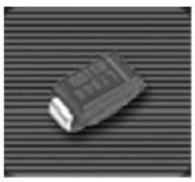
SYNSEMI SEMICONDUCTOR

# SK12 thru SK16

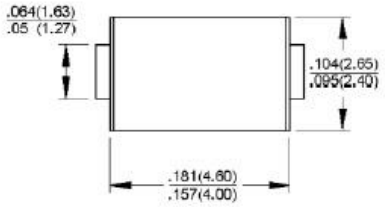
1.0 Amp. Surface Mount Schottky Barrier Rectifiers
Voltage Range 20 to 60 Volts Forward Current 1.0 Ampere

## Features

- For surface mounted applications
- Metal-Semiconductor junction with guardring
- Epitaxial construction
- Very low forward voltage drop
- High current capability
- Plastic material has UL flammability classification 94V-0
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

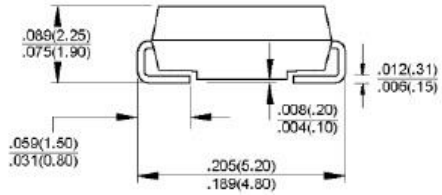


**DO-214AC (SMA)**




## Mechanical Data

- Case : JEDEC DO-214AC(SMA) molded plastic
- Polarity : Indicated by cathode band
- Weight : 0.002 ounce, 0.064 gram




**Dimensions in inches and (millimeters)**

## Maximum Ratings and Electrical 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%

| Parameter | Symbols | SK12 | SK13 | SK14 | SK15 | SK16 | Units |
|---|---|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 20 | 30 | 40 | 50 | 60 | Volts |
| Maximum RMS voltage | $V_{RMS}$ | 14 | 21 | 28 | 35 | 42 | Volts |
| Maximum DC blocking voltage | $V_{DC}$ | 20 | 30 | 40 | 50 | 60 | Volts |
| Maximum average forward rectified current @$T_L$=100°C | $I_{(AV)}$ | 1.0 | | | | | Amp |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 30.0 | | | | | Amps |
| Maximum forward voltage at 1.0A DC | $V_F$ | 0.50 | | | 0.70 | | Volts |
| Maximum DC reverse current @$T_J$=25°C<br>at rated DC blocking voltage @$T_J$=100°C | $I_R$ | 0.5<br>10.0 | | | | | mA |
| Typical junction capacitance (Note 1) | $C_J$ | 110 | | | | | pF |
| Typical thermal resistance (Note 2) | $R_{\theta JL}$ | 20 | | | | | °C/W |
| Operating temperature range | $T_J$ | -55 to +125 | | | | | °C |
| Storage temperature range | $T_{STG}$ | -55 to +150 | | | | | °C |

**Notes:** 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
2. Thermal Resistance Junction to Lead.

# SK12 thru SK16

## RATINGS AND CHARACTERISTIC CURVES

FIG.1 - FORWARD CURRENT DERATING CURVE

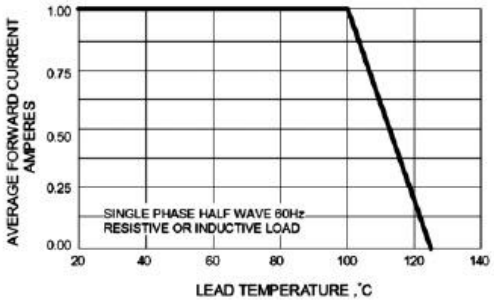



FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

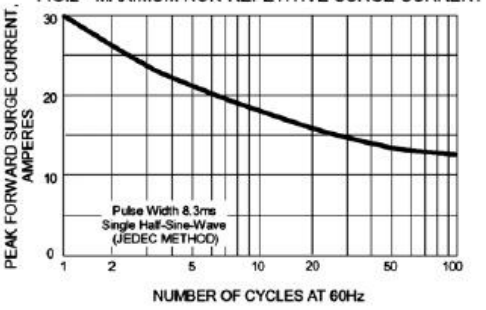



FIG.3 - TYPICAL FORWARD CHARACTERISTICS

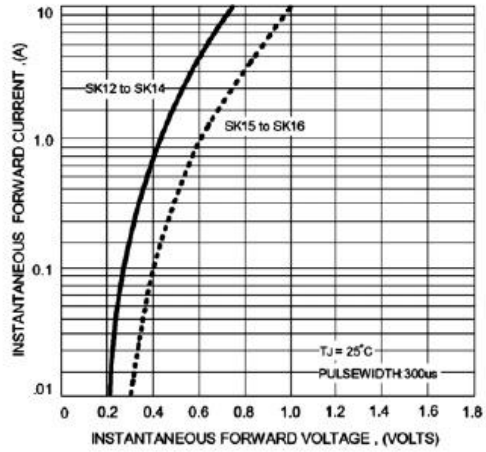



FIG.4 - TYPICAL JUNCTION CAPACITANCE

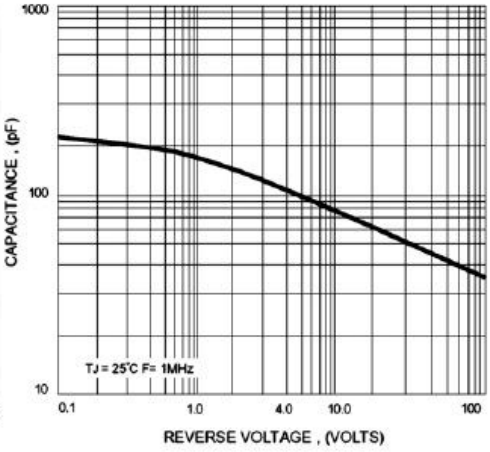



FIG.5 - TYPICAL REVERSE CHARACTERISTICS