High-temperature SCRs for industrial applications

The high-temperature silicon-controlled rectifiers (SCR) are the best answer for AC powerline switching solutions

Available in through-hole and surface-mount packages, ST’s silicon-controlled rectifiers provide designers with a component with temperature headroom for heatsink reduction or more compactness.

The voltage surge immunity is fully specified at 150 °C, ensuring designs are precise and secure.

These 12 to 80 A SCRs are ideal for use in charging stations, solid-state relays, inrush current limiters, motor starters, SMPS, UPS, and renewable-energy junction boxes.

KEY FEATURES
- $T_J$: 150 °C (max.)
- On-state RMS current: 12 to 80 A
- Blocking voltages: 600 V, 800 V, 1200 V
- High turn-on robustness: 200 A/μs
- High off-state immunity: 1000 V/μs
- ECOPACK2 compliant

KEY BENEFITS
- Compact circuit with high immunity
- Easy design with maximum temperature parameters
- Bounce-free and low-leakage static switching

KEY APPLICATIONS
- Industrial or electric vehicle (EV) charging stations
- Solid-state relays
- Inrush current limiters
- Bypass switches in uninterruptible power supplies
- Starters and inrush control circuits for motor drives
INRUSH CURRENT LIMITER DEMOBOARDS

**STEVAL-SCR001V1**
Our low-cost evaluation board for testing inrush current limitation solutions.

**STEVAL-ISF003V1**
Power front-end designed to limit inrush current for compliance with IEC 61000-3-3 specifications. Also reduces steady-state and standby losses.

---

**UP TO 300W**
- TN5015H-6G

**UP TO 800W**
- TN2010H-6G

---

**DEVICE SUMMARY**

<table>
<thead>
<tr>
<th>Product type</th>
<th>Description</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-temperature SCRs</td>
<td>600V H series SCR</td>
<td>TNxx10H-6FP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TNxx15H-6I</td>
</tr>
<tr>
<td>High-voltage SCRs</td>
<td>1200V / 150°C SCR</td>
<td>TNxx50H-12WY</td>
</tr>
</tbody>
</table>

---

**STEVAL-SCR001V1**
Our low-cost evaluation board for testing inrush current limitation solutions.

---

**STEVAL-ISF003V1**
Power front-end designed to limit inrush current for compliance with IEC 61000-3-3 specifications. Also reduces steady-state and standby losses.