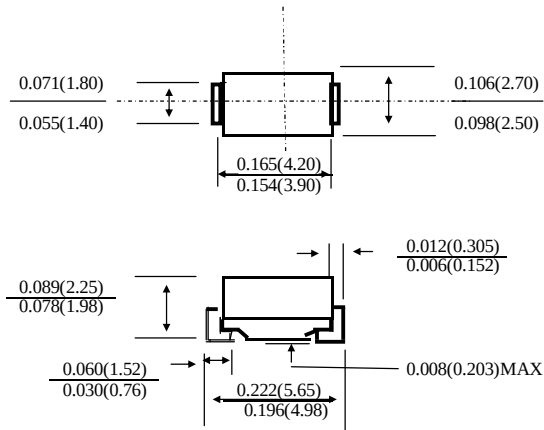


## 1.0AMP SILICON RECTIFIERS /SMA

## REVERSE VOLTAGE 50 TO 1000 VOLTS

### DO - 214AC(SMA)



inch ( mm )

### FEATURES

- . Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- . High temperature metallurgically bonded construction
- . Capable of meeting environmental standards of MIL-S-19500
- . Diffused junction
- . 1.0A operation at  $T_A=75^{\circ}\text{C}$  with no thermal runaway
- . Typical  $I_R$  less than 1.0uA
- . High temperature soldering guaranteed:  $260^{\circ}\text{C}/10$  seconds

### MECHANICAL DATA

- . Case: JEDEC DO - 214AC. molded plastic body
- . Terminals: Solder plated. Solderable per MIL - STD - 750. Method 2026
- . Polarity: Color band denotes cathode end
- . Weight: 0.003 ounce.0.093 grams
- . Mounting position: Any

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at  $25^{\circ}\text{C}$  ambient temperature unless otherwise specified.

Single phase. half wave. 60HZ. resistive or inductive load. For capacitive load. derate current by 20%

|                                                                                                                | SYMBOL     | M1          | M2  | M3  | M4  | M5  | M6  | M7   | UNITS                       |
|----------------------------------------------------------------------------------------------------------------|------------|-------------|-----|-----|-----|-----|-----|------|-----------------------------|
| Maximum Recurrent 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 Rectified Current at $T_A = 75^{\circ}\text{C}$                                        | $I_{(AV)}$ | 1.0         |     |     |     |     |     |      | A                           |
| Peak Forward Surge Current<br>8.3ms Single half-sine-wave superimposed on rated Load                           | $I_{FSM}$  | 30          |     |     |     |     |     |      | A                           |
| Maximum Forward Voltage at 1.0A DC                                                                             | $V_F$      | 1.0         |     |     |     |     |     |      | V                           |
| Maximum Reverse Current $T_A = 25^{\circ}\text{C}$<br>at Rated DC Blocking Voltage $T_A = 100^{\circ}\text{C}$ | $I_R$      | 5.0<br>50   |     |     |     |     |     |      | $\mu\text{A}$               |
| Typical Junction Capacitance (Note 1)                                                                          | $C_j$      | 15          |     |     |     |     |     |      | pF                          |
| Typical Thermal Resistance (Note 2)                                                                            | $R_{QJA}$  | 75          |     |     |     |     |     |      | $^{\circ}\text{C}/\text{W}$ |
| Operating Junction Temperature Range                                                                           | $T_j$      | — 55 to 125 |     |     |     |     |     |      | $^{\circ}\text{C}$          |
| Storage Temperature Range                                                                                      | $T_{STG}$  | — 55 to 150 |     |     |     |     |     |      | $^{\circ}\text{C}$          |

- NOTE: 1. Reverse recovery condition  $I_F=0.5\text{A}$   $I_R=1.0\text{A}$   $I_{rr}=0.25\text{A}$ .  
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.  
 3. Thermal Resistance Junction to Ambient.

FIG. 1 -- TYPICAL FORWARD CHARACTERISTIC

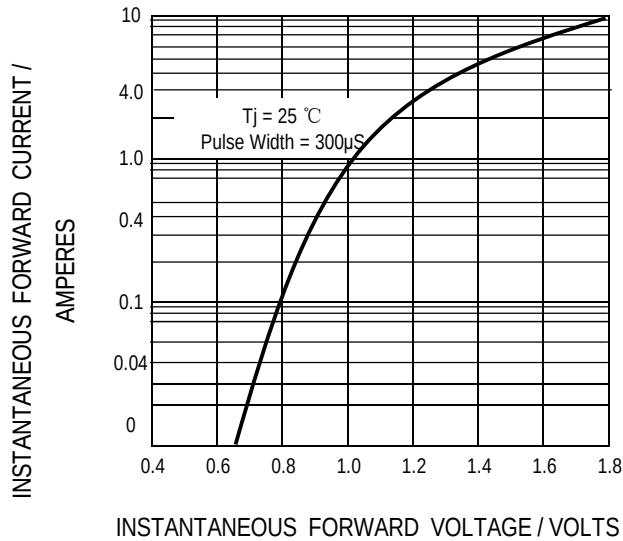


FIG. 2 -- TYPICAL JUNCTION CAPACITANCE

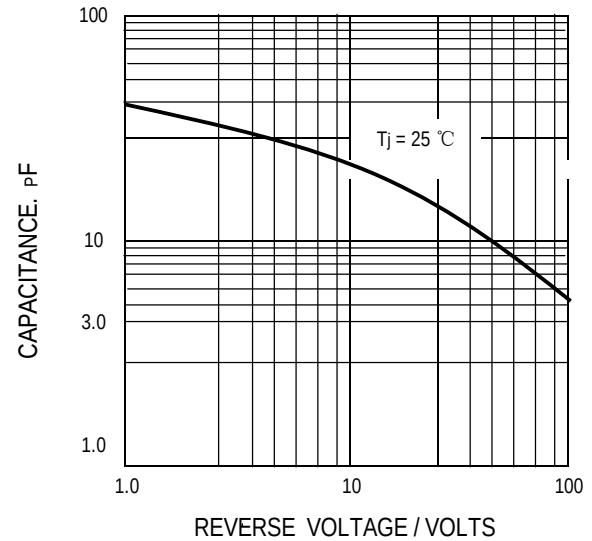


FIG. 3 -- FORWARD CURRENT DERATING CURVE

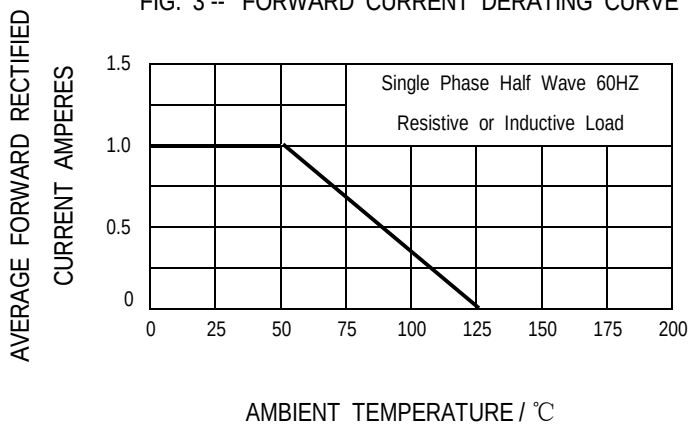


FIG. 4 -- PEAK FORWARD SURGE CURRENT

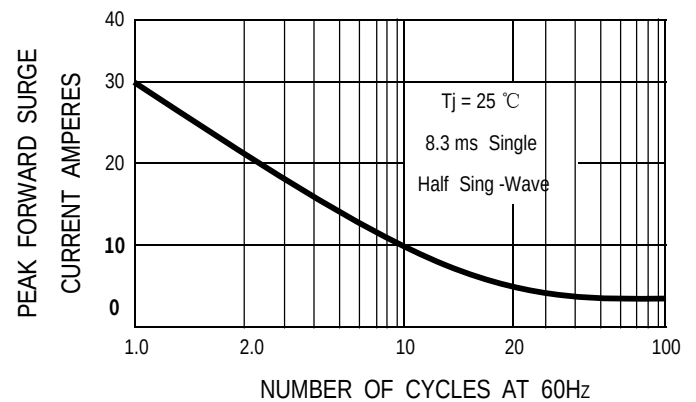


Fig.5-Typical transient thermal impedance

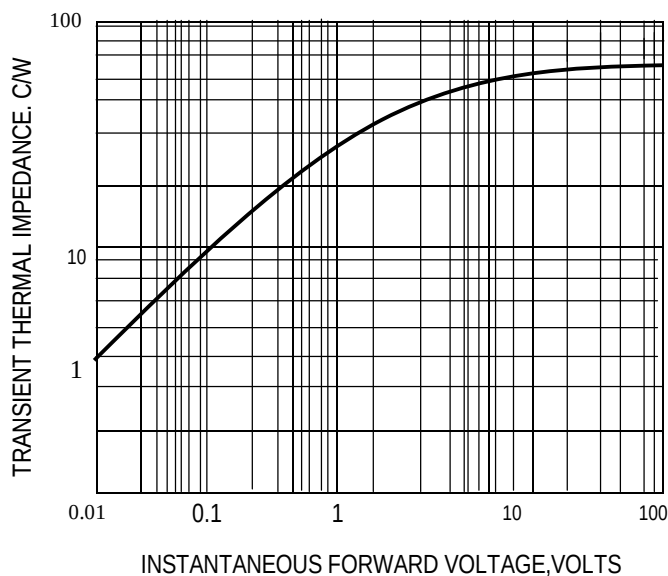


Fig.6-TYPICAL REVERSE CHARACTERISTICS

