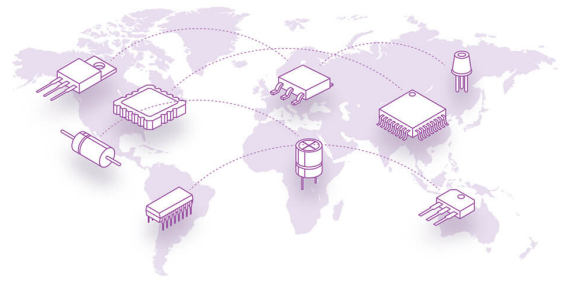
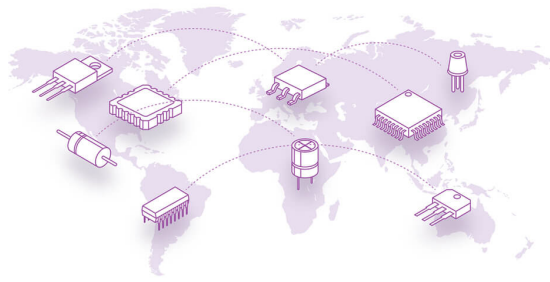
Overcurrent Protection (OCP)

Gate-Driver Fault (GDF)

Thermal Shutdown (TSD)

Watchdog Timer (DRV8703-Q1)

Fault-Condition Output (nFAULT)



## Recommended For You

---

### **TL7705ACDR**

Texas Instruments, Inc

SOP8

### **DRV8839DSSR**

Texas Instruments, Inc

WSO8-12

### **REF5025AQDRQ1**

Texas Instruments, Inc

SOP8

### **TL431ACDR**

Texas Instruments, Inc

SOP8

### **LM74800QDRRRQ1**

Texas Instruments, Inc

WSO8-12

### **LP2951-50QDRGRQ1**

Texas Instruments, Inc

SON-8

### **LM385BDR-2-5**

Texas Instruments, Inc

SOP8

### **TL1431QDR**

Texas Instruments, Inc

SOP8

### **UCC28064ADR**

Texas Instruments, Inc

SOP16

### **TPS2557DRBT**

Texas Instruments, Inc

SON8

### **DRV8846RGER**

Texas Instruments, Inc

VQFN24

### **TPS2042BDR**

Texas Instruments, Inc

SOP8

### **TPS2051BDR**

Texas Instruments, Inc

SOP8

### **TPS2116DRLR**

Texas Instruments, Inc

SOT5X3-8

### **DRV8837DSGR**

Texas Instruments, Inc

WSO8