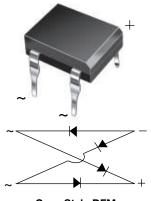
DF005MA, DF01MA, DF02MA, DF04MA, DF06MA, DF08MA, DF10MA



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Vishay General Semiconductor

Miniature Glass Passivated Single-Phase Bridge Rectifiers



Case Style DFM

LINKS TO ADDITIONAL RESOURCES



| PRIMARY CHARACTERISTICS | | | | | | |
|--|--|--|--|--|--|--|
| I _{F(AV)} | 1 A | | | | | |
| V _{RRM} | 50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V | | | | | |
| I _{FSM} | 30 A | | | | | |
| I _R | 5 µA | | | | | |
| V _F at I _F = 1.0 A | 1.1 V | | | | | |
| T _J max. | 150 °C | | | | | |
| Package | DFM | | | | | |
| Circuit configuration | Quad | | | | | |

FEATURES

- UL recognition, file number E54214
- Ideal for printed circuit boards
- Applicable for automated insertion
- High surge current capability
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

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: DFM

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 JESD 22-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 | DF005MA | DF01MA | DF02MA | DF04MA | DF06MA | DF08MA | DF10MA | UNIT |
| Device marking code | | DFA005 | DFA01 | DFA02 | DFA04 | DFA06 | DFA08 | DFA10 | |
| Maximum repetitive peak reverse voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V _{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | V _{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum average forward output rectified current at $T_A = 40 ^{\circ}\text{C}$ | I _{F(AV)} | 1.0 | | | | | | А | |
| Peak forward surge current single sine-wave superimposed on rated load | I _{FSM} | 30 | | | | | | А | |
| Rating for fusing (t < 8.3 ms) | l ² t | 4.5 | | | | | | A ² s | |
| Operating junction and storage temperature range | T_J, T_{STG} | -55 to +150 | | | | | °C | | |

RoHS COMPLIANT DF005MA, DF01MA, DF02MA, DF04MA, DF06MA, DF08MA, DF10MA

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SHAV

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| ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted) | | | | | | | | | | |
|---|-------------------------|----------------|---------|--------|--------|--------|--------|--------|--------|------|
| PARAMETER | TEST CONDITIONS | SYMBOL | DF005MA | DF01MA | DF02MA | DF04MA | DF06MA | DF08MA | DF10MA | UNIT |
| Maximum instantaneous forward voltage drop per diode | 1.0 A | V _F | 1.1 | | | | V | | | |
| Maximum reverse current at rated DC blocking | T _A = 25 °C | 1 | 5.0 | | | | | - μΑ | | |
| voltage per diode | T _A = 125 °C | IR | 500 | | | | | | | |
| Typical junction capacitance per diode | 4.0 V, 1 MHz | CJ | 25 | | | | pF | | | |

| THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted) | | | | | | | | | |
|--|---------------------|--|----|--|--|--|--|------|------|
| PARAMETER | SYMBOL | DL DF005MA DF01MA DF02MA DF04MA DF06MA DF08MA DF10MA | | | | | | UNIT | |
| Typical thermal resistance (1) | $R_{\theta JA}$ | 40 | | | | | | | °C/W |
| Typical thermal resistance (9 | $R_{	ext{	heta}JL}$ | | 15 | | | | | | 0/11 |

Note

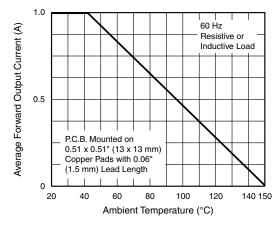
⁽¹⁾ Thermal resistance from junction to ambient and from junction to lead mounted on PCB with 0.5" x 0.5" (13 mm x 13 mm) copper pads

| ORDERING INFORMATION (Example) | | | | | | | | |
|--------------------------------|-----------------|------------------------|---------------|---------------|--|--|--|--|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE | | | | |
| DF06MA-E3/45 | 0.403 | 45 | 50 | Tube | | | | |

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RATINGS AND CHARACTERISTICS CURVES (T_A = 25 °C unless otherwise noted)



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Fig. 1 - Derating Curve Output Rectified Current

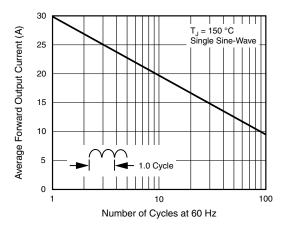


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

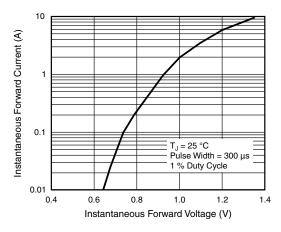


Fig. 3 - Typical Forward Characteristics Per Diode

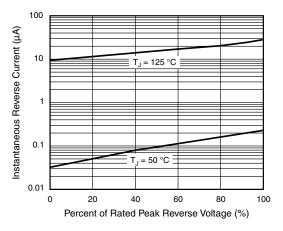


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

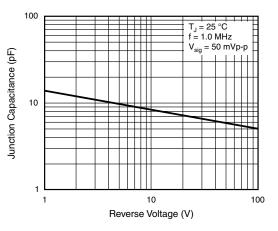


Fig. 5 - Typical Junction Capacitance Per Diode

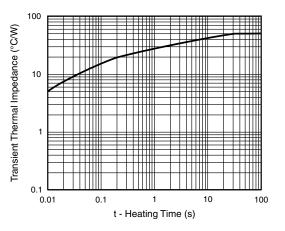


Fig. 6 - Typical Transient Thermal Impedance Per Diode

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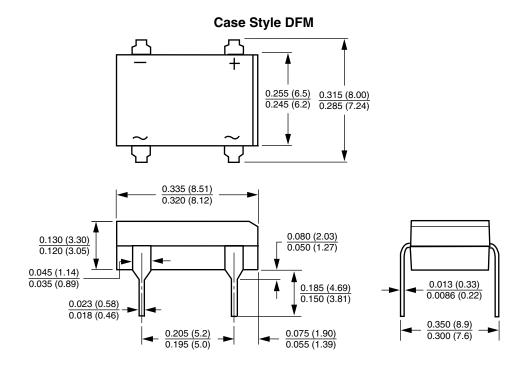
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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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