Issue Number | 001
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New Product Announcement

ZXTR2000 Family

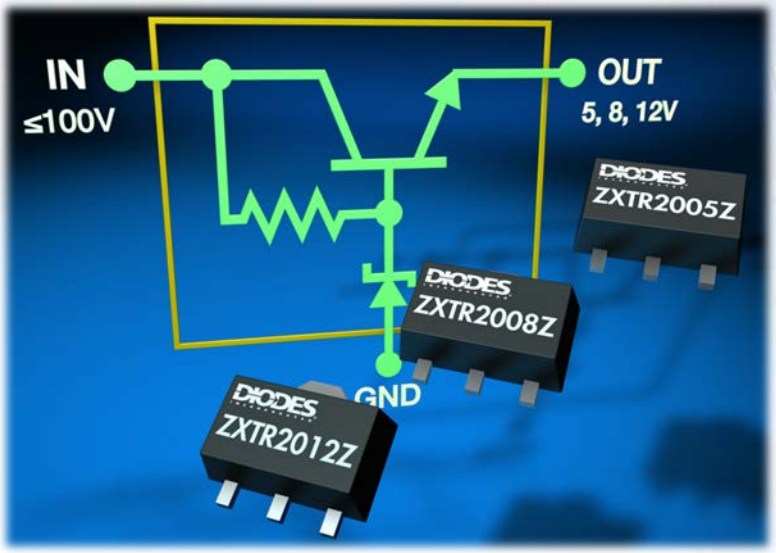
High-Voltage Regulator Transistors

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.



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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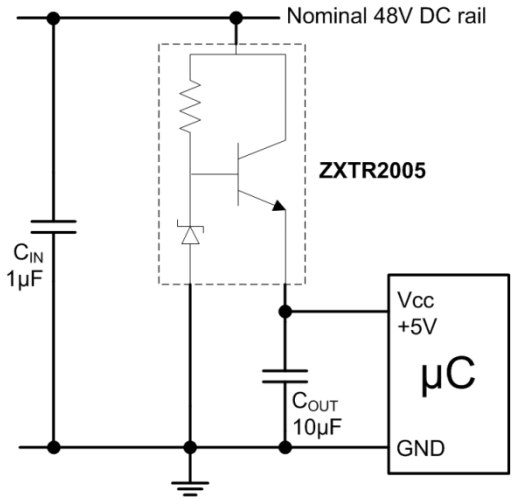
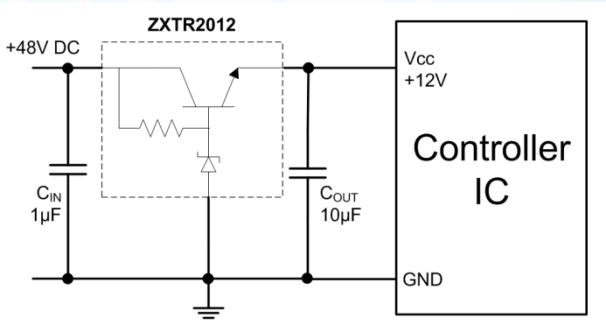
Examples of Regulator Transistor Circuits



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



+12V power supply to a controller from a 48V DC telecoms rail

Regulator Transistors

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

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