



# New Product Announcement

## PI3A27518Q

### Six-Channel Automotive-Compliant Analog Switch Delivers High-Bandwidth Signal Switching/Multiplexing

The DIODES™ PI3A27518Q is a six-channel, automotive-compliant, analog switch supporting bidirectional automotive multiplexing/demultiplexing applications. It is designed to operate from 1.65V to 3.6V rails, handling both digital and analog signals up to  $V_{DD}$  in either direction.

This device has two control pins that provide additional user flexibility, and an enable pin that puts all outputs into a high-impedance state. The control pins are compatible with 1.0V logic thresholds and are backwards-compatible with 1.8V, 2.5V, and 3.3V logic thresholds.

The device supports six-bit bus signals, such as qSPI, SDIO, or multimedia card host controllers to expand out to multiple cards or peripherals in automotive applications.

The PI3A27518Q is available in the wettable V-QFN4040-24/SWP (ZDW) package and has been qualified to AEC-Q100 Grade 2, supporting ambient temperatures of -40°C to 105°C.

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

*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.*

*©2022 Copyright Diodes Incorporated. All Rights Reserved.*



#### The DIODES™ Advantage

**The PI3A27518Q operates across a wide range of low voltage rails supporting rail-rail analog and digital signal multiplexing in automotive-connected driving applications.**

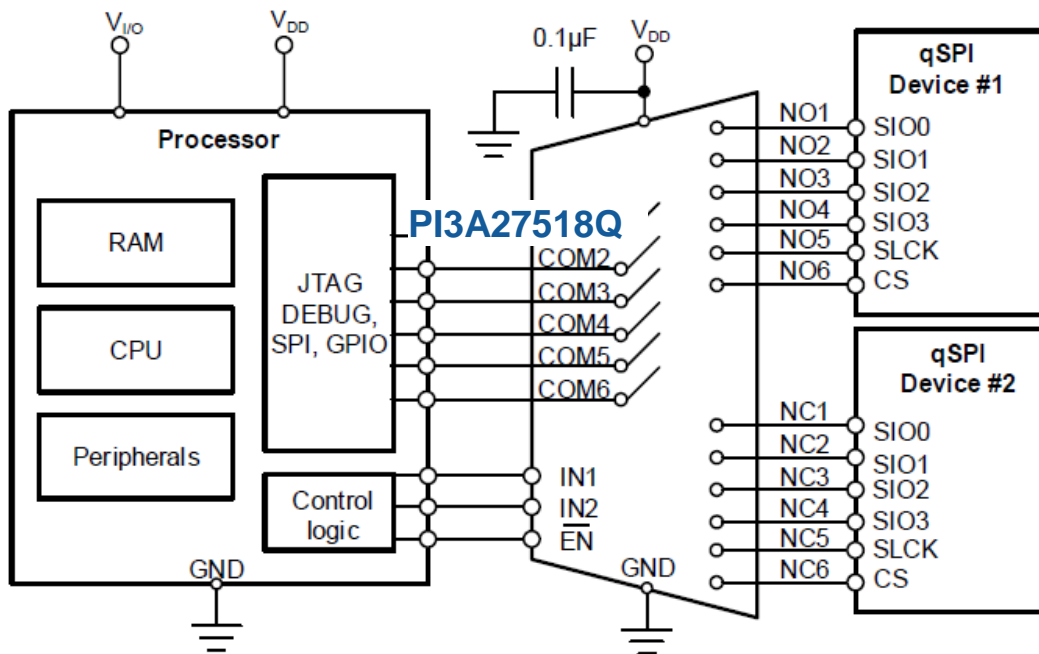
- **High 380MHz Bandwidth**  
Improved high data throughput rate, reducing data transfer time; a 50% improvement over competitors' devices
- **1.0V Logic-Compatible Control Inputs (Backwards-Compatible with 1.8V/2.5V/3.3V Control Logic)**  
Supports low voltage control logic in advanced low voltage application processors as well CPUs and  $\mu$ C
- **66dB Isolation in Power Down Mode  $V_{DD} = 0V$**   
Prevents current leakage in either direction
- **60dB Channel-to-Channel Crosstalk Rejection**  
Improved audio/video signal quality due to reduced signal distortion
- **Wettable V-QFN4040-24/SWP Package**  
Enables automatic optical inspection (AOI) in automotive production assembly lines

#### Applications

Automotive multiplexing/demultiplexing in

- Telematics
- ADAS
- Car navigation
- Infotainment

### Typical Application



### Automotive-Compliant Analog Switches

Part Number	Operating Voltage (V)	Channels	Signal Type	Rail To Rail	Type	-3dB Bandwidth (MHz)	Isolation (COM-NC/NO, NC-NO) (dB)	Crosstalk (Ch-Ch) (dB)	Package
<a href="#">PI3A27518Q</a>	1.65 to 3.6	6	Single-Ended	Yes	SPDT	380	-66	-60	VQFN-24

### Ordering Information

Orderable Part Number	Compliance (Only Automotive supports PPAP)	Package Code	Package	Moisture Sensitivity	Carrier	Quantity
<a href="#">PI3A27518Q2ZDWEX</a>	<a href="#">Automotive</a>	ZDW	V-QFN4040-24/SWP (4mm x 4mm)	MSL-1	13" tape and reel	3,500

### Cross Reference

Competitors	Part Numbers	Package	Diodes Orderable Part Number	Type of Cross
TI	S3A27518ETRTWRQ1	WQFN24 (non-wettable)	PI3A27518Q2ZDWEX	Pin-to-Pin (package height differences)