



New Product Announcement

ZXMS81045SPQ

Automotive-Compliant, Intelligent High-Side Switch in SO-8EP Package

The DIODES™ ZXMS81045SPQ is an automotive-compliant, single-channel, intelligent high-side switch (IntelliFET®).

It features a vertical DMOS MOSFET with a typical $R_{DS(ON)}$ of 34mOhm at 25°C, driver and integrated protection that include:

- Overvoltage protection, including load dump
- Overtemperature protection with auto restart
- Reverse polarity protection
- Short-circuit protection
- ESD protection
- Loss of ground protection
- Voltage-dependent current limiting

The onboard diagnostics detect fault conditions and self-protection events, including open-load in the OFF-state, over-load in the ON-state, and overtemperature shutdown.

The device includes a diagnostic current-sense output (IS) proportional to load current and a defined diagnostic fault signal in case of overload operation, overtemperature, short-circuit, or open-load conditions.

The ZXMS81045SPQ is available in the SO-8EP (Type E) package.

Automotive-compliant - AEC qualified, manufactured in IATF 16949 certified sites supporting PPAP documents.

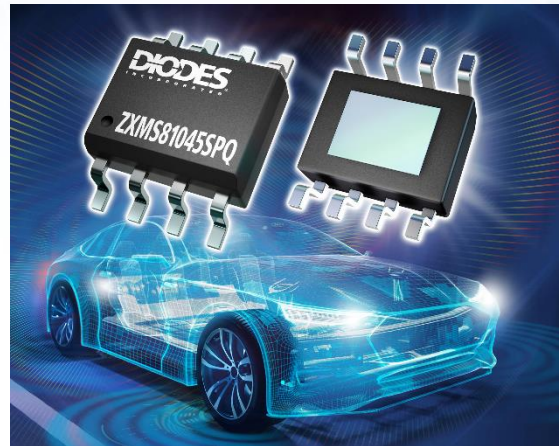
IntelliFET is a registered trademark of Diodes Incorporated in the United Kingdom and other countries.

The Diodes logo is a registered trademark of Diodes Incorporated in the United States and other countries.

DIODES is a trademark of Diodes Incorporated in the United States and other countries.

All other trademarks are the property of their respective owners.

© 2023 Copyright Diodes Incorporated. All Rights Reserved.



The DIODES™ Advantage

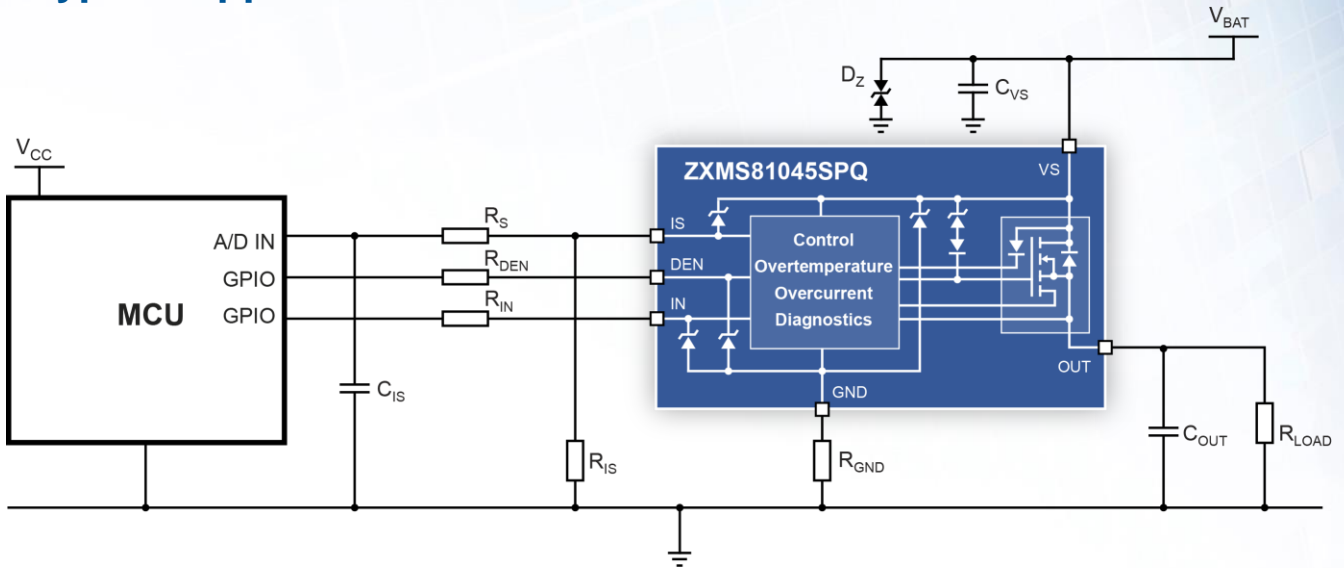
The ZXMS81045SPQ is an automotive-compliant, single-channel, intelligent high-side switch (IntelliFET).

- **Overvoltage Protection, Including Load Dump**
Protects the device if the battery voltage exceeds the clamp voltage
- **Overtemperature Protection with Auto-Restart**
Thermal shutdown when T_J max is reached during overload condition
- **Reverse Polarity Protection Using Minimal External Components**
Protects the device should battery supply be accidentally reversed
- **Voltage Dependent Current Limiting**
Protects the device and the load from an overcurrent condition
- **Loss of Ground Protection (Using External Components)**
Protects the device and leaves the load OFF should the ground connection be lost
- **Diagnostics Using Current Sense**
Enables load current to be measured; overall application state to be monitored, and detection of open load conditions

Applications

- 12V Automotive loads
 - LEDs
 - Bulbs
 - Actuators
- Motors in automotive body control
- Lighting systems

Typical Application



High-Side IntelliFET Product Portfolio

Product	Channel	V_S	$V_{S(S/C)}$	$V_{S(LD)}$	I_L NOM TYP	$R_{DS(ON)}$ MAX @25°C	$R_{DS(ON)}$ MAX @150°C	E_{AS} MAX	Package
		V	V	V	A	mΩ	mΩ	mJ	
ZXMS81045SPQ	Single	41	24	41	4	45	90	40	SO-8EP (Type E)

Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Cross Orderable Part Number	Packing	
			Quantity	Carrier
ZXMS81045SPQ-13	Automotive	BTS5045-1EJA	2,500	Tape & Reel