Type THV Precision High Voltage Divider Networks

The Type THV Precision High Voltage Divider Networks introduce Caddock's advanced high voltage resistor technology which doubles the allowable working voltage over the length of the high voltage section. This technology combines Caddock's Tetrex® resistance films with a patented laser-generated V-Notch Geometry which optimizes the voltage gradient over the length of the resistance pattern.

Type THV networks provide tighter ratio temperature coefficients and tighter ratio tolerances than have previously been available in standard high voltage divider products.

- Ratio Temperature Coefficients of 10 ppm/°C or 25 ppm/°C from -55°C to +125°C.
- Ratio Tolerances of ±0.25%, ±0.5%, or ±1.0% at Rated Voltage.
- Voltage Ratings of 10 KVDC or 15 KVDC
- Standard Voltage Division Ratios of 1,000:1 or 100:1, with custom ratios available.

These specifications can provide important improvements in performance in many types of advanced electronic systems, including, TWT power supplies, radar systems, X-ray systems, analytical equipment, and high resolution CRT displays.

### Standard Type THV Precision High Voltage Divider Networks

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Voltage Rating</th>
<th>Ratio Code Letter</th>
<th>Voltage Division</th>
<th>Resistance</th>
<th>Dimensions Inches (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>R1</td>
<td>R2</td>
<td>Total</td>
</tr>
<tr>
<td>THV10</td>
<td>10 KVDC</td>
<td>A</td>
<td>1.000:1</td>
<td>99.9 Meg</td>
<td>100 K</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>100:1</td>
<td>99 Meg</td>
<td>1 Meg</td>
</tr>
<tr>
<td>THV15</td>
<td>15 KVDC</td>
<td>A</td>
<td>1.000:1</td>
<td>149.85 Meg</td>
<td>150 K</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>100:1</td>
<td>148.5 Meg</td>
<td>1.5 Meg</td>
</tr>
</tbody>
</table>

Ordering Information: THV10 - A 100M - 1.0 - 10

<table>
<thead>
<tr>
<th>Ratio Code Letter:</th>
<th>Total Resistance Value of the Divider:</th>
</tr>
</thead>
<tbody>
<tr>
<td>100M - 1.0 - 10</td>
<td>100 Meg (2.04 inches)</td>
</tr>
</tbody>
</table>

### Specifications:

- **Ratio Tolerance:** See ordering information.
- **Absolute Tolerance:** ±1.0% for all resistors.
- **Ratio Temperature Coefficient:** See ordering information.
- **Absolute Temperature Coefficient:** 30 ppm/°C referenced to +25°C, ΔR taken at -55°C and +125°C.
- **Voltage Rating:** Rated voltage applied to R1 and R2 in series.
- **Load Life:** Ratio change with rated voltage applied for 1,000 hours at +125°C, 0.4% max.
- **Overvoltage:** 1.5 times rated voltage for 5 seconds, ratio change 0.5% max.
- **Thermal Shock:** Mil-Std-202, Method 107, Cond. C, ratio change 0.25% max.
- **Moisture Resistance:** Mil-Std-202, Method 106, ratio change 0.5% max.
- **Solderable Leads:**
- **Encapsulation:** High Temperature Silicone Conformal with Dielectric Withstanding Voltage of 750 volts.
- **Insulation Resistance:** 10,000 Megohms, min.

**Derating Curve:**

- **RATED VOLTAGE:** 100% at 0°C, 50% at 25°C, 20% at 75°C, 10% at 125°C, 5% at 175°C, 2% at 225°C.
- **AMBIENT TEMPERATURE:** 25°C, 75°C, 125°C, 175°C, 225°C.

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