

## Features

- $I_{F(AV)}$  10A
- $V_{RRM}$  20V-200V
- High surge current capability
- Polarity: Color band denotes cathode

## Applications

- Rectifier

## Marking

- SK10X

X : From 2 To 20



SMC top view



Schematic diagram



Halogen-Free

## Maximum Ratings( $T_a=25^\circ\text{C}$ unless otherwise noted)

| Symbol             | Parameter                               | Test Conditions                         | SK10     |    |    |          |    |    |     |     |     | Unit |
|--------------------|-----------------------------------------|-----------------------------------------|----------|----|----|----------|----|----|-----|-----|-----|------|
|                    |                                         |                                         | 2        | 3  | 4  | 5        | 6  | 8  | 10  | 15  | 20  |      |
| V <sub>RRM</sub>   | Maximum Repetitive Peak Reverse Voltage |                                         | 20       | 30 | 40 | 50       | 60 | 80 | 100 | 150 | 200 | V    |
| V <sub>RMS</sub>   | Maximum RMS voltage                     |                                         | 14       | 21 | 28 | 35       | 42 | 56 | 70  | 105 | 140 | V    |
| I <sub>F(AV)</sub> | Average Forward Current                 | 60Hz Half-sine wave<br>Resistance load  | 10.0     |    |    |          |    |    |     |     |     | A    |
| I <sub>FSM</sub>   | Surge(Non-repetitive)Forward Current    | 60Hz Half-sine wave,<br>1 cycle, Ta=25℃ | 250      |    |    |          |    |    |     |     |     | A    |
| T <sub>J</sub>     | Junction Temperature                    |                                         | -55~+125 |    |    | -55~+125 |    |    |     |     |     |      |
| T <sub>stg</sub>   | Storage Temperature Range               |                                         | -55~+150 |    |    |          |    |    |     |     |     | ℃    |

## ELECTRICAL CHARACTERISTICS( $T_a=25^\circ\text{C}$ unless otherwise specified)

| Item                          | Symbol            | Test Condition                                          |                      | SK10 |   |   |      |   |      |    |      | Unit |    |
|-------------------------------|-------------------|---------------------------------------------------------|----------------------|------|---|---|------|---|------|----|------|------|----|
|                               |                   |                                                         |                      | 2    | 3 | 4 | 5    | 6 | 8    | 10 | 15   |      | 20 |
| Peak Forward Voltage          | V <sub>F</sub>    | I <sub>FM</sub> =10.0A                                  |                      | 0.65 |   |   | 0.75 |   | 0.85 |    | 0.95 |      | V  |
| Peak Reverse Current          | I <sub>RRM1</sub> | V <sub>RM</sub> =V <sub>RRM</sub>                       | T <sub>a</sub> =25℃  | 0.5  |   |   |      |   | 0.1  |    |      |      | mA |
|                               | I <sub>RRM2</sub> | V <sub>RM</sub> =V <sub>RRM</sub>                       | T <sub>a</sub> =100℃ | 20   |   |   |      |   | 10   |    |      |      |    |
| Thermal Resistance            | R <sub>θJA</sub>  | Between junction and ambient                            |                      | 50   |   |   |      |   |      |    |      | ℃/W  |    |
|                               | R <sub>θJL</sub>  | Between junction and terminal                           |                      | 15   |   |   |      |   |      |    |      |      |    |
| Juction Capacitance (Typical) | Cj                | Measured at 1MHZ and Applied Rever Voltage of 4.0 V.D.C |                      | 400  |   |   |      |   |      |    |      | pF   |    |

## Ordering Information (Example)

| Type   | Package | Marking | Minimum Package(pcs) | Inner Box Quantity(pcs) | Outer Carton Quantity(pcs) | Delivery Mode |
|--------|---------|---------|----------------------|-------------------------|----------------------------|---------------|
| SK102  | SMC     | SK102   | 3,000                | 45,000                  | 180,000                    | 7"reel        |
| SK103  |         | SK103   |                      |                         |                            |               |
| SK104  |         | SK104   |                      |                         |                            |               |
| SK105  |         | SK105   |                      |                         |                            |               |
| SK106  |         | SK106   |                      |                         |                            |               |
| SK108  |         | SK108   |                      |                         |                            |               |
| SK1010 |         | SK1010  |                      |                         |                            |               |
| SK1015 |         | SK1015  |                      |                         |                            |               |
| SK1020 |         | SK1020  |                      |                         |                            |               |

## Typical Characteristics

Fig.1 Forward Current Derating Curve

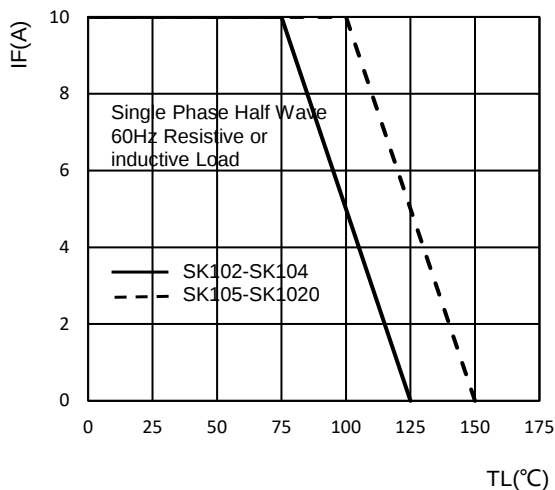


Fig.2 Maximum Non-Repetitive Forward Surge Current

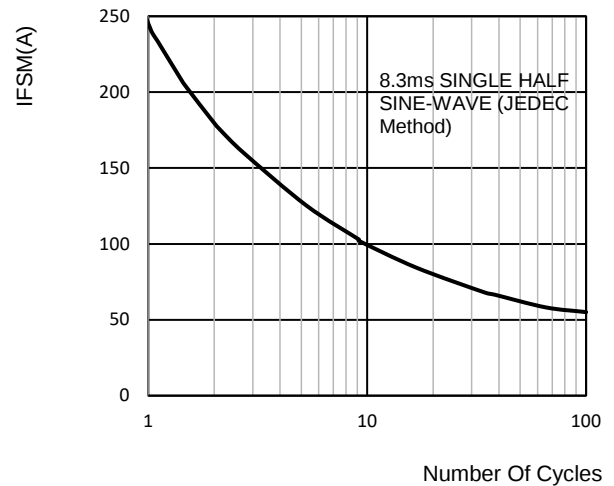


Fig.3 Typical Forward Characteristics

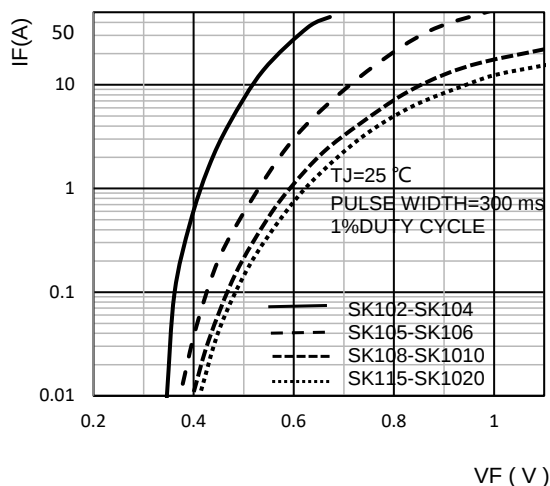
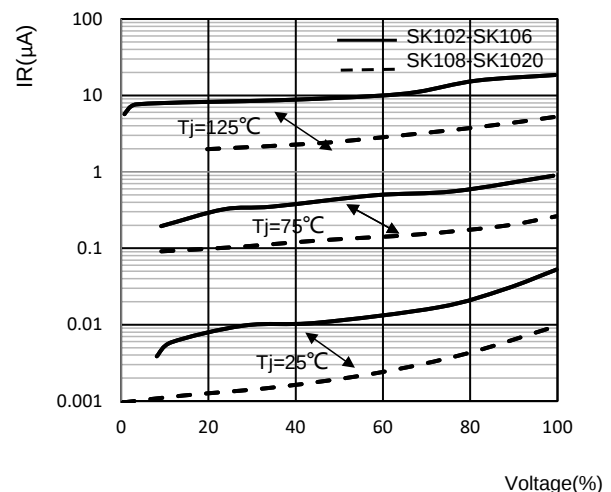
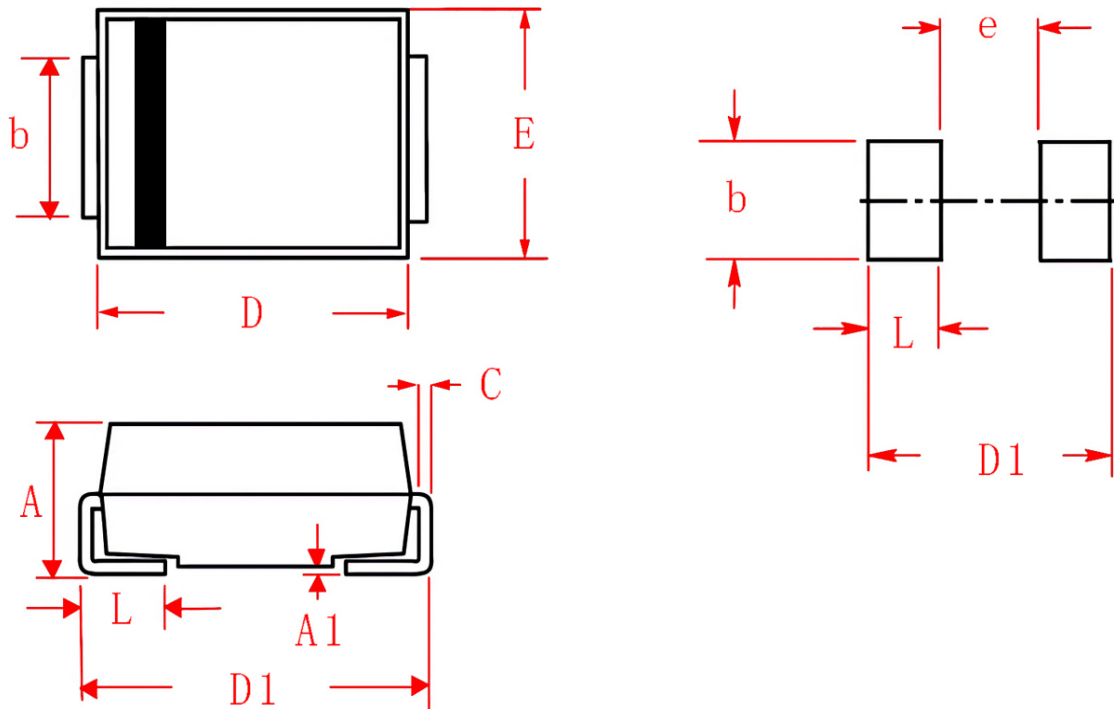


Fig.4 Typical Reverse Characteristics



SMC Package information

SMC (DO-214AB)



| Symbol | Dimensions in Millimeters(mm) |       | Dimensions In Inches |       |
|--------|-------------------------------|-------|----------------------|-------|
|        | Min                           | Max   | Min                  | Max   |
| A      | 2.000                         | 2.620 | 0.079                | 0.103 |
| A1     | 0.050                         | 0.210 | 0.002                | 0.008 |
| b      | 2.750                         | 3.250 | 0.108                | 0.128 |
| C      | 0.150                         | 0.310 | 0.006                | 0.012 |
| D      | 6.500                         | 7.000 | 0.256                | 0.275 |
| D1     | 7.600                         | 8.000 | 0.299                | 0.315 |
| E      | 5.600                         | 6.200 | 0.220                | 0.244 |
| e      | -                             | 4.690 | -                    | 0.185 |
| L      | 0.900                         | 1.600 | 0.035                | 0.063 |