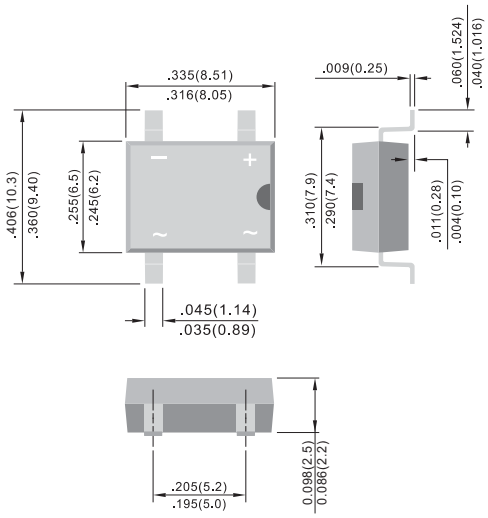
SEMI CONDUCTOR

# DB1005S~DB107S

## GLASS PASSIVATED SINGLE-PHASE BRIDGE RECTIFIER

**VOLTAGE** 50 to 1000 Volts **CURRENT** 1.0 Amperes

DB-S Unit : inch (mm)




### FEATURES

- Plastic material used carries Underwriters Laboratory recognition 94V-O
- Low leakage
- Surge overload rating-- 30 amperes peak
- Ideal for printed circuit board

Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICALDATA

Case: Reliable low cost construction utilizing molded plastic technique results in inexpensive product

Terminals: Lead solderable per MIL-STD-750, Method 2026

Polarity: Polarity symbols molded or marking on body

Mounting Position: Any

Weight: 0.02 ounce, 0.4 gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.Single phase, half wave, 60Hz, Resistive or inductive load.
For capacitive load, derate current by 20%

| PARAMETER | SYMBOL | DB1005 | DB101S | DB102S | DB104S | DB105S | DB106S | DB107S | UNIT |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Bridge Input 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 Current $T_A$=40°C | $I_{AV}$ | 1.0 | | | | | | | A |
| Peak Forward Surge Current:8.3ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$ | 40 | | | | | | | V |
| $I^2t$ Rating for fusing ( t<8.35ms) | $I^2t$ | 3.735 | | | | | | | $A^2t$ |
| Maximum Forward Voltage Drop per Bridge Element at 1.0A | $V_F$ | 1.05 | | | | | | | V |
| Maximum DC Reverse Current $T_J$=25 °C<br>at Rated DC Blocking Voltage $T_J$=125 °C | $I_R$ | 5.0<br>500 | | | | | | | uA |
| Typical Junction capacitance (Note 1) | $C_J$ | 25 | | | | | | | pF |
| Typical thermal resistance per leg ((Note 2) | RθJA<br>RθJL | 40<br>15 | | | | | | | °C / W |
| Operating Junstion and Storage Temperature Range | $T_J$,$T_{STG}$ | -55 to + 150 | | | | | | | °C |

NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts
2. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.5 X 0.5"(13 X 13mm) copper pads

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## RATING AND CHARACTERISTIC CURVES

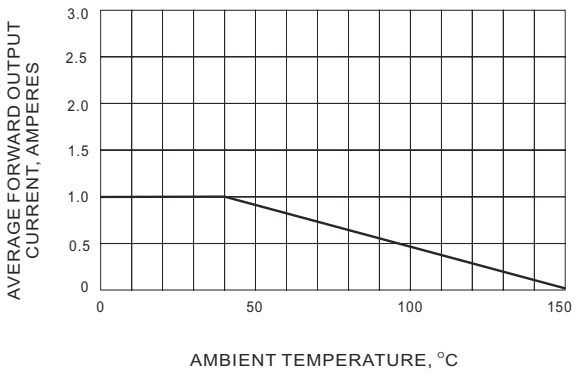


FIG.1 DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

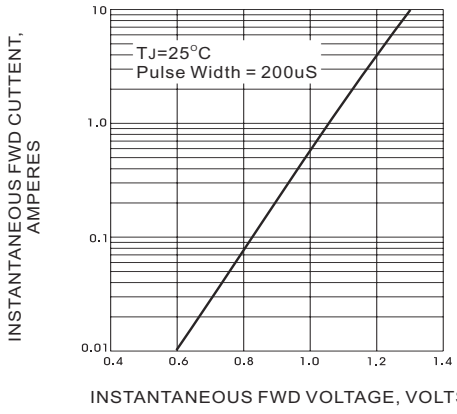


FIG.2 TYPICAL FORWARD CHARACTERISTICS

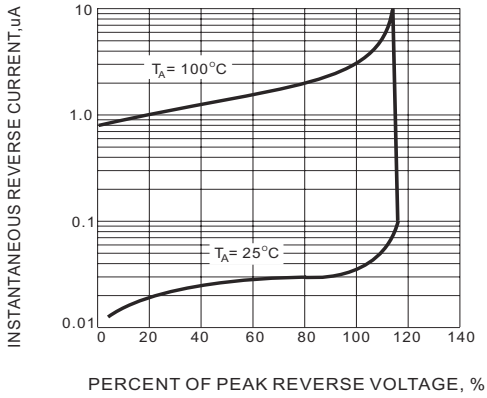


FIG.3 TYPICAL REVERSE CHARACTERISTICS

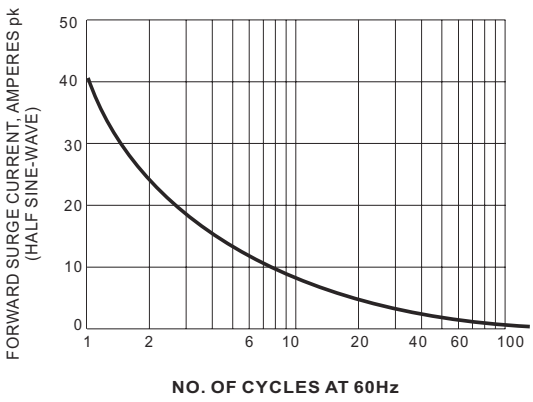


FIG.4 MAX NON-REPETITIVE SURGE CURRENT