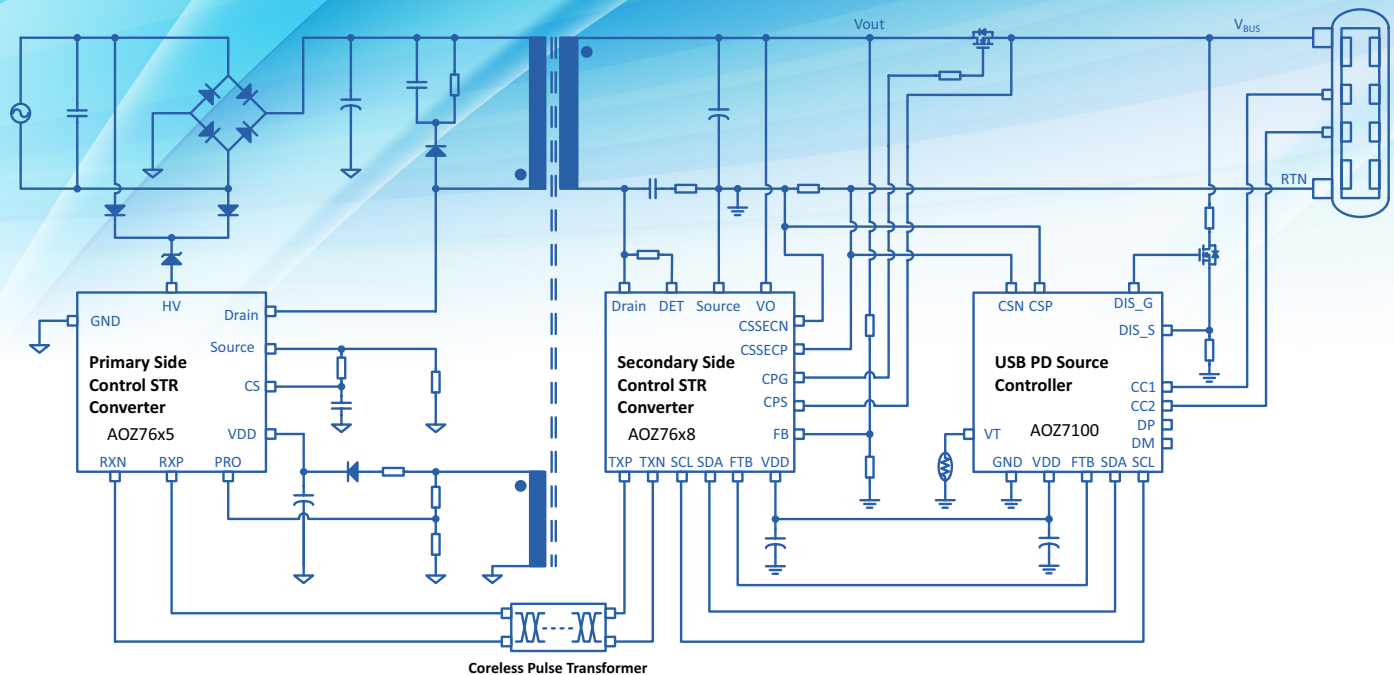


AlphaSTR™ AC-DC USB PD Power Converters

- Complete AC-DC USB PD chipset up to 60W
- Proprietary AlphaSTR™ secondary side control scheme reduces component count and size
- Highly integrated, thermally enhanced package enables industry leading solution size
- I²C interface controller enables USB PD programmable power supply (PPS)
- Integrated high performance α MOS5™ HV Super Junction and AlphaSGT™ MV trench MOSFETs



APPLICATIONS



Primary Side Flyback Converter

Application	Part Number	Package	V_{DS} (V)	$R_{DS(ON)}$ (Ω typ) at $V_{GS} = 10V$
30W PD Charger/Adapter	AOZ7635QI-03	QFN6x6	700	0.9
45W PD Adapter	AOZ7645QI-13	QFN6x6	700	0.6
45-60W PD Adapter	AOZ7655QI-13	QFN6x6	700	0.4
65W PD Adapter	AOZ7675QI	QFN7x7	700	0.2

Secondary Side Control STR Converter

Application	Part Number	Package	V_{DS} (V)	$R_{DS(ON)}$ (m Ω typ) at $V_{GS} = 4.5V$
Output 3V~21V USB PD Adapter	AOZ7648QI-06 AOZ7648QI-16	QFN6x6	100	9
Output 3V~21V USB PD Adapter	AOZ7658QI-06	QFN6x6	100	7

Coreless Pulse Transformer

Application	Part Number	Package	Isolation
AC-DC with Feedback Loop Isolator	AOZ7000	QFN9.5x5x1.8, 4-Pin	up to 5.5kVrms

USB PD Source Controller

Application	Part Number	Package
Type C and USB PD2.0/3.0	AOZ7100QI	QFN4x4

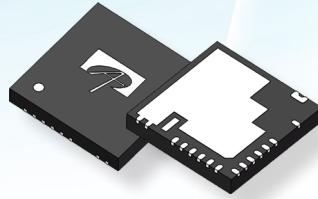
FEATURES AND ADVANTAGES

AOS Super Transient Regulator AlphaSTR™

Primary Converter

> AOZ76x5

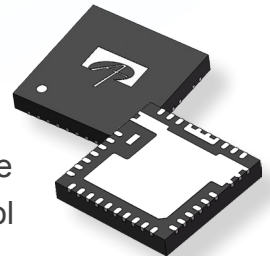
- Integrated HV start-up device
- Co-packaged SuperJunction 700V MOSFET
- Thermally enhanced 17-pin QFN6x6
- Protection Features:
 - *VDD over-voltage protection*
 - *Cycle by cycle current limit*
 - *Secondary rectifier short-circuit protection*
 - *CS pin open-circuit protection*
 - *Internal over-temperature protection*
 - *Limit Power Source protection (LPS)*



Secondary Converter

> AOZ76x8

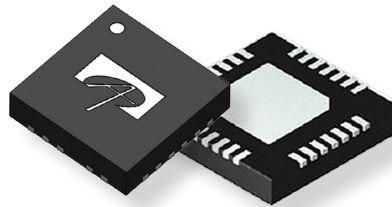
- Fast output transient response
- Secondary side CV/CC control
- Integrated with SR MOSFET
- With 10bit voltage DAC and 8bit current DAC
- Maximum switching frequency up to 145kHz
- No loop compensation components required
- Built-in spread spectrum clock to lower EMI
- Robust synchronous rectifier function
- Built-in I²C communication with interface IC
- Thermally enhanced 38-pin QFN6x6
- Protection Features:
 - *Output under-voltage protection*
 - *Over-voltage protection*
 - *Feedback open loop open protection*
 - *External/Internal over-temperature protection*
 - *Limit Power Source protection (LPS)*



PD Controller

> AOZ7100

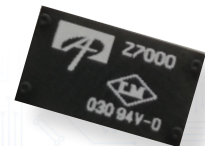
- Supports USB PD 2.0/3.0 via CC1 & CC2 pins
- Supports QC 3.0/ 2.0 via DP & DM pins
- Supports BC 1.2 via DP & DM pins
- Built-in high accuracy 10bit-SAR ADC
- Built-in 32-bit MCU
- Built-in 16 KB SRAM
- Built-in 32 KB EEPROM
- Thermally enhanced 28-pin QFN4x4
- Protection Features:
 - *Over voltage detection for CC1/CC2*
 - *Over current protection*
 - *External over temperature protection (OTP)*
 - *Under voltage protection (UVP)*
 - *Cold-socket by built-in VBUS detection*



Isolator

> AOZ7000

- Isolation to 5.5kVrms
- Compact footprint
- PCB mounting
- 9.5mm×5.5mm×1.8mm 4-pin package
- CB test Ref. Certif. No. DK-71718-UL



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Alpha and Omega Semiconductor Limited, or AOS, is a designer, developer and global supplier of a broad range of power semiconductor products. AOS' 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, and power supplies for TVs, computers, servers and telecommunication equipment.