



# New Product Announcement

## SxCMHQ SxMHQ

## 1000V Rectifiers with High Surge Rating Enhance Automotive System Reliability

The SxCMHQ and SxMHQ automotive-compliant\* high-voltage power rectifiers feature glass passivated construction for stable high-temperature operation. The range offers high-current capability, covering from 1A to 10A. They are designed for general-purpose use and are ideally suited for automotive applications such as reverse-polarity protection and DC-DC switching power converters.

With a 1000V maximum repetitive peak reverse voltage and high surge current rating, the devices provide robust performance and high reliability in environments presenting high voltage and high inrush-current conditions.

Their low forward voltage drop minimizes power loss and heat generation, improving system efficiency and reliability.

The rectifiers are available in the compact SMA, SMB, and SMC surface mount packages, which are ideal for automated placement.

- SMC packaged:  
S10CMHQ 10A  
S8CMHQ 8A  
S5CMHQ 5A  
S3MHQ 3A
- SMB packaged:  
S2MHQ 1.5A
- SMA packaged:  
S1MHQ 1A

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

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### The DIODES Advantage

**Optimized for automotive applications, these rectifiers enhance system reliability with high voltage and surge-handling capabilities.**

- **1000V High Breakdown Voltage**  
Provides resilience against transient spikes to improve system stability, reliability, and longevity
- **High Surge Current Capability**  
Provides reliable operation under high inrush-current conditions
- **Low Forward Voltage Drop**  
Minimizes power losses and reduces heat generation, improving system efficiency
- **Automotive-Compliant**  
Qualified to AECQ-101  
PPAP capable  
Manufactured in IATF 16949:6 certified facilities

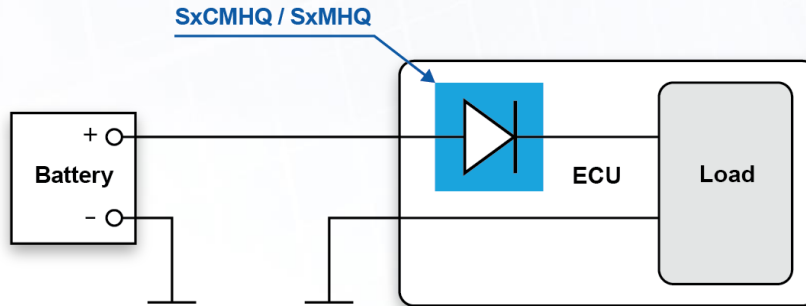
### Applications

- General-purpose automotive applications
- AC/DC & DC/DC
- EV charging systems
- Infotainment
- Automotive lighting

### Circuit Function

- Blocking diodes
- Reverse-polarity protection
- Snubbers
- Electrical over-stress protection

## Typical Application



**Reverse Battery Polarity Protection** - The simplest solution to providing reverse polarity protection (e.g., from an incorrect battery connection) is the series diode shown above. The diode will block the current in a reverse supply situation, protecting the load from damage.

## Product Portfolio

Part Number	Power Rating	Max Average Rectified Current	Peak Repetitive Reverse Voltage	Maximum Forward Voltage Drop	Maximum Reverse Current	Maximum Peak Forward Surge Current	Typical Total Capacitance
	W	A	V	V	$\mu$ A	A	pF
<a href="#">S10CMHQ</a>	11	10	1,000	1.1	10	250	75
<a href="#">S8CMHQ</a>	8	8	1,000	0.985	10	200	70
<a href="#">S5CMHQ</a>	6	5	1,000	1.15	10	100	40
<a href="#">S3MHQ</a>	3	3	1,000	1.15	10	100	40
<a href="#">S2MHQ</a>	2	1.5	1,000	1.15	5	50	20
<a href="#">S1MHQ</a>	1	1	1,000	1.1	5	30	10

See respective datasheets for test conditions.

## Ordering Information

Orderable Part Number	Package	Packing	
		Quantity	Carrier
<a href="#">S10CMHQ-13</a>	SMC (DO-214AB)	3,000	Tape & Reel
<a href="#">S8CMHQ-13</a>	SMC (DO-214AB)	3,000	Tape & Reel
<a href="#">S5CMHQ-13</a>	SMC (DO-214AB)	3,000	Tape & Reel
<a href="#">S3MHQ-13-F</a>	SMC (DO-214AB)	3,000	Tape & Reel
<a href="#">S2MHQ-13-F</a>	SMB (DO-214AA)	3,000	Tape & Reel
<a href="#">S1MHQ-13</a>	SMA (DO-214AC)	3,000	Tape & Reel