

RC6005 THRU RC610

SINGLE-PHASE SILICON BRIDGE RECTIFIER

VOLTAGE: 50-1000V

CURRENT: 6.0A

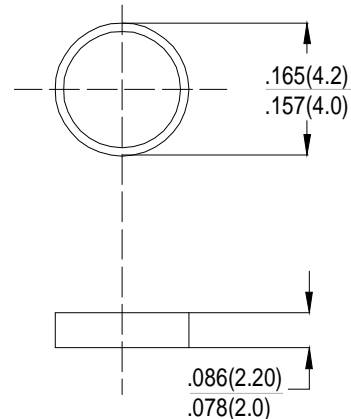
FEATURES

- Surge overload ratings-120 Amperes
- Good for printed circuit board assembly

MECHANICAL DATA

- **Case:** Silicon rubber passivated
- **Epoxy:** UL 94V-0 rate flame retardant
- **Lead:** MIL-STD- 202E, Method 208 guaranteed
- **Polarity:** As marked
- **Mounting position:** Any
- **Weight:** 1.88 grams

C-1



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRONICAL 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%.

| | SYMBOL | RC6005 | RC601 | RC602 | RC604 | RC606 | RC608 | RC610 | units |
|---|---------------------------|--------|-------|-------|-------|-------|-------|-------|---------------------------|
| 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 rectified Output Current at $T_A=50^\circ\text{C}$ | I_o | 6.0 | | | | | | | A |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | I_{FSM} | 120 | | | | | | | A |
| Maximum Forward Voltage Drop per element at 6.0A DC | V_F | 1.0 | | | | | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage per element | @ $T_A=25^\circ\text{C}$ | 5.0 | | | | | | | μA |
| | @ $T_A=100^\circ\text{C}$ | 500 | | | | | | | |
| I^2t Rating for Fusing ($t < 8.3\text{ms}$) | I^2t | 10 | | | | | | | A^2S |
| Typical Junction Capacitance (Note 1) | C_J | 25 | | | | | | | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta JA}$ | 40 | | | | | | | $^\circ\text{C}/\text{W}$ |

Notes: 1. Measured at 1MHz and applied reverse voltage of 4.0 volts

2. Thermal Resistance from Junction to lead mounted on P.C.B with 0.47×0.47"(12×12mm) copper pads