SK12 THRU SK110

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIERS
Reverse Voltage – 20 to 100 Volts
Forward Current – 1.0 Ampere

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:
  250° /10 seconds at terminals

Mechanical Data
- Case: JEDEC DO-214AA molded plastic body
- Terminals: leads solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any

Maximum Ratings and Electrical Characteristics @ 25°C unless otherwise specified.
Single phase, half-wave, 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

<table>
<thead>
<tr>
<th></th>
<th>Symbols</th>
<th>SK12</th>
<th>SK13</th>
<th>SK14</th>
<th>SK15</th>
<th>SK16</th>
<th>SK18</th>
<th>SK110</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum repetitive peak reverse voltage</td>
<td>$V_{RRM}$</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>80</td>
<td>100</td>
<td>V</td>
</tr>
<tr>
<td>Maximum RMS voltage</td>
<td>$V_{RMS}$</td>
<td>14</td>
<td>21</td>
<td>28</td>
<td>35</td>
<td>42</td>
<td>56</td>
<td>70</td>
<td>V</td>
</tr>
<tr>
<td>Maximum DC blocking voltage</td>
<td>$V_{DC}$</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>80</td>
<td>100</td>
<td>V</td>
</tr>
<tr>
<td>Maximum average forward rectified current at $T_L$ (see fig.1)</td>
<td>$I_{F(AV)}$</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A</td>
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<tr>
<td>Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)</td>
<td>$I_{FSM}$</td>
<td>40.0</td>
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<td></td>
<td>A</td>
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<tr>
<td>Maximum instantaneous forward voltage at 1.0A</td>
<td>$V_F$</td>
<td>0.45</td>
<td>0.55</td>
<td>0.70</td>
<td>0.85</td>
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<td>V</td>
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<tr>
<td>Maximum DC reverse current at rated DC blocking voltage $T_A = 25^\circ C$</td>
<td>$I_R$</td>
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<td>0.5</td>
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<td></td>
<td></td>
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<td>mA</td>
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<td>$T_A = 100^\circ C$</td>
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<td></td>
<td>6.0</td>
<td>5.0</td>
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<tr>
<td>Typical junction capacitance (Note 1)</td>
<td>$C_J$</td>
<td>110</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>pF</td>
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<td>Typical thermal resistance (Note 2)</td>
<td>$R_{TH}$</td>
<td>88.0</td>
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<td>°C/W</td>
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<td>Operating junction temperature range</td>
<td>$T_J$</td>
<td>-65 to +125</td>
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<td></td>
<td></td>
<td>°C</td>
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<td>Storage temperature range</td>
<td>$T_{STG}$</td>
<td>-65 to +150</td>
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<td></td>
<td></td>
<td></td>
<td>°C</td>
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</tbody>
</table>

Notes:
1. Measured at 1 MHz and applied reverse voltage of 4.0 volts D.C.
2. P.C.B. mounted with 0.2x0.2 (5.0x5.0mm) copper pad areas.
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**Fig. 1 - Forward Current Derating Curve**

- **SK12-SK14**
- **SK15-SK110**

Average Forward Rectified Current (A) vs. Ambient Temperature (°C)

**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current**

Peak Forward Surge Current (A) vs. Number of Cycles at 60 Hz

**Fig. 3 - Typical Instantaneous Forward Characteristics**

- Instantaneous Forward Current vs. Instantaneous Forward Voltage

**Fig. 4 - Typical Reverse Characteristics**

- Instantaneous Reverse Current vs. Instantaneous Forward Voltage

**Fig. 5 - Typical Junction Capacitance**

- Junction Capacitance (pF) vs. Reverse Voltage (V)

**Fig. 6 - Typical Transient Thermal Impedance**

- Transient Thermal Impedance (Ω) vs. Pulse Duration (sec.)

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