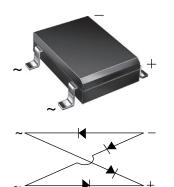
DF15005S, DF1501S, DF1502S, DF1504S, DF1506S, DF1508S, DF1510S



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Miniature Glass Passivated Single-Phase Surface-Mount Bridge Rectifiers



Case Style DFS

LINKS TO ADDITIONAL RESOURCES



| PRIMARY CHARACTERISTICS | | | | | | | |
|--|--|--|--|--|--|--|--|
| I _{F(AV)} | 1.5 A | | | | | | |
| V _{RRM} | 50 V, 100 V, 200 V, 400 V, 600 V, 800 V, 1000 V | | | | | | |
| I _{FSM} | 50 A | | | | | | |
| I _R | 5 μΑ | | | | | | |
| V _F at I _F = 1.5 A | 1.1 V | | | | | | |
| T _J max. | 150 °C | | | | | | |
| Package | DFS | | | | | | |
| Circuit configuration | Quad | | | | | | |

FEATURES

- UL recognition, file number E54214
- · Ideal for automated placement
- 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

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 | DF15005S | DF1501S | DF1502S | DF1504S | DF1506S | DF1508S | DF1510S | UNIT |
| 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 $T_A = 40$ °C $^{(1)}$ | I _{F(AV)} | 1.5 | | | | | | | А |
| Peak forward surge current single half sine-wave superimposed on rated load | I _{FSM} | 50 | | | | | | | А |
| Rating for fusing (t < 8.3 ms) | l ² t | 10 | | | | | | | A ² s |
| Operating junction and storage temperature range | T _J , T _{STG} | -55 to +150 | | | | | | °C | |

Note

⁽¹⁾ Units mounted on PCB with 0.51" x 0.51" (13 mm x 13 mm) copper pads

Revision: 09-Jul-2020

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DF15005S, DF1501S, DF1502S, DF1504S, DF1506S, DF1508S, DF1510S

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| ELECTRICAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted) | | | | | | | | | | |
|---|-------------------------|----------------|----------|---------|---------|---------|---------|---------|---------|------|
| PARAMETER | TEST CONDITIONS | SYMBOL | DF15005S | DF1501S | DF1502S | DF1504S | DF1506S | DF1508S | DF1510S | UNIT |
| Maximum instantaneous forward voltage drop per diode | 1.5 A | V _F | | | | 1.1 | | | | V |
| Maximum DC reverse current at | T _A = 25 °C | 1 | 5.0 | | | | | | μA | |
| rated DC blocking voltage per diode | T _A = 125 °C | I _R | 500 | | | | | | | |
| Typical junction capacitance per diode ⁽¹⁾ | | CJ | | | | 25 | | | | pF |

Note

⁽¹⁾ Measured at 1.0 MHz and applied reverse voltage of 4.0 V

| THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise noted) | | | | | | | | | |
|--|---|----|--|--|--|--|--|------|------|
| PARAMETER | SYMBOL DF15005S DF1501S DF1502S DF1504S DF1506S DF1508S DF1510S U | | | | | | | UNIT | |
| Typical thermal resistance (1) | $R_{\theta JA}$ | 40 | | | | | | | °C/W |
| Typical thermal resistance () | $R_{	ext{	heta}JL}$ | 15 | | | | | | 0/11 | |

Note

⁽¹⁾ Units mounted on PCB with 0.51" x 0.51" (13 mm x 13 mm) copper pads

| ORDERING INFORMATION (Example) | | | | | | | | | |
|--------------------------------|-----------------|------------------------|---------------|----------------------------------|--|--|--|--|--|
| PREFERRED P/N | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE | | | | | |
| DF1506S-E3/45 | 0.399 | 45 | 50 | Tube | | | | | |
| DF1506S-E3/77 | 0.399 | 77 | 1500 | 13" diameter paper tape and reel | | | | | |

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

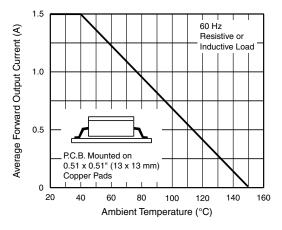
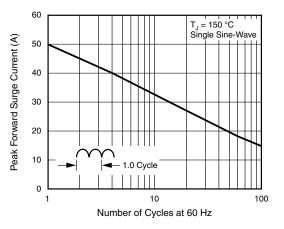
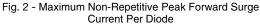


Fig. 1 - Derating Curve Output Rectified Current





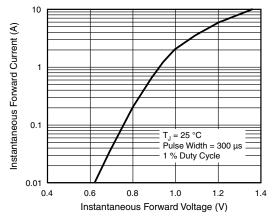
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Fig. 3 - Typical Forward Characteristics Per Diode

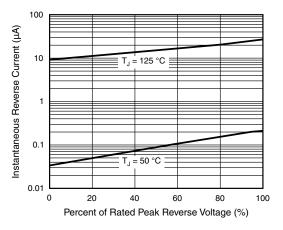


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode



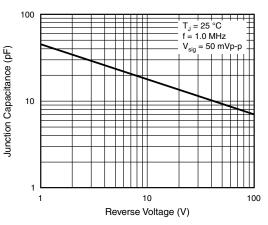


Fig. 5 - Typical Junction Capacitance Per Diode

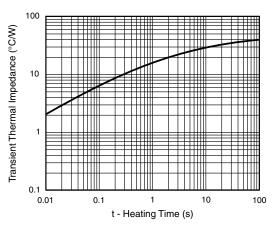
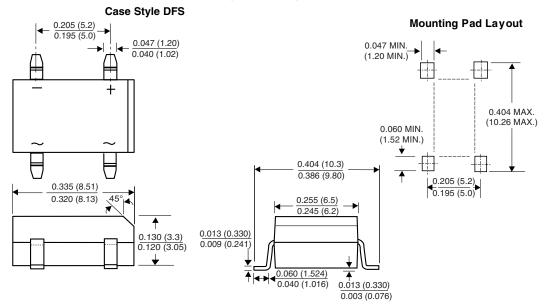


Fig. 6 - Typical Transient Thermal Impedance



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