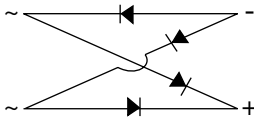




Low Profile Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers



Case Style Low Pro le DFS

FEATURES

- Low profile: typical height of 2.5 mm
- 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 250 °C
- Solder dip 260 °C, 40 s
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC


RoHS
COMPLIANT

TYPICAL APPLICATIONS

General purpose use in ac-to-dc bridge full wave rectification for SMPS, lighting ballaster, adapter, battery charger, home appliances, office equipment, and telecommunication applications.

MECHANICAL DATA

Case: Low profile DFS

Epoxy meets UL 94 V-0 flammability rating

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

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test

Polarity: As marked on body

PRIMARY CHARACTERISTICS

| | |
|-------------|----------------|
| $I_{F(AV)}$ | 1.5 A |
| V_{RRM} | 50 V to 1000 V |
| I_{FSM} | 50 A |
| I_R | 5 μ A |
| V_F | 1.1 V |
| T_J max. | 150 °C |

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)

| PARAMETER | SYMBOL | DFL 15005S | DFL 1501S | DFL 1502S | DFL 1504S | DFL 1506S | DFL 1508S | DFL 1510S | 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 | $I_{F(AV)}$ ⁽¹⁾ | 1.5 | | | | | | | 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⁾ Units mounted on P.C.B. with 0.51" x 0.51" (13 mm x 13 mm) copper pads

DFL15005S thru DFL1510S

Vishay General Semiconductor



| ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | | | | |
|----------------------------------------------------------------------------|-------------------------|-------------------------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|------|----|
| PARAMETER | TEST CONDITIONS | SYMBOL | DFL 15005S | DFL 1501S | DFL 1502S | DFL 1504S | DFL 1506S | DFL 1508S | DFL 1510S | UNIT | |
| Max. instantaneous forward voltage drop per diode | 1.5 A | V _F | 1.1 | | | | | | | | V |
| Maximum DC reverse current at rated DC blocking voltage per diode | T _A = 25 °C | I _R | 5.0 | | | | | | | | μA |
| | T _A = 125 °C | | 500 | | | | | | | | |
| Typical junction capacitance per diode | | C _J ⁽¹⁾ | 16 | | | | | | | | pF |

Note

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

| THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted) | | | | | | | | | | |
|-------------------------------------------------------------------------|---------------------------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|------|------|
| PARAMETER | SYMBOL | DFL 15005S | DFL 1501S | DFL 1502S | DFL 1504S | DFL 1506S | DFL 1508S | DFL 1510S | UNIT | |
| Typical thermal resistance | R _{θJA} ⁽¹⁾ | 40 | | | | | | | | °C/W |
| | R _{θJL} ⁽¹⁾ | 15 | | | | | | | | |

Note

⁽¹⁾ Units mounted on P.C.B. 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 |
| DFL1506S-E3/45 | 0.341 | 45 | 50 | Tube |
| DFL1506S-E3/77 | 0.341 | 77 | 1500 | 13" diameter paper tape and reel |

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

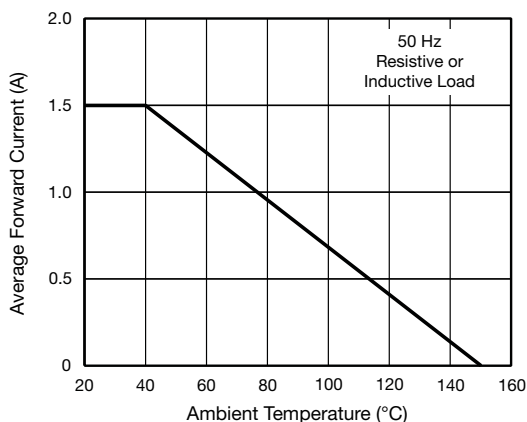


Fig. 1 - Forward Current Derating Curve Per Diode

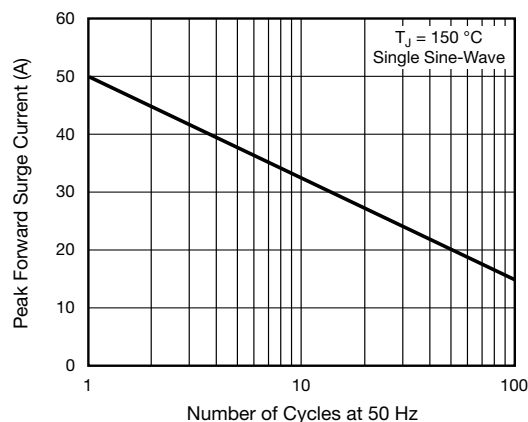
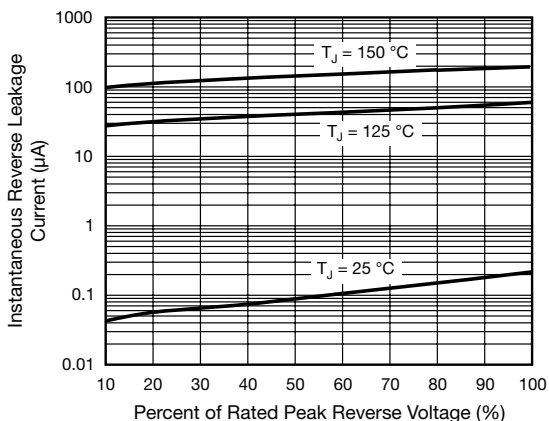
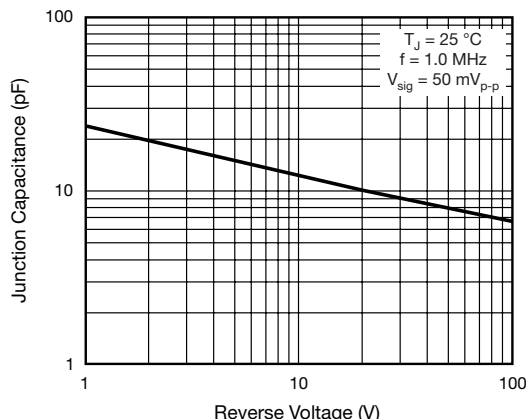
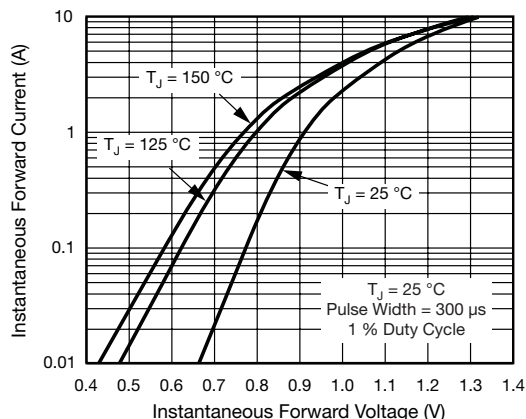


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode



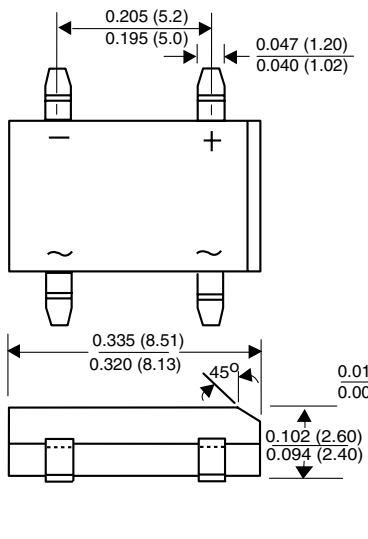
DFL15005S thru DFL1510S

Vishay General Semiconductor

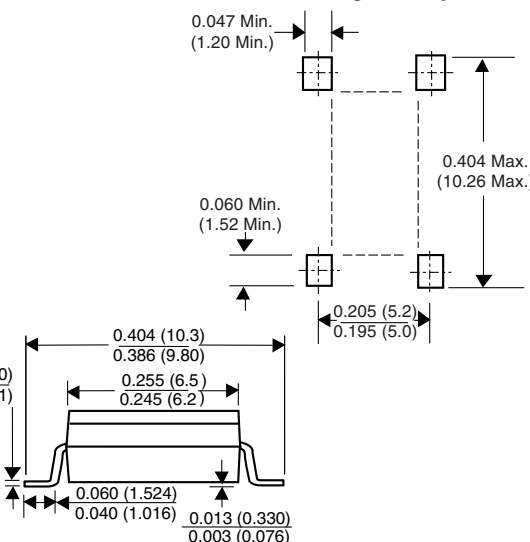


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

Case Style Low Profile DFS



Mounting Pad Layout





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- Техническая поддержка проекта;
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Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.