

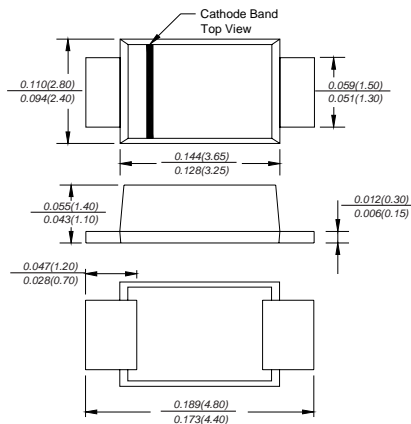


# SK52F THRU SK5200F

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 20 to 200 Volts Forward Current - 5.0 Ampere

### SMAF



### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 260°C/10 seconds at terminals

### MECHANICAL DATA

**Case:** JEDEC SMAF molded plastic body  
**Terminals:** leads solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight:** 0.0018 ounce, 0.064 grams

## 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 current derate by 20%.

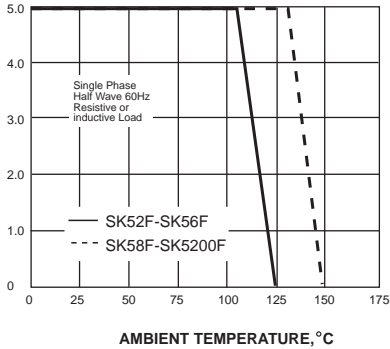
| MDD Catalog Number  | SYMBOLS         | SK52F       | SK53F | SK54F | SK55F | SK56F | SK58F       | SKS510 | SKS150F | SK5200F | UNITS |
|---|-----------------|-------------|-------|-------|-------|-------|-------------|--------|---------|---------|-------|
| Maximum repetitive peak reverse voltage   | $V_{RRM}$       | 20          | 30    | 40    | 50    | 60    | 80          | 100    | 150     | 200     | VOLTS |
| Maximum RMS voltage   | $V_{RMS}$       | 14          | 21    | 28    | 35    | 42    | 56          | 70     | 105     | 140     | VOLTS |
| Maximum DC blocking voltage   | $V_{DC}$        | 20          | 30    | 40    | 50    | 60    | 80          | 100    | 150     | 200     | VOLTS |
| Maximum average forward rectified current at $T_L$ (see fig.1)  | $I_{(AV)}$      | 5.0         |       |       |       |       |             |        |         |         | Amp   |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on rated load (JEDEC Method)             | $I_{FSM}$       | 150.0       |       |       |       |       |             |        |         |         | Amps  |
| Maximum instantaneous forward voltage at 5.0A   | $V_F$           | 0.55        |       | 0.70  |       | 0.85  |             | 0.95   |         | Volts   |       |
| Maximum DC reverse current<br>at rated DC blocking voltage<br>$T_A=25^\circ\text{C}$<br>$T_A=100^\circ\text{C}$ | $I_R$           | 0.5         |       |       |       | 10    |             | 2.0    |         | mA      |       |
| Typical junction capacitance (NOTE 1)   | $C_J$           | 200         |       |       |       |       |             |        |         |         | pF    |
| Typical thermal resistance (NOTE 2)   | $R_{\theta JA}$ | 50.0        |       |       |       |       |             |        |         |         | °C/W  |
| Operating junction temperature range  | $T_J$           | -50 to +125 |       |       |       |       | -50 to +150 |        |         |         | °C    |
| Storage temperature range   | $T_{STG}$       | -50 to +150 |       |       |       |       |             |        |         |         | °C    |

**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 2. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

# RATINGS AND CHARACTERISTIC CURVES SK52F THRU SK5200F

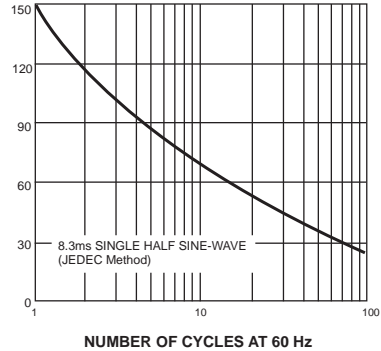
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



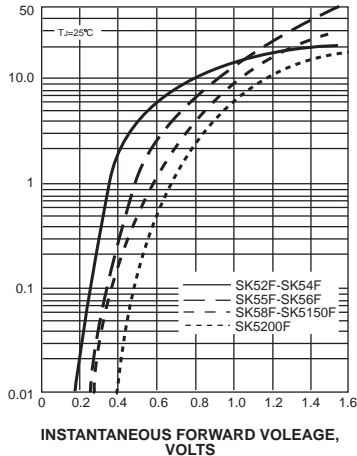
PEAK FORWARD SURGE CURRENT, AMPERES

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



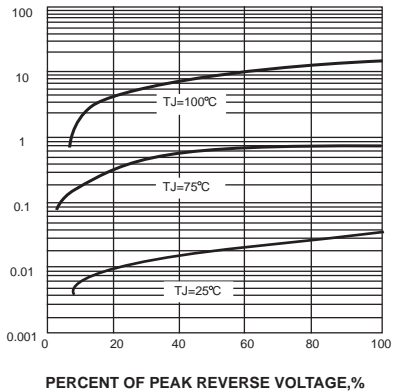
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



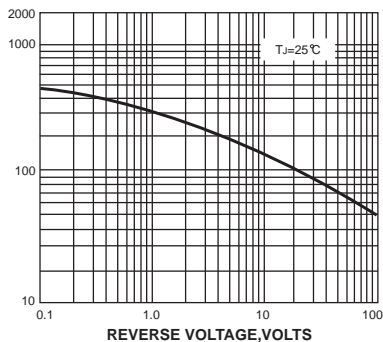
INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

