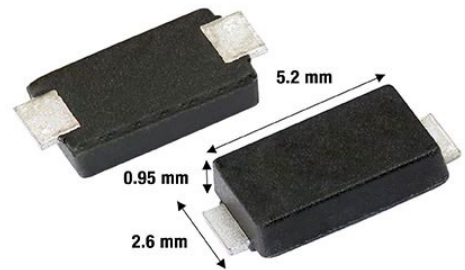


## Gen 3 650 V and 1200 V, 1 A and 2 A SiC Schottky Diodes in the Compact SlimSMA HV (DO-221AC) Package Increase Efficiency While Enhancing Electrical Insulation, Offer Low Capacitive Charge and High Minimum Creepage Distance of 3.2 mm

### Product Benefits:

- Offered in the low profile SlimSMA HV (DO-221AC) package
- Minimum creepage distance of 3.2 mm provides improved electrical isolation for high voltage applications
- Low capacitive charge down to 7.2 nC
- Low forward voltage drop down to 1.30 V
- Temperature-invariant switching behavior
- Molding compound with a high CTI  $\geq 600$  ensures excellent electrical insulation
- Positive temperature coefficient for easy paralleling
- High operating temperature of +175 °C
- Moisture Sensitivity Level of 1 in accordance with J-STD-020
- Meet the JESD 201 class 2 whisker test
- RoHS-compliant and halogen-free



### Market Applications:

- Bootstrap, anti-parallel, and PFC diodes for DC/DC and AC/DC converters in server power supplies; energy generation and storage systems; industrial drives and tools; and x-ray generators

### The News:

Vishay Intertechnology introduces three new Gen 3 650 V and 1200 V silicon carbide (SiC) Schottky diodes in the compact, low profile SlimSMA HV (DO-221AC) package. Featuring a merged PIN Schottky (MPS) design and minimum creepage distance of 3.2 mm, the 1 A VS-3C01EJ12-M3 and 2 A VS-3C02EJ07-M3 and VS-3C02EJ12-M3 combine low capacitive charge with temperature-invariant switching behavior to increase efficiency in high speed, hard-switching power designs.

- For space-constrained designs, the diodes offer a low profile of 0.95 mm – compared to 2.3 mm for competing SMA and SMB packages with a similar footprint
- Unlike silicon diodes, the VS-3C01EJ12-M3, VS-3C02EJ07-M3, and VS-3C02EJ12-M3 maintain a low capacitive charge irrespective of temperature, resulting in faster switching speeds, reduced power losses, and improved efficiency for high frequency applications
- The devices have virtually no recovery tail, which further improves efficiency
- The diodes' MPS structure reduces their forward voltage drop



## The Key Specifications:

Part #	VS-3C01EJ12-M3	VS-3C02EJ07-M3	VS-3C02EJ12-M3
$I_F$ (A)	1	2	2
$V_R$ (V)	1200	650	1200
$V_F$ at $I_F$ (V)	1.35	1.30	1.35
$I_R$ at $V_R$ at 175 °C ( $\mu$ A)	4.5	2.0	5.0
$Q_C$ (nC)	7.5	7.2	13
Configuration	SlimSMA HV (DO-221AC)		
Package	Single		

### Availability:

Samples and production quantities of the new SiC diodes are available now, with lead times of 14 weeks.

To access the product datasheets on the Vishay Website, go to

<http://www.vishay.com/ppg?97284> (VS-3C01EJ12-M3)

<http://www.vishay.com/ppg?97287> (VS-3C02EJ07-M3)

<http://www.vishay.com/ppg?97286> (VS-3C02EJ12-M3)

### Contact Information:

#### The Americas

[Diodes-Americas@vishay.com](mailto:Diodes-Americas@vishay.com)

#### Europe

[Diodes-Europe@vishay.com](mailto:Diodes-Europe@vishay.com)

#### Asia/Pacific

[Diodes-Asia@vishay.com](mailto:Diodes-Asia@vishay.com)