

NEW PRODUCT OVERVIEW



A New Direction in Mixed-Signal

XR76203
XR76205
XR76208

40V PowerBlox™
3A, 5A, and 8A Synchronous Step
Down COT Regulators

The XR76203, XR76205 and XR76208 are synchronous step-down regulators combining the controller, drivers, bootstrap diode and MOSFETs in a single package for point-of-load supplies. The XR76203, XR76205 and XR76208 have load current ratings of 3A, 5A and 8A respectively. A wide 5V to 40V input voltage range allows for single supply operation from industry standard 24V ±10%, 18V-36V, and rectified 18VAC and 24VAC rails.

With a proprietary emulated current mode Constant On-Time (COT) control scheme, the XR76203, XR76205 and XR76208 provide extremely fast line and load transient response using ceramic output capacitors. They require no loop compensation, simplifying circuit implementation and reducing overall component count. The control loop also provides 0.07% load and 0.15% line regulation and maintains constant operating frequency. A selectable power saving mode allows the user to operate in discontinuous conduction mode (DCM) at light current loads thereby significantly increasing the converter efficiency.

Features

- 3A/5A/8A Point-of-Load step down regulators
- Wide 5.0V to 40V input voltage range
 - 3V to 40V PVIN with 5V bias
 - 4.5V to 5.5V single supply operation
 - >0.6V adjustable output voltage
- Constant on-time control
 - Emulated valley current mode
 - Programmable 150ns-2µs on-time
 - Constant 100kHz-800kHz switching frequency
 - Selectable CCM or CCM/DCM modes
 - Stable with ceramic output caps
 - No compensation required
- Programmable current limit
- 110ms hiccup mode
- Precision enable and power-good flag
- Programmable soft-start
- Integrated bootstrap diode
- 5x5mm QFN package - common scalable footprint

Target Applications

- Point of Load Conversion
- Distributed Power Architecture
- FPGA/DSP/Processor Supplies
- Industrial PCs
- Switches/Routers
- Servers
- Base Stations
- FPGA/DSP/Processor Supplies

Sales Message:

40V 3/5/8A synchronous step down regulators in a small 5x5mm QFN package utilize Exar's proprietary constant on-time architecture to provide superior line/load regulation, fast transient response and stability with ceramic output capacitors.

Website:

[XR76203 Web Page](#)
[XR76205 Web Page](#)
[XR76208 Web Page](#)

Competition:

Solutions from MPR, Semtech, IR and TI

Part Numbers / Packages:

XR76208EL-F :	QFN-30 (tray)
XR76208ELTR-F:	QFN-30 (tape & reel)
XR76208ELMTR-F:	QFN-30 (mini tape & reel)

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XR76205EL-F :	QFN-30 (tray)
XR76205ELTR-F:	QFN-30 (tape & reel)
XR76205ELMTR-F:	QFN-30 (mini tape & reel)
XR76203EL-F :	QFN-30 (tray)
XR76203ELTR-F:	QFN-30 (tape & reel)
XR76203ELMTR-F:	QFN-30 (mini tape & reel)

Lead Time:

Contact customersupport@exar.com

Evaluation Board:

XR76203EVB
XR76205EVB
XR76208EVB

Technical Support:

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