SPX2094 Series

30 nsec
15,000 VOLTS
HIGH VOLTAGE
RECTIFIER BRIDGE STACK

FEATURES:
- Aerospace High Voltage Power Supply Applications
- Low Mechanical Stress Design
- Excellent Thermal Management - 2.5°C/W
- TX, TXV, and Space Level Screening Available

Consult Factory For:
- Higher Blocking Voltages
- Faster Switching Time
- Other Electrical Configurations

MAXIMUM RATINGS

<table>
<thead>
<tr>
<th>CHARACTERISTIC</th>
<th>SYMBOL</th>
<th>VALUE</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Repetitive Reverse and DC Blocking Voltage (Module)</td>
<td>$V_{R(MODULE)}$</td>
<td>15,000</td>
<td>V</td>
</tr>
<tr>
<td>Peak Repetitive Reverse and DC Blocking Voltage (Each Bridge)</td>
<td>$V_R$</td>
<td>2700</td>
<td>Volts</td>
</tr>
<tr>
<td>Average Rectified Forward Current (Non-Repetitive, $t = 8.3$ ms Pulse)</td>
<td>$I_D$</td>
<td>1</td>
<td>Amps</td>
</tr>
<tr>
<td>Peak Surge Current (Non-Repetitive, $t = 8.3$ ms Pulse, $T_A = 25°C$)</td>
<td>$I_{FSM}$</td>
<td>25</td>
<td>Amps</td>
</tr>
<tr>
<td>Storage &amp; Operating Temperature Range</td>
<td>$T_{OP} &amp; T_{STG}$</td>
<td>-65 to +150</td>
<td>°C</td>
</tr>
<tr>
<td>Thermal Resistance, Junction to Base</td>
<td>$\theta_{JB}$</td>
<td>2.5</td>
<td>°C/W</td>
</tr>
</tbody>
</table>

Notes:
1/ For ordering information, price, and availability - Contact Factory.
2/ Screening based on MIL-PRF-19500. Screening flows available on request.
3/ For each dash number, refer to $V_{R(MODULE)}$ rating, schematic, and outline.

Designer’s Data Sheet

Part Number/Ordering Information 1/

SPX2094-

Finish
- Standard Case
- SAB = Sand Blasted Case

Screening 2/
- Not Screened
- TX = TX Level
- TXV = TXV
- S = S Level

Dash Number 2/

MAXIMUM RATINGS

DATA SHEET #: PM0031C

NOTE: All specifications are subject to change without notification. SCD’s for these devices should be reviewed by SSDI prior to release.
### ELECTRICAL CHARACTERISTICS, Each Bridge Leg, @ TA = 25°C (Unless Otherwise Specified)

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>SYMBOL</th>
<th>MIN</th>
<th>MAX</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instantaneous Forward Voltage Drop (IF = 1.0A, 300μsec Pulse Minimum)</td>
<td>$V_{F1}$</td>
<td>---</td>
<td>6</td>
<td>Volts</td>
</tr>
<tr>
<td>Reverse Leakage (VR = 2,500V, 300μsec Pulse Minimum)</td>
<td>$I_{R1}$</td>
<td>$T_A = 25^\circ$C</td>
<td>---</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>$I_{R2}$</td>
<td>$T_A = 100^\circ$C</td>
<td>---</td>
<td>200</td>
</tr>
<tr>
<td>Insulation Resistance (All Terminals to Base @ 15,000V)</td>
<td>$R_{INSUL1}$</td>
<td>10</td>
<td>---</td>
<td>GΩ</td>
</tr>
<tr>
<td>Reverse Recovery Time (IF = 0.5A, $I_R = 1.0A$, $I_{RR} = 0.25A$)</td>
<td>$t_{rr}$</td>
<td>--</td>
<td>30</td>
<td>nsec</td>
</tr>
</tbody>
</table>

#### SPX2094 Schematic

![SPX2094 Schematic]

#### SPX2094 Outline

![SPX2094 Outline]

**Tolerances (Unless Specified):**
- .XX ± .03
- .XXX ± .010