

# SK22A - SK215A

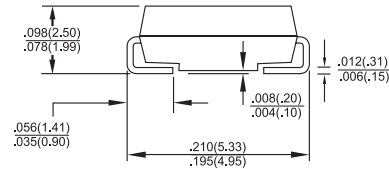
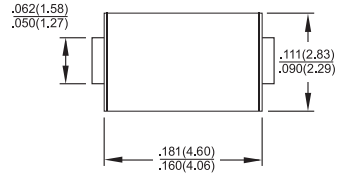
## 2.0 AMPS. Surface Mount Schottky Barrier Rectifiers

### SMA/DO-214AC



## Features

- ✧ For surface mounted application
- ✧ Metal to silicon rectifier, majority carrier conduction
- ✧ Low forward voltage drop
- ✧ Easy pick and place
- ✧ High surge current capability
- ✧ Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ✧ Epitaxial construction
- ✧ High temperature soldering:  
260°C / 10 seconds at terminals



## Mechanical Data

- ✧ Case: Molded plastic
- ✧ Terminals: Pure tin plated, lead free.
- ✧ Polarity: Indicated by cathode band
- ✧ Packaging: 12mm tape per EIA STD RS-481
- ✧ Weight: 0.093gram

Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

Rating 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%

| Type Number   | Symbol            | SK 22A      | SK 23A | SK 24A | SK 25A | SK 26A      | SK 29A | SK 210A | SK 215A | Units |
|---|-------------------|-------------|--------|--------|--------|-------------|--------|---------|---------|-------|
| Maximum Recurrent Peak Reverse Voltage  | V <sub>RRM</sub>  | 20          | 30     | 40     | 50     | 60          | 90     | 100     | 150     | V     |
| Maximum RMS Voltage   | V <sub>RMS</sub>  | 14          | 21     | 28     | 35     | 42          | 63     | 70      | 105     | V     |
| Maximum DC Blocking Voltage   | V <sub>DC</sub>   | 20          | 30     | 40     | 50     | 60          | 90     | 100     | 150     | V     |
| Maximum Average Forward Rectified Current at T <sub>J</sub> (See Fig. 1)  | I <sub>(AV)</sub> | 2.0         |        |        |        |             |        |         |         | A     |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )                       | I <sub>FSM</sub>  | 50          |        |        |        |             |        |         |         | A     |
| Maximum Instantaneous Forward Voltage (Note 1) @ 2.0A   | V <sub>F</sub>    | 0.5         |        | 0.7    |        | 0.85        |        | 0.95    |         | V     |
| Maximum DC Reverse Current @ T <sub>A</sub> =25 °C<br>at Rated DC Blocking Voltage @ T <sub>A</sub> =125 °C               | I <sub>R</sub>    | 0.5         |        |        |        | 0.1         |        |         |         | mA    |
|   |                   | 10          |        | 5.0    |        | 2.0         |        |         |         | mA    |
| Non-repetitive Peak Reverse Avalanche Energy L=40mH T <sub>J</sub> =25 °C max prior to Surge, Inductive load Switched off | E <sub>RSM</sub>  | 20          |        |        |        |             |        |         |         | mJ    |
| Typical Junction Capacitance  | C <sub>j</sub>    | 10          |        |        |        | 50          |        |         |         | pF    |
| Typical Thermal Resistance ( Note 2 )   | R <sub>θJA</sub>  | 88          |        |        |        |             |        |         |         | °C/W  |
| Operating Temperature Range   | T <sub>J</sub>    | -65 to +125 |        |        |        | -65 to +150 |        |         |         | °C    |
| Storage Temperature Range   | T <sub>STG</sub>  | -65 to +150 |        |        |        |             |        |         |         | °C    |

- Notes:
1. Pulse Test with  $PW=300\text{ usec}$ , 1% Duty Cycle
  2. Measured on P.C.Board with  $0.2" \times 0.2"$  (5.0mm x 5.0mm) Copper Pad Areas.

## RATINGS AND CHARACTERISTIC CURVES (SK22A THRU SK215A)

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

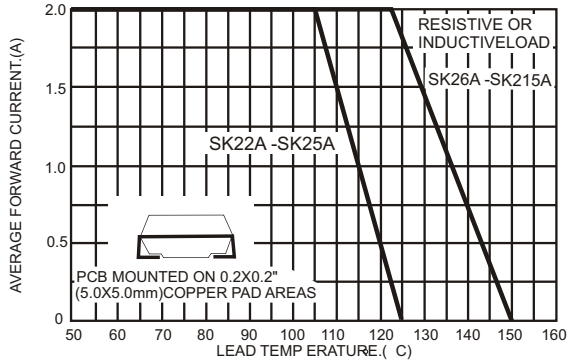


FIG. 2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

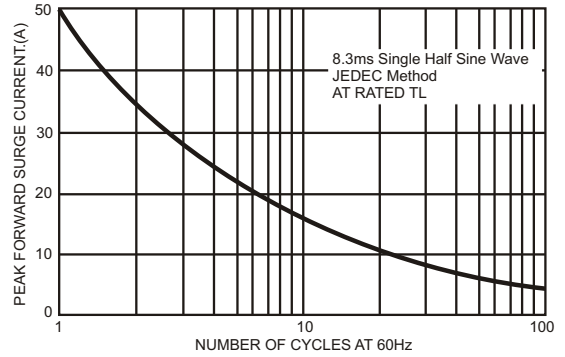


FIG. 3- TYPICAL FORWARD CHARACTERISTICS

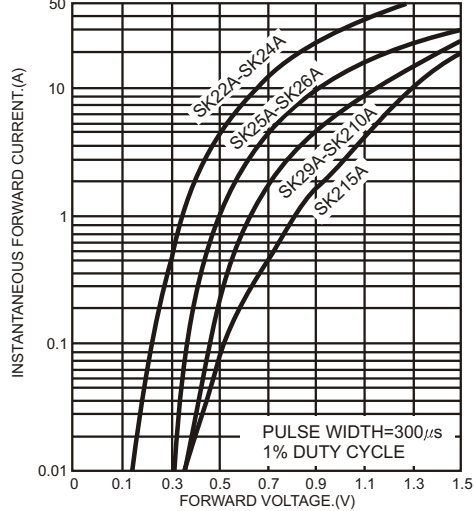


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

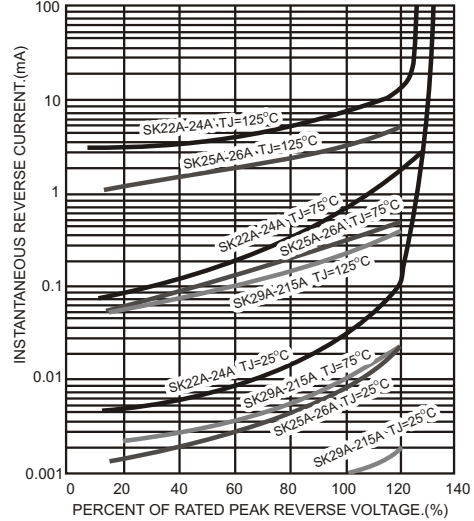


FIG. 5- TYPICAL JUNCTION CAPACITANCE

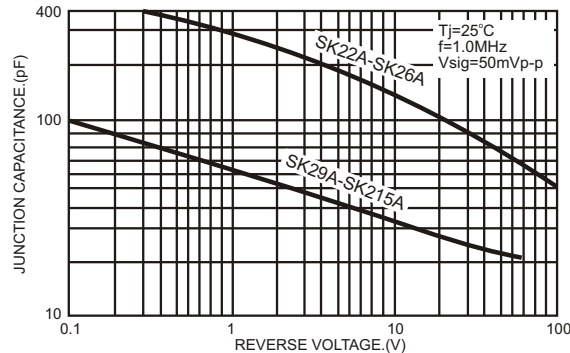
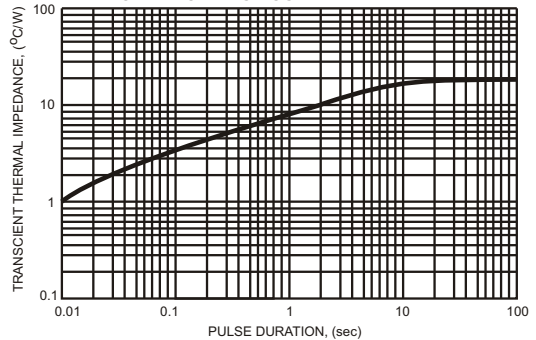


FIG. 6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS



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