Preliminary

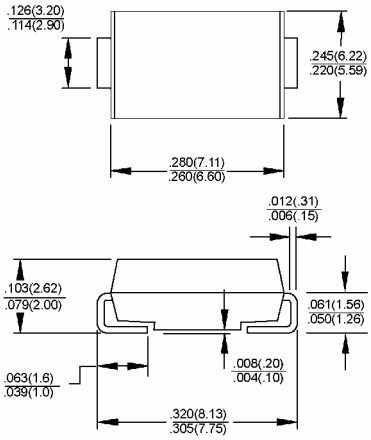
# SK82C - SK86C

TAIWAN SEMICONDUCTOR

**8.0 AMPS. Surface Mount Schottky Barrier Rectifiers**

RoHS COMPLIANCE

**SMC/DO-214AB**




Dimensions in inches and (millimeters)

## 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: Solder plated
- Polarity: Indicated by cathode band
- Packaging: 16mm tape per EIA STD RS-481
- Weight: 0.21 gram

## 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 82C | SK 83C | SK 84C | SK 85C | SK 86C | Units |
|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | $V_{RRM}$ | 20 | 30 | 40 | 50 | 60 | V |
| Maximum RMS Voltage | $V_{RMS}$ | 14 | 21 | 28 | 35 | 42 | V |
| Maximum DC Blocking Voltage | $V_{DC}$ | 20 | 30 | 40 | 50 | 60 | V |
| Maximum Average Forward Rectified Current at $T_L$ (See Fig. 1) | $I_{(AV)}$ | 8.0 | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method ) | $I_{FSM}$ | 150 | | | | | A |
| Maximum Instantaneous Forward Voltage (Note 1) @8.0A | $V_F$ | 0.55 | | | 0.75 | | V |
| Maximum DC Reverse Current @ $T_A$ =25°C | $I_R$ | 0.5 | | | | | mA |
| at Rated DC Blocking Voltage @ $T_A$=100°C | | 15 | | | 10 | | mA |
| Typical Thermal Resistance ( Note 2 ) | $R_{\theta JA}$ | 20 | | | | | °C /W |
| Operating Temperature Range | $T_J$ | -55 to +125 | | | -55 to +150 | | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | | | | | °C |

Notes: 1. Pulse Test with PW=300 usec, 1% Duty Cycle
2. Measured on P.C.Board with 0.6 x 0.6" (16.0 x 16.0mm) Copper Pad Areas.

TAIWAN SEMICONDUCTOR

# RATINGS AND CHARACTERISTIC CURVES ( SK82C THRU SK86C)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

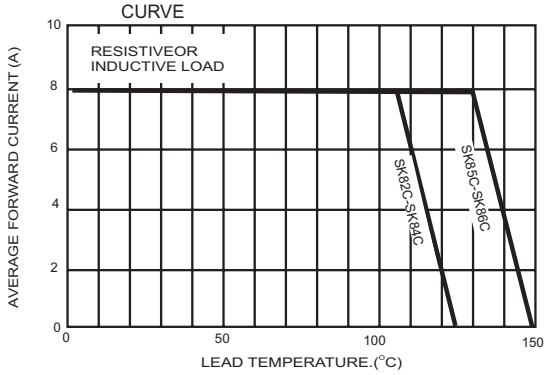



FIG.2-MAXIMUM NON-REPETIVE PEAK FORWARD SURGE CURRENT

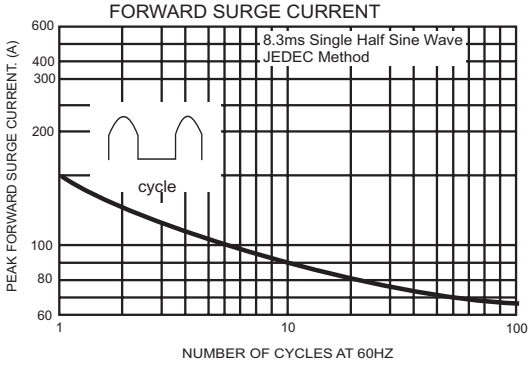



FIG.3-TYPICAL FORWARD CHARACTERISTICS

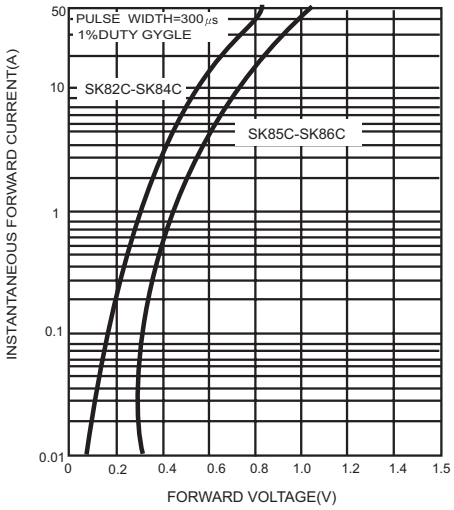



FIG.4-TYPICAL REVERSE CHARACTERISTICS

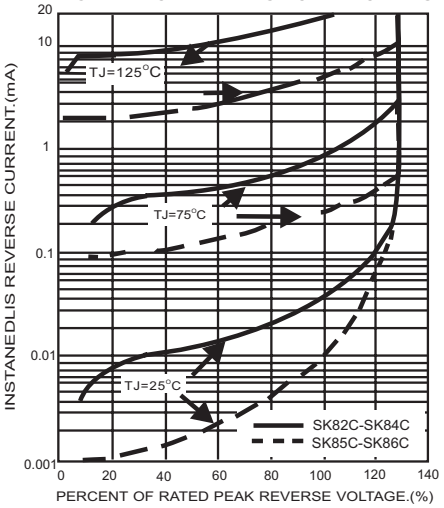



FIG.5-TYPICAL JUNCTION CAPACITANCE

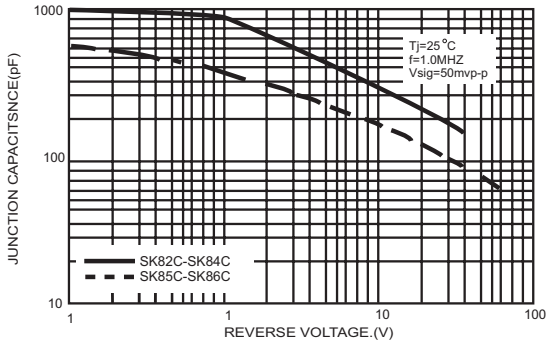
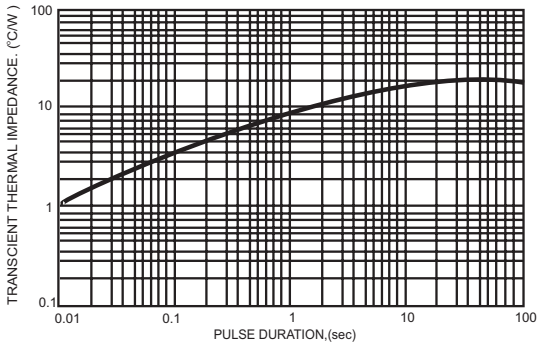



FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS




Version: A07