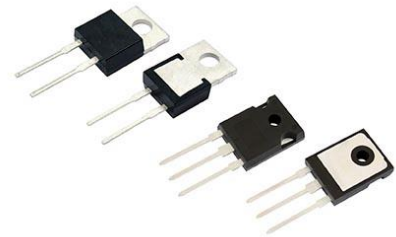


# New 650 V SiC Schottky Diodes Increase Efficiency for High Frequency Applications; Featuring an MPS Design, 4 A to 40 A Devices Reduce Switching Losses and Effects From Temperature Variances

## Product Benefits:

- Feature a merged PIN Schottky (MPS) design
- Available with current ratings from 4 A to 40 A
- Offered in the 2L TO-220AC and TO-247AD 3L packages
- Provide high temperature operation to +175 °C



## Market Applications:

- PFC high frequency rectification in high voltage power supplies and LLC converters for servers, telecom equipment, UPS, and solar inverters.

## The News:

Vishay Intertechnology introduces 10 new 650 V silicon carbide (SiC) Schottky diodes. Featuring a merged PIN Schottky (MPS) design, the Vishay Semiconductors devices are designed to increase the efficiency of high frequency applications by reducing switching losses, regardless of the effects from temperature variances — allowing the devices to operate at higher temperatures.

- The devices' MPS design shields the electric field from the Schottky barrier to reduce leakage currents, while increasing surge current capability via hole injection
- Compared to pure silicon Schottky devices, the diodes handle the same level of current with only a slight increase in forward voltage drop, while demonstrating a significantly higher degree of ruggedness
- Provide designers with increased flexibility in system optimization

## The Key Specifications:

Part Number	I <sub>F(AV)</sub> (A)	V <sub>RRM</sub> (V)	I <sub>FSM</sub> at 25 °C, 10 ms (A)	V <sub>F (typ.)</sub> at I <sub>F</sub> and T <sub>J</sub>			T <sub>J</sub> max. (°C)	Package
				V <sub>F</sub> (V)	I <sub>F</sub> (A)	T <sub>J</sub> (°C)		
VS-C04ET07T-M3	4	650	26	1.75	4	150	175	2L TO-220AC
VS-C06ET07T-M3	6	650	39	1.7	6	150	175	2L TO-220AC
VS-C08ET07T-M3	8	650	57	1.7	8	150	175	2L TO-220AC
VS-C10ET07T-M3	10	650	68	1.75	10	150	175	2L TO-220AC
VS-C12ET07T-M3	12	650	80	1.65	12	150	175	2L TO-220AC
VS-C16ET07T-M3	16	650	120	1.65	16	150	175	2L TO-220AC
VS-C20ET07T-M3	20	650	160	1.6	20	150	175	2L TO-220AC
VS-C16CP07L-M3	16	650	53	1.7	8	150	175	TO-247AD 3L
VS-C20CP07L-M3	20	650	64	1.75	10	150	175	TO-247AD 3L
VS-C40CP07L-M3	40	650	160	1.55	20	150	175	TO-247AD 3L



## NEW PRODUCT INFORMATION



**Product Group:** Vishay Semiconductors, Rectifiers / **January 2021**

**Availability:**

Samples and production quantities of the new SiC diodes are available now, with lead times of 10 weeks.

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

<https://www.vishay.com/diodes/rectifiers/silicon-carbide/>

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