

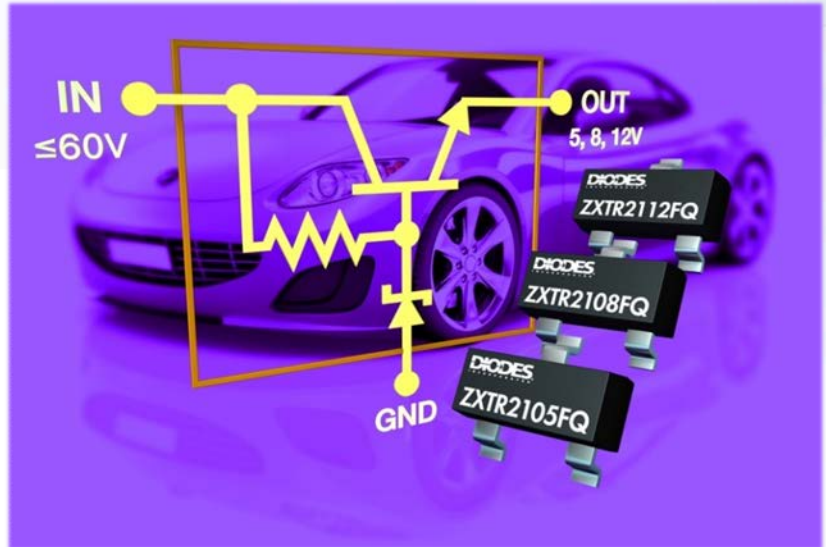


Automotive-Grade Regulators Deliver 5V, 8V, 12V Outputs and Tolerate 60V Battery Transients

ZXTR21xxFQ are regulator transistors that are qualified to AEC-Q101 standards for high reliability and are PPAP capable.

Designed to deliver 5V, 8V or 12V regulated outputs from nominal battery supplies of 12V or 24V, they are ideal for powering vehicle electronics as they can tolerate battery voltage spikes up to 60V where standard linear regulators cannot be used.

The devices' 60V maximum input rating ensures sufficient headroom in the event of transient overvoltage conditions while their excellent line and load regulation safeguards continuous operation by ensuring transient voltage drops cannot cause latch-up, further contributing to system reliability.



The Diodes Advantage

The ZXTR21xxFQ are Automotive-Grade regulator transistors that can tolerate battery voltage spikes up to 60V.

▪ Smaller footprint

Monolithically integrating a transistor, Zener diode and resistor into a SOT23 to reduce footprint while increasing power density and reliability.

▪ 5V \pm 5% / 8V \pm 10% / 12V \pm 10% Vout

Deliver 5V, 8V or 12V regulated outputs from nominal battery supplies of 12V or 24V, while also 60V input capable in the event of overvoltage.

▪ Line and Load regulation

Safeguards continuous operation by eliminating latch-up during transient voltage drops.

Applications

Supply voltage regulation in:

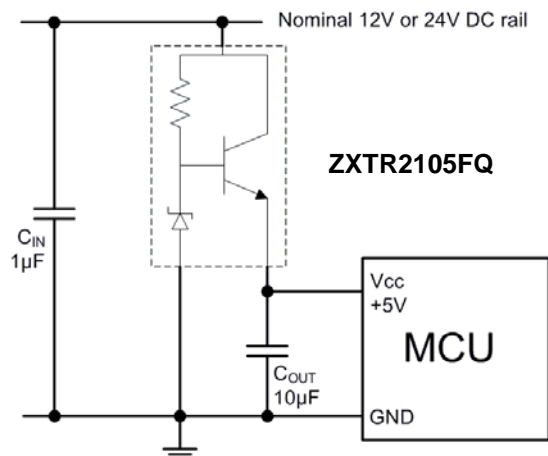
- 12V to 5V Rails
- 24V to 5V/8V/12V Rails

Compliance

- PPAP Capable
- AEC-Q101 Qualified
- Fully RoHS & "Green" compliant
- ESD Rugged



Example of a Regulator Transistor Circuit



Example of a 5V power supply regulated by ZXTR2105FQ from a nominal 12V / 24V for powering a micro-controller

Automotive-Grade Regulators

Parameter	ZXTR2105FQ	ZXTR2108FQ	ZXTR2112FQ
Input Voltage Range	7 to 60V	10 to 60V	15 to 60V
Regulated Output Voltage	5V ± 5%	8V ± 10%	12V ± 10%
Continuous Output Current	15mA	15mA	15mA
Peak Output Current	2A	2A	2A
Quiescent Current	450µA	260µA	160µA
Line Regulation	<220mV	<50mV	<100mV
Temperature Coefficient	3.52mV/°C	7.2mV/°C	10.4mV/°C
Load Regulation	<130mV	<50mV	<100mV
PSRR	46dB	45dB	50dB
Temperature Range	-65 to 150°C		
Package	SOT23		