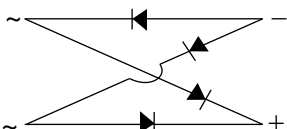
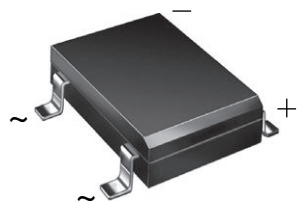


Miniature Glass Passivated Ultrafast Surface-Mount Bridge Rectifiers



Case Style DFS

LINKS TO ADDITIONAL RESOURCES



3D Models

| PRIMARY CHARACTERISTICS | |
|-------------------------|---------------------------|
| $I_{F(AV)}$ | 1 A |
| V_{RRM} | 50 V, 100 V, 150 V, 200 V |
| I_{FSM} | 50 A |
| I_R | 5 μ A |
| V_F at $I_F = 1.0$ A | 1.05 V |
| t_{rr} | 50 ns |
| T_J max. | 150 °C |
| Package | DFS |
| Circuit configuration | Quad |

FEATURES

- UL recognition, file number E54214
- Ideal for automated placement
- Glass passivated pellet chip junction
- Ultrafast reverse recovery time for high frequency
- High surge current capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for SMPS, lighting ballaster, adapter, battery charger, home appliances, office equipment, and telecommunication applications.

MECHANICAL DATA

Case: DFS

Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix meets JESD 201 class 1A whisker test

Polarity: as marked on body

| MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted) | | | | | | |
|----------------------------------------------------------------------------------|----------------|-------------|--------|--------|--------|------------------|
| PARAMETER | SYMBOL | EDF1AS | EDF1BS | EDF1CS | EDF1DS | UNIT |
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 150 | 200 | V |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 106 | 140 | V |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 150 | 200 | V |
| Maximum average forward output rectified current at $T_A = 40$ °C ⁽¹⁾ | $I_{F(AV)}$ | 1.0 | | | | A |
| Peak forward surge current single half sine-wave superimposed on rated load | I_{FSM} | 50 | | | | A |
| Rating for fusing ($t < 8.3$ ms) | I^2t | 10 | | | | A ² s |
| Operating junction and storage temperature range | T_J, T_{STG} | -55 to +150 | | | | °C |

Note

⁽¹⁾ Pulse test: 300 ms pulse width, 1 % duty cycle

**ELECTRICAL CHARACTERISTICS** ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER | TEST CONDITIONS | SYMBOL | EDF1AS | EDF1BS | EDF1CS | EDF1DS | UNIT |
|-------------------------------------------------------------------|------------------------------------------------------------------------|----------|--------|--------|--------|--------|---------------|
| Maximum instantaneous forward voltage drop per diode | 1.0 A ⁽¹⁾ | V_F | 1.05 | | | | V |
| Maximum DC reverse current at rated DC blocking voltage per diode | $T_A = 25\text{ }^{\circ}\text{C}$ | I_R | 5.0 | | | | μA |
| | $T_A = 125\text{ }^{\circ}\text{C}$ | | 1.0 | | | | mA |
| Maximum reverse recovery time per diode | $I_F = 0.5\text{ A}$, $I_R = 1.0\text{ A}$, $I_{rr} = 0.25\text{ A}$ | t_{rr} | 50 | | | | ns |

Note⁽¹⁾ Pulse test: 300 ms pulse width, 1 % duty cycle**THERMAL CHARACTERISTICS** ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | EDF1AS | EDF1BS | EDF1CS | EDF1DS | UNIT |
|-------------------------------------------|------------------|--------|--------|--------|--------|------|
| Typical thermal resistance ⁽¹⁾ | R _{θJA} | 38 | | | | °C/W |
| | R _{θJL} | 12 | | | | |

Note⁽¹⁾ PCB mounted with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas**ORDERING INFORMATION** (Example)

| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
|---------------|-----------------|------------------------|---------------|----------------------------------|
| EDF1DS-E3/45 | 0.406 | 45 | 50 | Tube |
| EDF1DS-E3/77 | 0.406 | 77 | 1500 | 13" diameter paper tape and reel |

RATINGS AND CHARACTERISTICS CURVES ($T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

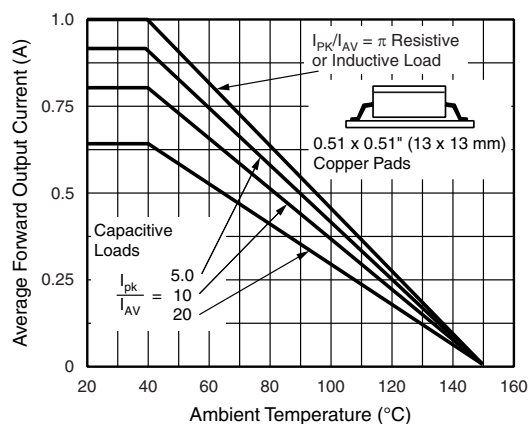


Fig. 1 - Derating Curves Output Rectified Current

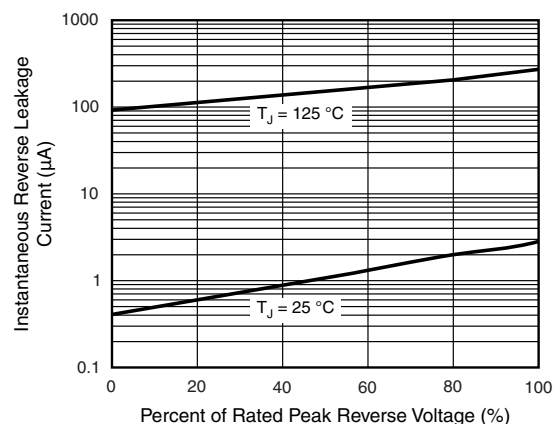


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

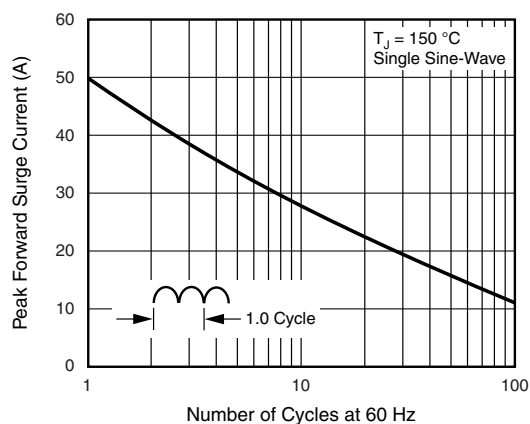


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

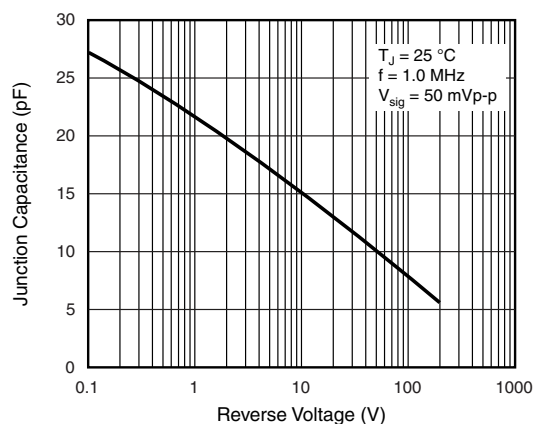


Fig. 5 - Typical Junction Capacitance Per Diode

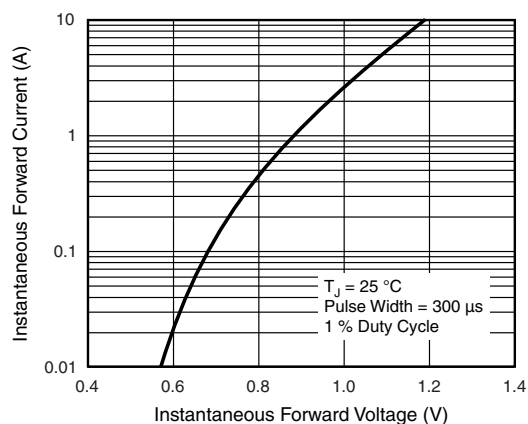
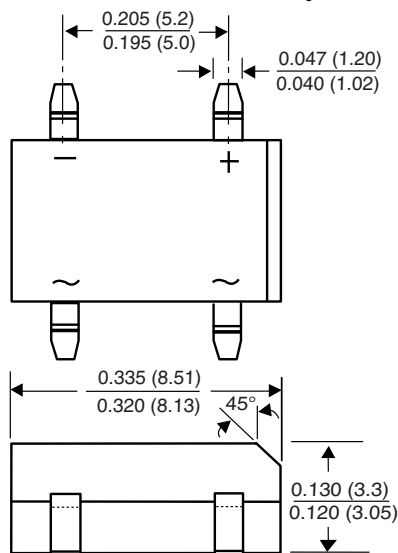


Fig. 3 - Typical Forward Characteristics Per Diode

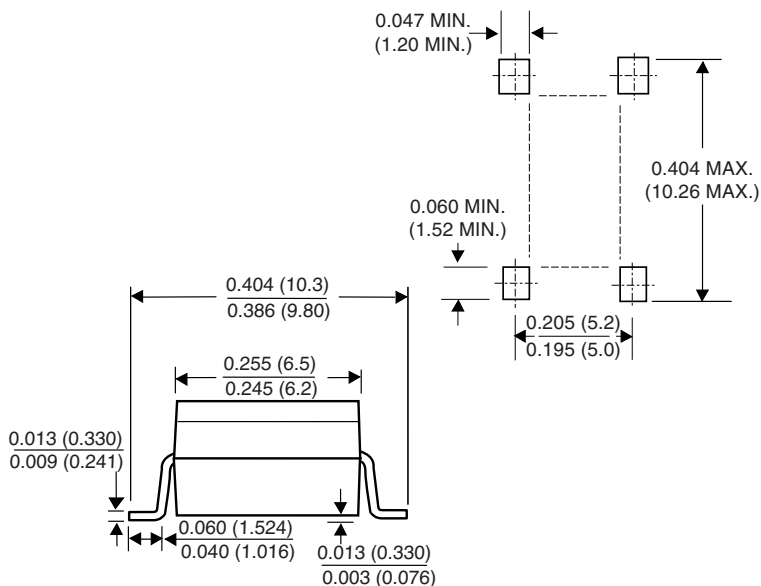


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Style DFS



Mounting Pad Layout





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