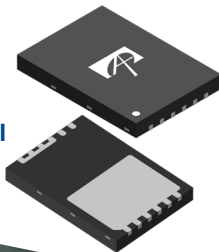




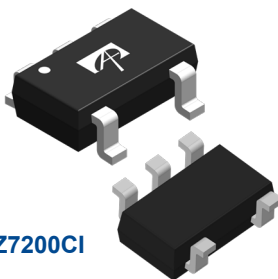
AlphaZBL™ AC/DC Active Bridge Rectifier

- Benefit for all AC/DC power supplies with high-efficiency requirements such as Adapters, PC, AIO, Server, Telecom
- Synchronous rectifier replacement for lossy high voltage bridge rectifier
- Self-powered Vcc in AC systems with ultra-low quiescent current
- Integrated 190mΩ or 125mΩ 600V N-channel MOSFET (AOZ7270DI or AOZ7271DV)

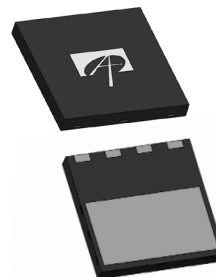
AOZ7270DI



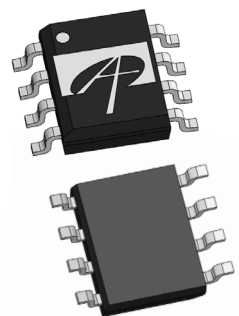
AOZ7200CI



AOZ7271DV



AOZ7203AV



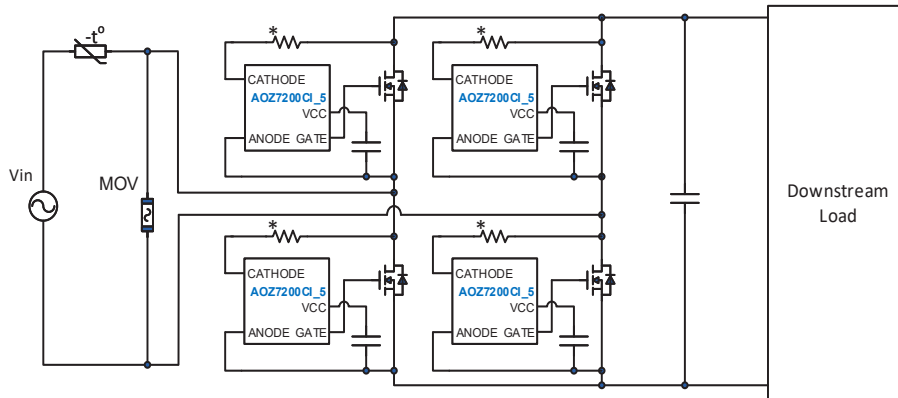
AlphaZBL™ AC/DC
Active Bridge
Rectifier



PIC | AlphaZBL™ AC/DC Active Bridge Rectifier

General Description

The AlphaZBL™ is an active bridge IC that controls the external/internal N-channel MOSFET to replace diodes when used in AC/DC diode-bridge applications. The AlphaZBL™ can help the power supply to reduce power consumption and heat dissipation, and can make it easier to reach the titanium level efficiency and shorten engineering development time.



* Optional. For detailed information, please refer to the Application Note.



SOT-23-5 package with external MOSFET package with D2PAK (TO-263) EVB

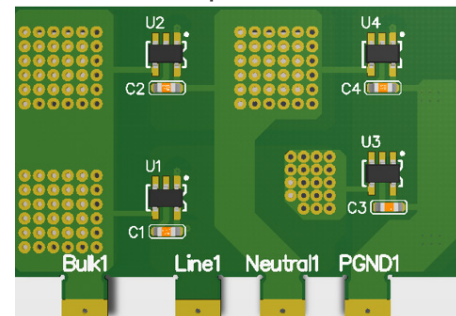
Features

- Replaces diodes by HV MOSFET in the bridge rectifier
- Increases efficiency and reduces power consumption
- Self-powered in AC system
- Low IC power consumption
- Very low external part counts

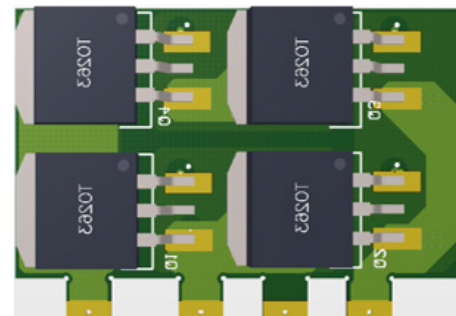
Applications

- Charger/NB Adapter
- PC/Desktop/AIO Power Supply
- Server/Telecom PSU
- Home Appliance PSU

Top View



Bottom View



Product Selection Table

Part Number	Package	MOSFET BVDSS (V)	RDSON (mΩ)	Vcc (V)	ESD Rating (KV)	Operating Temp.(°C)
AOZ7200CI	SOT23-5	N/A	N/A	12.9-15.2	2	-40 - 125
AOZ7203AV	SO-8	N/A	N/A	12.5-16.5	2	-40 - 125
AOZ7270DI	DFN5x7	600	190	12.9-15.2	2	-40 - 125
AOZ7271DV	DFN8x8	600	125	12.9-15.2	2	-40 - 125

FEATURES AND ADVANTAGES AOS Active Bridge Rectifier AlphaZBL™

Stand Alone Driver

AOZ7200CI

- Drives 1 external N-MOSFET directly
- Replaces a power diode in HV bridge rectifier
- Self-powered in AC system
- Low reverse threshold 1mV
- Low quiescent current 5uA
- Very low external part count
- Avoid Hi/Low side MOSFET short-through prevention
- Vcc UVLO for High/Low-side controllers
- SOT23 package

AOZ7203AV

- Drive 2 external N-MOSFETs directly
- Replaces two low side diodes in the bridge rectifier
- Self-powered in AC system
- Integrated X-capacitor discharge
- Low IC power consumption
- Very low external part counts
- Avoid gate signal of two low side MOSFET overlapped
- SO-8 package

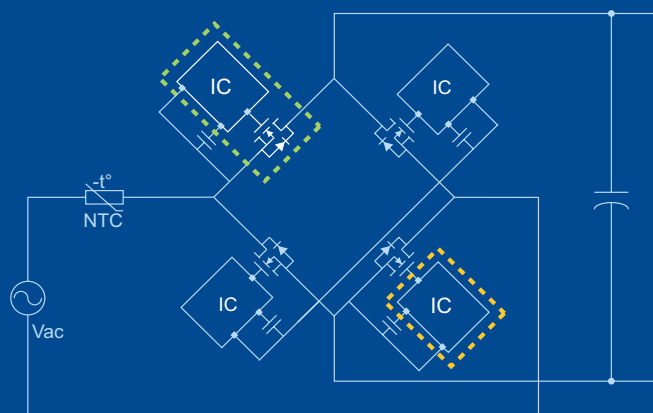
Integration Solution

AOZ7270DI

- Replaces a power diode in HV bridge rectifier
- Self-powered in AC system
- Internal 0.19Ω 600V N-channel MOSFET
- Low reverse threshold 1mV
- Low quiescent current 5uA
- Thermally enhanced
- Very low external part count
- Avoid Hi/Low side MOSFET short-through prevention
- Vcc UVLO for High/Low-side converters
- DFN5x7 package

AOZ7271DV

- Replaces a power diode in HV bridge rectifier
- Self-powered in AC system
- Internal 0.125Ω 600V N-channel MOSFET
- Low reverse threshold 1mV
- Low quiescent current 5uA
- Thermally enhanced
- Very low external part count
- Avoid Hi/Low side MOSFET short-through prevention
- Vcc UVLO for High/Low-side converters
- DFN8x8 package



PIC | AlphaZBL™ AC/DC Active Bridge Rectifier



AOS SALES OFFICES

UNITED STATES

475 Oakmead Pkwy
Sunnyvale, CA 94085
Phone: +1 (408) 830-9742
Email: Inquiries@aosmd.com

EUROPE

Phone: +49 7941 9039988
Email: AOSEurope@aosmd.com

JAPAN

16F Yurakucho Itocia
Office Tower
2-7-1 Yurakucho, Chiyoda-ku
Tokyo 100-0006
Phone: +81 (3) 6826-1401
Email: AOSJapan@aosmd.com

SOUTH KOREA

10th Floor, Bandi Building
Bongeunsa-ro 114
Gangnam-gu
Seoul 135-907
Phone: +82 (2) 557-8501
Email: AOSKorea@aosmd.com

TAIWAN

19F., No. 239, Sec. 2, Tiding Blvd.
Neihu District
Taipei City 114755
Phone: +886 (2) 8751-5616
Email: AOSTaiwan@aosmd.com

HONG KONG

Room 701, Tesbury Center
28 Queen's Road East
Wanchai
Phone: +86 (755) 8351-7733
Email: AOSChina@aosmd.com

CHINA

SHENZHEN

East 8/F, Matsunichi Building
#9996 Shennan Blvd.
Shenzhen 518057
Phone: +86 (755) 8351-7733
Email: AOSChina@aosmd.com

SHANGHAI

Room 602-603
Central Park Jing'an
329 Hengfeng Road
Jing'an District
Shanghai 200070
Phone: +86 (21) 6353-3218
Email: AOSChina@aosmd.com

To contact any of our sales partners
worldwide, please visit our website at:
www.aosmd.com/contact

Alpha and Omega Semiconductor Limited, or AOS, is a designer, developer and global supplier of a broad range of discrete power devices, wide band gap power devices, power management ICs and modules. AOS's products are aimed at, but not limited to applications such as portable computers, flat panel TVs, LED lighting, smart phones, battery backs, consumer and industrial motor controls, automotive electronics, and power supplies for TVs, computers, servers and telecommunication equipment.



Powering a Greener Future™