The Diodes’ Advantage

ZXTR2000 family of devices are series linear regulators using an emitter-follower stage as the pass-through element.

- **Smaller footprint**
  Monolithically integrating a transistor, Zener diode and resistor into a single SOT89 package that helps to reduce component count and footprint.

- **100V Vin**
  High voltage capability means that the input will effectively tolerate spurious voltages up to a maximum of 100V, ensuring a good safety margin in the event of transient over-voltage conditions.

- **Line and Load regulation**
  Output voltage is regulated under both line and load fluctuations ensuring the continued supply and preventing latch-up due to transient voltage drops.

Applications

- Power supply regulation in:
  - Telecoms
  - Networking & Data Storage
  - Power Over Ethernet (PoE)

Compliance

- AEC-Q101 qualified
- Fully RoHS compliant
- “Green” Device
- ESD rugged

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Integrated high-voltage regulator transistors that boost power circuit densities, through reductions in component count and footprint.

With the ability to take <100V input and generate a fixed output voltages of 5V, 8V and 12V ±10%, the regulator transistors provide a high-voltage regulation solution where standard linear regulators cannot be used.

These regulator transistors suit 48V DC-DC power system design in telecoms, networking, data storage and PoE, particularly for supplying a regulated voltage into the primary-side, fan or micro controllers.

For samples and quotations please contact your nearest Diodes sales office or representative.
New Product Announcement  
ZXTR2000 Family

Examples of Regulator Transistor Circuits

+5V power supply to a primary side micro-controller in a DC-DC converter

Regulator Transistors

<table>
<thead>
<tr>
<th>Parameter</th>
<th>ZXTR2005Z</th>
<th>ZXTR2008Z</th>
<th>ZXTR2012Z (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Voltage Range</td>
<td>10 to 100V</td>
<td>12 to 100V</td>
<td>15 to 100V</td>
</tr>
<tr>
<td>Regulated Output Voltage</td>
<td>5V ± 10%</td>
<td>8.2V ± 10%</td>
<td>12.3V ± 10%</td>
</tr>
<tr>
<td>Continuous Output Current</td>
<td>30mA</td>
<td>30mA</td>
<td>30mA</td>
</tr>
<tr>
<td>Quiescent current</td>
<td>&lt;500µA</td>
<td>&lt;500µA</td>
<td>&lt;400µA</td>
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<tr>
<td>Line Regulation</td>
<td>&lt;300mV</td>
<td>&lt;300mV</td>
<td>&lt;800mV</td>
</tr>
<tr>
<td>Temperature Coefficient</td>
<td>7mV/°C</td>
<td>10mV/°C</td>
<td>TBA</td>
</tr>
<tr>
<td>Load Regulation</td>
<td>&lt;300mV</td>
<td>&lt;300mV</td>
<td>&lt;500mV</td>
</tr>
<tr>
<td>Power Supply Rejection Ratio</td>
<td>48dB</td>
<td>8dB</td>
<td>TBA</td>
</tr>
<tr>
<td>Temperature Range (Note 2)</td>
<td>-40 to 125°C</td>
<td>-40 to 125°C</td>
<td>-40 to 125°C</td>
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<tr>
<td>Package</td>
<td>SOT89</td>
<td>SOT89</td>
<td>SOT89</td>
</tr>
</tbody>
</table>

Note 1. ZXTR2012Z part is available for sampling. Production release in Q3 2013.
2. Up to a maximum junction temperature of 150degC.