**RECTRON**
**SEMICONDUCTOR**
**TECHNICAL SPECIFICATION**

# RS401M THRU RS407M

## *SINGLE-PHASE GLASS PASSIVATED SILICON BRIDGE RECTIFIER*

***VOLTAGE RANGE 50 to 1000 Volts CURRENT 4.0 Ampere***

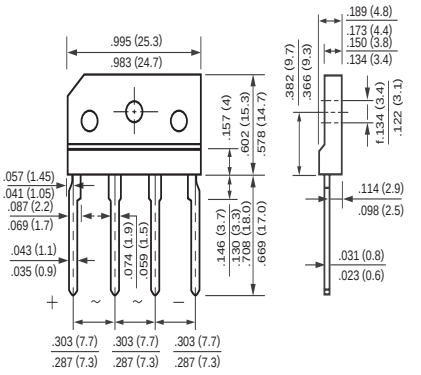
### FEATURES

* Ideal for printed circuit board
* Surge overload rating: 150 amperes peak
* Mounting position: Any

### MECHANICAL DATA

* UL listed the recognized component directory, file #E94233
* Epoxy: Device has UL flammability classification 94V-O

**RS-4M**




Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

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

| RATINGS | SYMBOL | RS401M | RS402M | RS403M | RS404M | RS405M | RS406M | RS407M | UNITS |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS Bridge Input 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 Current at $T_C$ = 100°C | $I_O$ | 4.0 | | | | | | | Amps |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | $I_{FSM}$ | 150 | | | | | | | Amps |
| Typical Thermal Resistance per leg (Note 3) | $R_{\theta JA}$ | 26 | | | | | | | °C/W |
| (Note 2) | $R_{\theta JC}$ | 6.0 | | | | | | | |
| Operating Temperature Range | $T_J$ | -55 to + 150 | | | | | | | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to + 150 | | | | | | | °C |
| Typical Junction Capacitance (Note) | $C_J$ | 40 | | | | | | | pF |

**ELECTRICAL CHARACTERISTICS** (At $T_A$ = 25°C unless otherwise noted)

| CHARACTERISTICS | | SYMBOL | RS401M | RS402M | RS403M | RS404M | RS405M | RS406M | RS407M | UNITS |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum Forward Voltage Drop per Bridgeat Element at 4.0A DC | | $V_F$ | 1.1 | | | | | | | Volts |
| Maximum Reverse Current at Rated | @$T_A$ = 25°C | $I_R$ | 5.0 | | | | | | | uAmps |
| Dc Blocking Voltage per element | @$T_A$ = 125°C | | 0.5 | | | | | | | mAmps |

NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts
2. Unit case mounted on 1.6 x 1.6 x 0.06" thick (4.0 x 4.0 x 0.15cm) Al. Plate
3. Units mounted on P.C.B. with 0.5 x 0.5" (12 x 12mm) copper pads and 0.375" (9.5mm) lead length
4. "Fully ROHS compliant", "100% Sn plating (Pb-free)".

# RATING AND CHARACTERISTIC CURVES ( RS401M THRU RS407M )

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

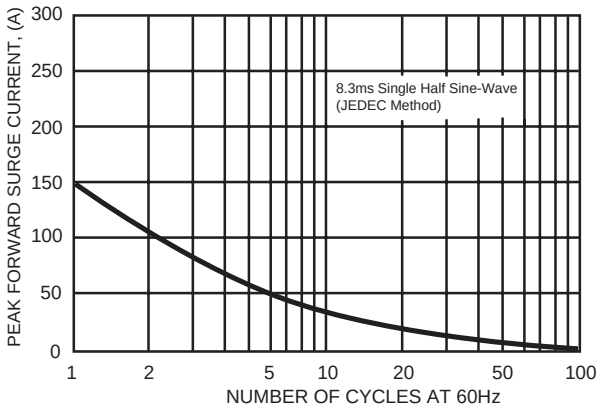



FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

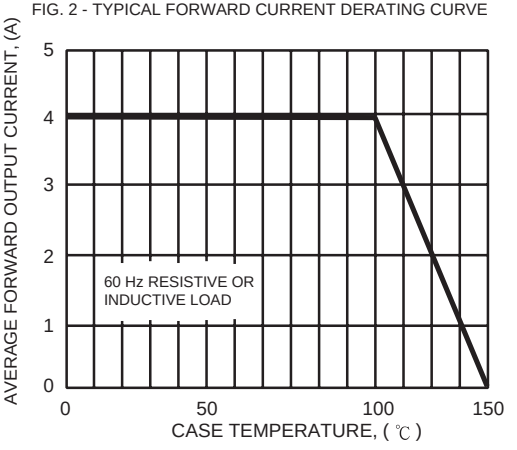



FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

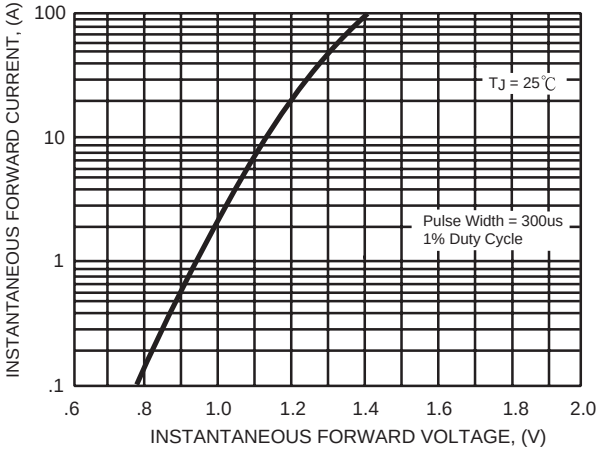



FIG. 4 - TYPICAL REVERSE CHARACTERISTICS