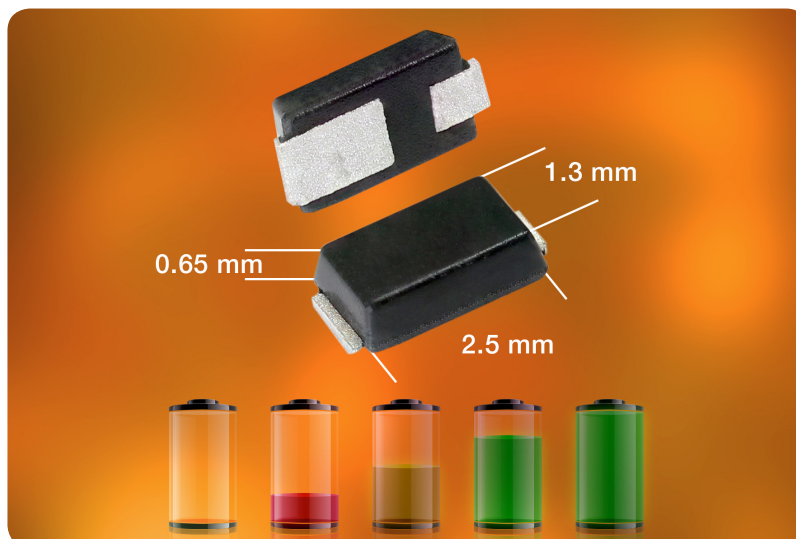




DIODES

FRED Pt[®] Ultrafast Rectifiers in MicroSMP Package

1 A and 2 A FRED Pt[®] Ultrafast Rectifiers Increase Power Density in Space-Saving MicroSMP Package



KEY BENEFITS

- Increases power density by providing the high current ratings typically reserved for the SMA (DO-214AC) package in the compact MicroSMP (DO-219AD) package, which utilizes 57 % less PCB space
- 200 V rectifiers offer current ratings to 2 A (industry's first)
- Ultrafast recovery times down to 13 ns
- Low forward voltage drop reduces power losses and improves efficiency
- AEC-Q101 qualified
- Ideal for automated placement, allows for automated optical inspection (AOI) in automotive systems

MARKET APPLICATIONS

High frequency inverters, DC/DC converters, freewheeling diodes, and power factor correction in:

- Automotive engine control units (ECU), antilock braking systems (ABS), and HID and LED lighting
- Telecom and industrial power supplies

RESOURCES

- Datasheet: please see table on next page for the list of products
- For technical questions contact DiodesAmericas@vishay.com, DiodesEurope@vishay.com, DiodesAsia@vishay.com
- Material categorization: for definitions of compliance, please see - www.vishay.com/doc?99912

RoHS
COMPLIANT

HALOGEN
FREE

A WORLD OF
SOLUTIONS™



FRED Pt[®] Ultrafast Rectifiers in MicroSMP Package

1 A and 2 A FRED Pt[®] Ultrafast Rectifiers Increase Power Density in Space-Saving MicroSMP Package

Vishay introduces new 200 V FRED Pt[®] ultrafast recovery rectifiers in the eSMP[®] series MicroSMP (DO-219AD) package, including the industry's first device to offer current ratings to 2 A.

- Measures 2.5 mm by 1.3 mm with a low 0.65 mm profile
- Space-saving, higher power density alternatives to devices in the SMA (DO-214AC) package
- For excellent thermal performance, devices feature asymmetric design with a large metal pad for heat dissipation
- Low forward voltage drop down to 0.72 V at 1 A
- Soft recovery features over the entire working temperature range of -55 °C to +175 °C
- MSL moisture sensitivity level of 1, per J-STD-020, LF maximum peak of +260 °C
- RoHS-compliant and halogen-free

| Device | $I_{F(AV)}$ | $V_{(BR)}$ | Typ. V_F at I_F at T_J | | Typ. $t_{rr}^{(1)}$ | Typ. $Q_{rr}^{(2)}$ | AEC-Q101 |
|------------------------------|-------------|------------|------------------------------|-----|---------------------|---------------------|----------|
| | (A) | (V) | (V) | (A) | (ns) | (nC) | |
| VS-1EQH01HM3 | 1 | 100 | 0.72 | 1 | 13 | 11 | Y |
| VS-1EQH02HM3 | 1 | 200 | 0.72 | 1 | 13 | 11 | Y |
| VS-2EQH01HM3 | 2 | 100 | 0.81 | 2 | 19 | 15 | Y |
| VS-2EQH02HM3 | 2 | 200 | 0.81 | 2 | 19 | 15 | Y |
| VS-1EQH01-M3 | 1 | 100 | 0.72 | 1 | 13 | 11 | N |
| VS-1EQH02-M3 | 1 | 200 | 0.72 | 1 | 13 | 11 | N |
| VS-2EQH01-M3 | 2 | 100 | 0.81 | 2 | 19 | 15 | N |
| VS-2EQH02-M3 | 2 | 200 | 0.81 | 2 | 19 | 15 | N |

Note

(1) $T_J = 25\text{ °C}$, $I_F = 1\text{ A}$, $di_F/dt = 50\text{ A}/\mu\text{s}$, $V_R = 30\text{ V}$

(2) $T_J = 25\text{ °C}$, $I_F = \text{rated current}$, $di_F/dt = 200\text{ A}/\mu\text{s}$, $V_R = 100\text{ V}$