

Product brief

40 V StrongIRFET™ in symmetrical, dual SuperSO8 (IRF40H233)

Compact solution for battery powered motor applications

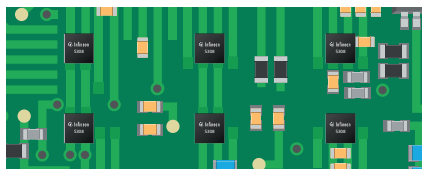
Infineon's latest 40 V StrongIRFET™ dual N-channel power MOSFET IRF40H233 is designed for battery management and motor control applications such as brushed, BLDC, stepper, and servo motors.

The SuperSO8 package integrates two N-channel power MOSFETs into a single compact solution that has an industry-standard footprint and is ideal for applications that have space constraints.

It features $R_{DS(on)}$ as low as 6.2 mΩ and is ideal for low switching frequency applications of less than 100 kHz and for DC motors with a power rating less than 360 W.

The device features 175°C junction temperature rating compared to industry standard 150°C. It is 100 percent avalanche tested (at industry highest avalanche current levels) to ensure the most robust solution for demanding applications. It is also optimized for broadest availability from distribution partners.

One example of a possible board design where 6 single N-channel MOSFETs can be reduced to 3 dual N-channel MOSFETs



Board dimensions using single MOSFET solution:

> 12 mm x 32 mm = 384 mm²



Board dimensions using dual MOSFET solution:

> 8 mm x 34 mm = 272 mm²

Key features

- > Symmetrical Dual MOSFET
- > 175°C junction temperature rated
- > Industry-standard footprint
- > Product qualification according to JEDEC standard
- > Optimized for broadest availability from distribution partners

Benefits

- > Cost- and space-saving solution compared to using a single-power MOSFET with similar specifications and package
- > Increased robustness compared to industry standard 150°C
- > Easy drop-in replacement

Applications

- > Battery powered applications
- > Brushed DC motor
- > Brushless DC motor
- > Stepper motor
- > Servo motor

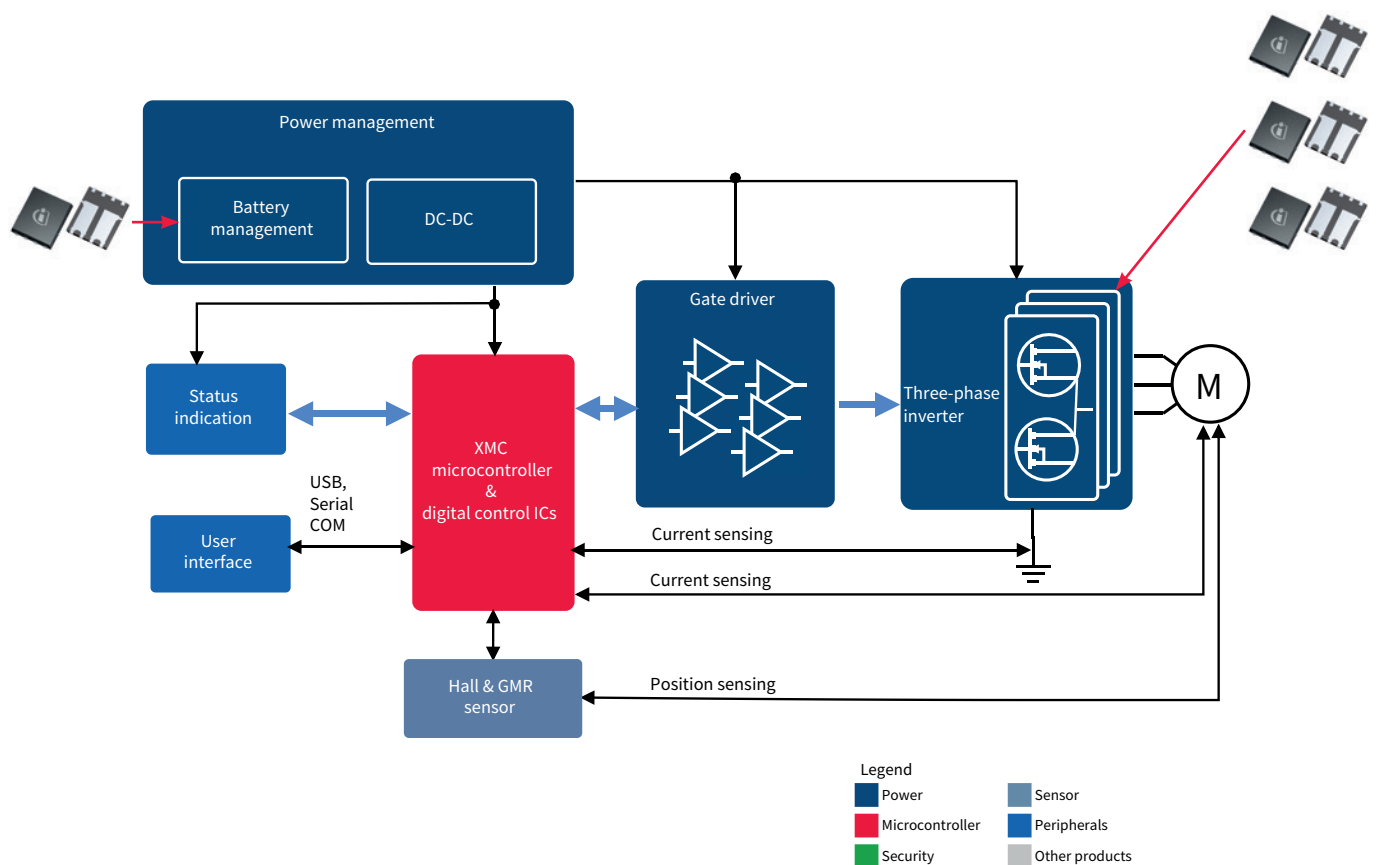


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Part number	V_{DS} (V)	$R_{DS(on)}$ max at 10 V_{GS} (m Ω)	Q_g typ at 10 V_{GS} (nC)	I_D (A)	Package
IRF40H233	40	6.2	45	35	SuperSO8

The block diagram below shows a typical battery powered application using IRF40H233



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