**DRV8243-Q1 Datasheet Summary**

# **1. Introduction**

The DRV8243-Q1 is an advanced motor driver specifically designed for automotive applications. It integrates multiple control interfaces and diagnostic features to enhance system reliability and performance.

# **2. Features**

* Wide supply voltage range: 4.5 V to 38 V
* Output current up to 3.5 A peak
* PWM control interface
* Integrated current sensing
* Daisy-chaining capability
* Comprehensive protection features including over current, over voltage, under voltage, and over temperature
* Diagnostic outputs

# **3. Applications**

Suitable for a variety of automotive applications such as power seats, door locks, HVAC actuators, and mirror adjustment among others.

# **4. Control and Setup Information**

The DRV8243-Q1 supports multiple control modes including PWM, PH/EN, and independent half-bridge control. It can be configured through hardware pins or via an SPI interface for more advanced settings.

# **5. Electrical Characteristics**

* Operating voltage range: 4.5 V to 38 V
* Peak output current: 3.5 A
* RMS output current: 2.5 A
* PWM frequency range: up to 20 kHz
* Current sense accuracy: ±10%

# **6. Use Cases**

The DRV8243-Q1 is versatile in automotive applications, including but not limited to power window systems, seat adjusters, and HVAC systems, providing reliable control and diagnostics.

# **7. References**

For specific details and technical specifications, refer to sections [3.1], [4.2], [5.3], and [6.4] of the DRV8243-Q1 Datasheet.