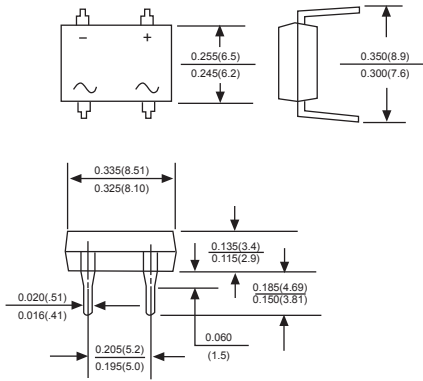


DF005 THRU DF10 AND DB101 THRU DB107

SILICON BRIDGE RECTIFIERS

Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

DB



Dimensions in inches and (millimeters)

FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Ideal for printed circuit boards
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 260°C/10 seconds, 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: Molded plastic body

Terminals: Plated leads solderable per MIL-STD-750, Method 2026

Polarity: Polarity symbols marked on case

Mounting Position: Any

Weight: 0.02 ounce, 0.4 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for current capacitive load derate by 20%.

| | SYMBOLS | DF005 DB101 | DF01 DB102 | DF02 DB103 | DF04 DB104 | DF06 DB105 | DF08 DB106 | DF10 DB107 | UNITS |
|--|-----------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | VOLTS |
| Maximum RMS voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | VOLTS |
| Maximum DC blocking voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | VOLTS |
| Maximum average forward output rectified current 0.06" (1.5mm) lead length at $T_A=40^\circ\text{C}$ (Note 2) | $I_{(AV)}$ | 1.0 | | | | | | | Amps |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 50.0 | | | | | | | Amps |
| Rating for Fusing ($t < 8.3\text{ms}$) | I^2t | 10 | | | | | | | A ² s |
| Maximum instantaneous forward voltage drop per bridge element at 1.0A | V_F | 1.1 | | | | | | | Volts |
| Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$ | I_R | 10 | | | | | | | μA |
| | | 0.5 | | | | | | | mA |
| Typical Junction Capacitance (Note 1) | C_J | 25 | | | | | | | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta JA}$ | 40 | | | | | | | °C/W |
| Operating junction temperature range | T_J | -65 to +150 | | | | | | | °C |
| storage temperature range | T_{STG} | -65 to +150 | | | | | | | °C |

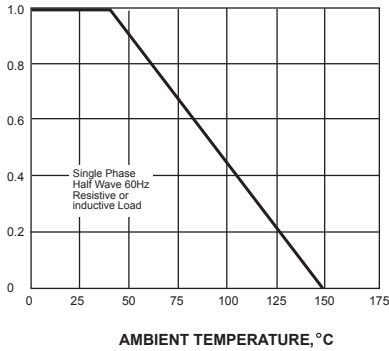
NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Unit mounted on P.C. board with 0.51" x 0.51" (13x13mm) copper pads.

RATINGS AND CHARACTERISTIC CURVES DF005 THRU DF10 AND DB101 THRU DB107

AVERAGE FORWARD RECTIFIED CURRENT,
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT,
AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

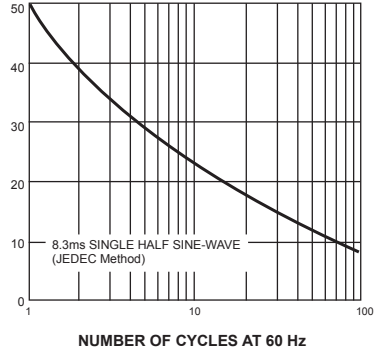


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

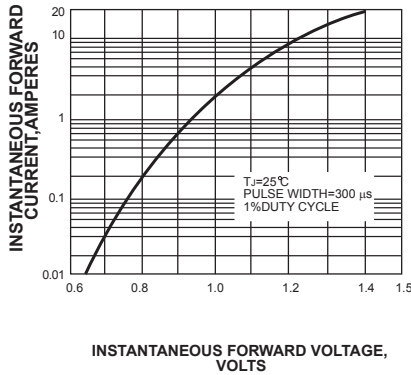
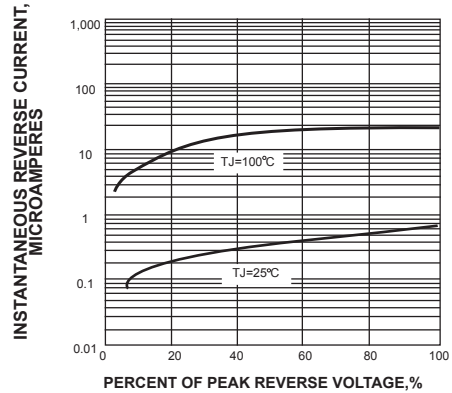
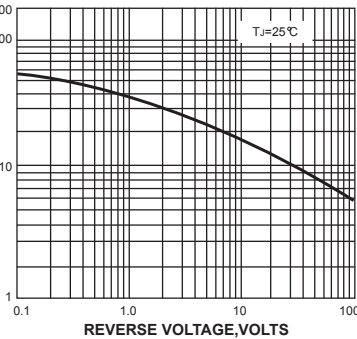


FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,
 $^{\circ}\text{C}/\text{W}$

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

