**Features:**
Panel Mountable
Fully Connectorized
Wirewound High-Temperature Ceramic Resistors
WIMA Metal Film Capacitors

**Applications:**
Plating Rectifiers
Battery Chargers
Wind Turbine Controllers
DC Drives
Semiconverters
UPS Systems
Transformer Primary Controllers

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**TSB Connectorized Snubber Circuit Boards**

**Description**
Enerpro’s TSB family of snubber circuit boards provide high-quality RC snubber circuits in a convenient, connectorized, panel-mountable package. Models with one, two, three and six circuits are available. These boards provide the static power conversion industry with a rugged, reliable snubber product that reduces design time and minimizes inventory requirements.

**Application**
In SCR converters or AC controllers, a high rate-of-rise in anode-to-cathode voltage, or $dV/dt$, occurs when an SCR conducts or commutates. Inductive loads typically induce high peak voltages when the SCR current is interrupted. Resistor-capacitor snubber circuits limit the $dV/dt$ across the SCRs, preventing erratic operation and device damage.

**Available Circuits**
- **TSB-1**: Single RC circuit for use in anti-parallel SCR AC controller applications.
- **TSB-2**: Two RC circuits for use in SCR bridge rectifier circuits or other applications where two SCRs share a common connection.
- **TSB-3**: Three RC circuits for three-phase AC controllers or semiconverters.
- **TSB-6**: Six RC circuits provide flexibility for a variety of three-phase applications, including:
  - In-line AC controllers
  - Two-speed motor starters
  - Reversing motor starters
  - Star converters
  - Six- or twelve-pulse bridge converters
  - Tap changers

**Operational Features**
The TSB family utilizes WIMA brand high voltage, pulse-rated metal film capacitors exclusively for their superior performance, reliability, and service life.

- **WIMA Metal Film Capacitors**
- **Amp Universal Mate-N-Lok® connectors** provide easy installation and replacement; connector tooling is identical to all other Enerpro firing and regulator board products.
- **Creepage distances exceed 10 mm (0.4 inches)** for operation to 600 Vac as specified in UL-508.

All circuit boards are assembled at the Enerpro plant in Goleta, California and are manufactured by a UL-approved fabricator from 2.4 mm thick FR4 fire-resistant fiberglass epoxy laminate with one-ounce copper and full solder mask. All boards are protected with urethane conformal coating per MIL-1-46058, Type UR to provide excellent performance at high line voltages.

Enerpro applications engineers are available by e-mail or fax for applications assistance.
### Board Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>L x W x D (mm)</th>
<th>Mounting Centers (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSB-1</td>
<td>64 x 127 x 31</td>
<td>48 X 115</td>
</tr>
<tr>
<td>TSB-2</td>
<td>112 x 127 x 31</td>
<td>97 X 115</td>
</tr>
<tr>
<td>TSB-3/6</td>
<td>191 x 127 x 31</td>
<td>172 x 115</td>
</tr>
<tr>
<td>TSB-6/12</td>
<td>191 x 153 x 31</td>
<td>172 x 127</td>
</tr>
</tbody>
</table>

### Ordering Guide

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Snubber Circuits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Mains Voltage</td>
<td>Note maximum ac mains voltage</td>
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</tr>
<tr>
<td>Load Type</td>
<td>AC</td>
<td>DC</td>
</tr>
<tr>
<td>Capacitor Value (μF x 100)</td>
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<td></td>
</tr>
<tr>
<td>Resistor Value (Ohms)</td>
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<td></td>
</tr>
<tr>
<td>Resistor Power (Watts)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connector Type</td>
<td>0 Right-angle</td>
<td>1 Vertical</td>
</tr>
</tbody>
</table>

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