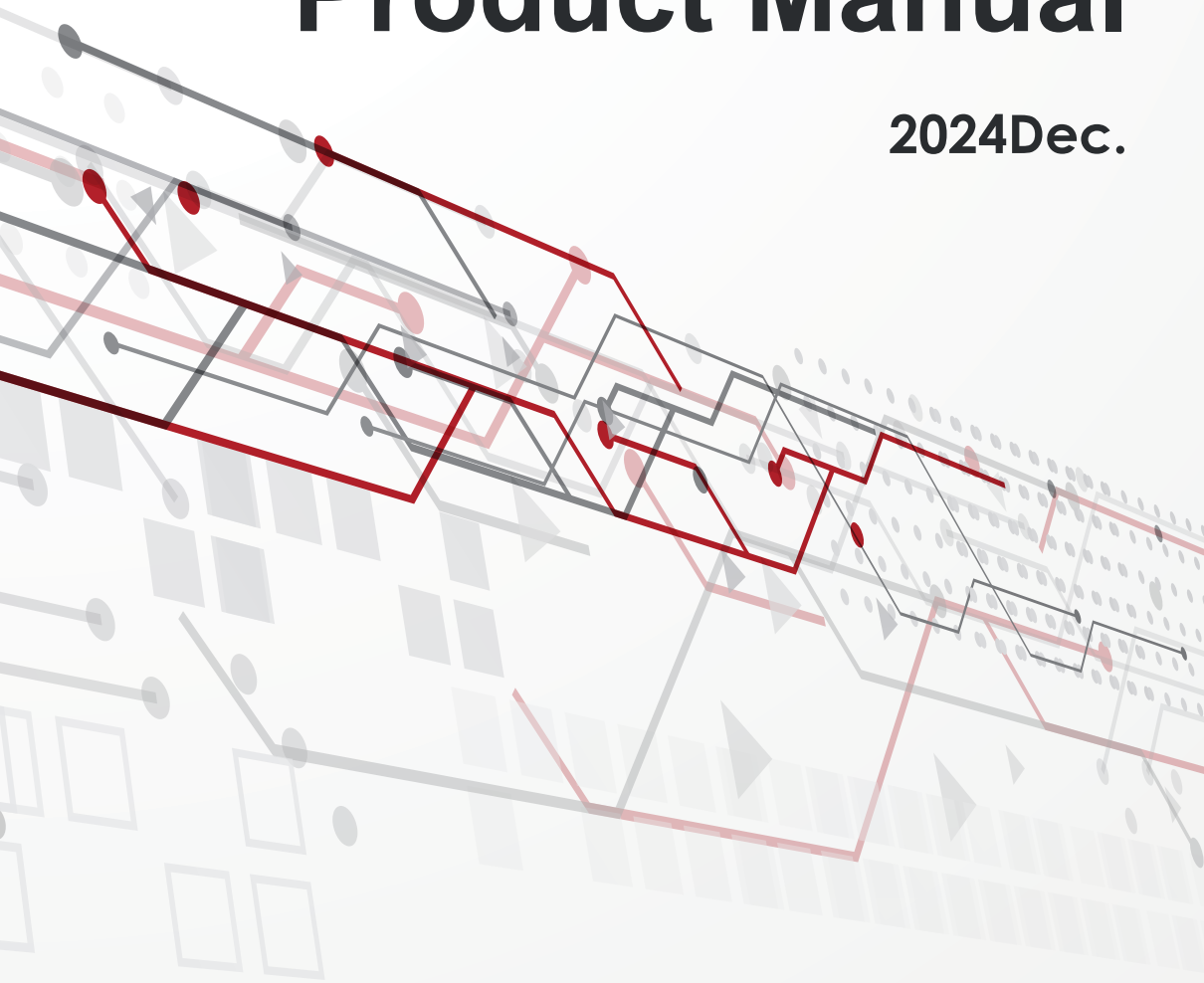


Empower  
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Achieve



# AC/DC Product Manual

2024Dec.

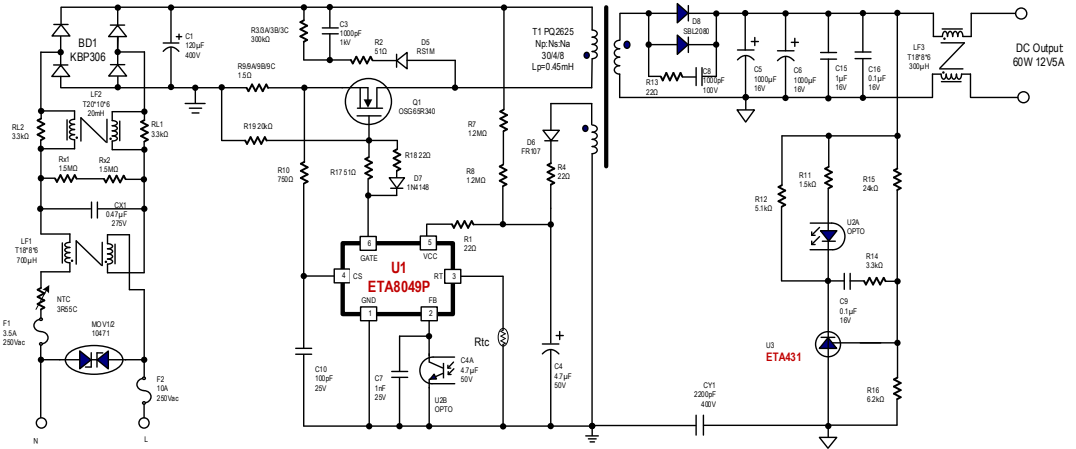




Part No	VCC Range	Package	Pout Max	Max Freq.	Operation Mode
ETA8075	7.5-77V	SOT23-6	65W	110kHz	High-frequency, DCM/Quasi-Resonant, overload and other multiple fault protections
ETA8075P30/45	7.5-77V	SOT23-6	65W	110kHz	High-frequency, DCM/QR, Constant current/constant power operation
ETA8076	7.5-77V	SOT23-6	65W	140kHz	High-frequency, DCM/Quasi-Resonant, overload and other multiple fault protections
ETA8076P30/45	7.5-77V	SOT23-6	65W	140kHz	High-frequency, DCM/QR, Constant current/constant power operation
ETA8077	7.5-27V	SOP-8	65W	120kHz	High-frequency, DCM/QR, HV startup, X-cap discharge, Brown-Out, OCP
ETA8077P45	7.5-27V	SOP-8	65W	120kHz	High-frequency, DCM/QR, HV startup, X-cap discharge, Brown-Out, CC/CV/CP
ETA8078	7.5-27V	SSOP-9	140W	140kHz	Force ZVS, High-frequency, DCM/QR, HV startup, X-cap discharge, Brown-Out, OCP
ETA8047	7.5-37V	SOT23-6	65W	80kHz	QR/CCM mixed mode, Overcurrent and other multiple fault protection
ETA8047H	7.5-37V	SOT23-6	65W	100kHz	QR/CCM mixed mode, Overload and other multiple fault protection
ETA8048	7.5-37V	SOT23-6	65W	80kHz	QR/CCM mixed mode, Constant power operation, multiple fault protection
ETA8048H	7.5-37V	SOT23-6	65W	100kHz	QR/CCM mixed mode, Constant power operation, multiple fault protection
ETA8049	7.5-36V	SOT23-6	65W	65kHz	DCM/CCM mixed mode, P2P similar products in the market
ETA8049P	7.5-36V	SOT23-6	65W	65/130kHz	DCM/CCM mixed mode, universal pins arrangement, peak power output function

## ETA8049/ETA8049P

- ETA8049 P2P general-purpose power IC in the market
- ETA8049P peak output power of 5S multiplier continuously



## ETA8048/ETA8048H

- Support constant power, suitable for printers, power tools and other inductive loads of adapters

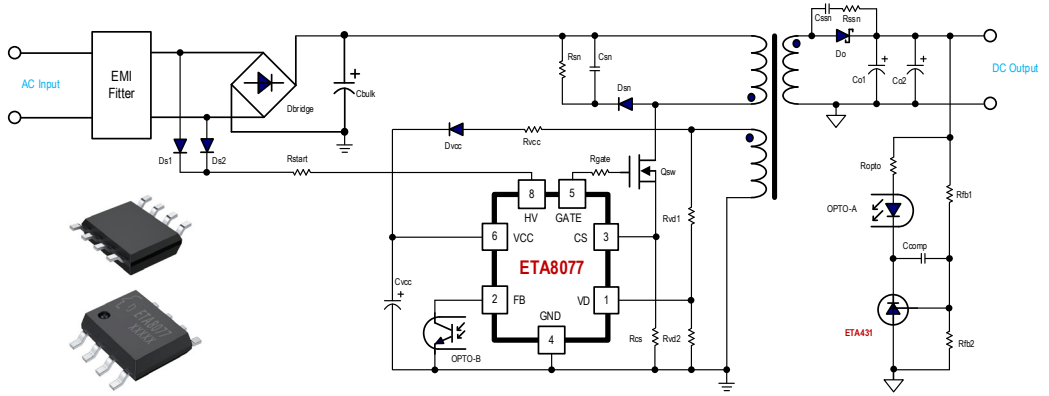
## ETA8047/ETA8047H

- QR/CCM hybrid operation mode, the system can be designed in CCM at low line, QR at high line to improve the efficiency of the switching power supply
- Suitable for conventional 24W-65W charger, adapter



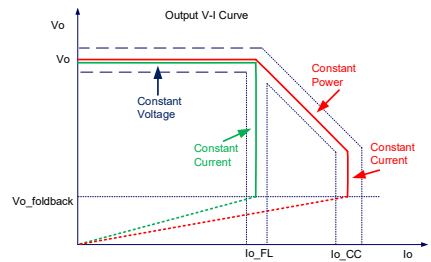
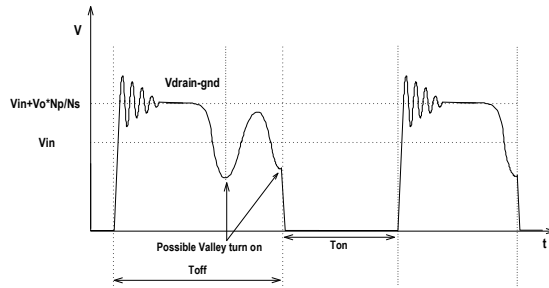
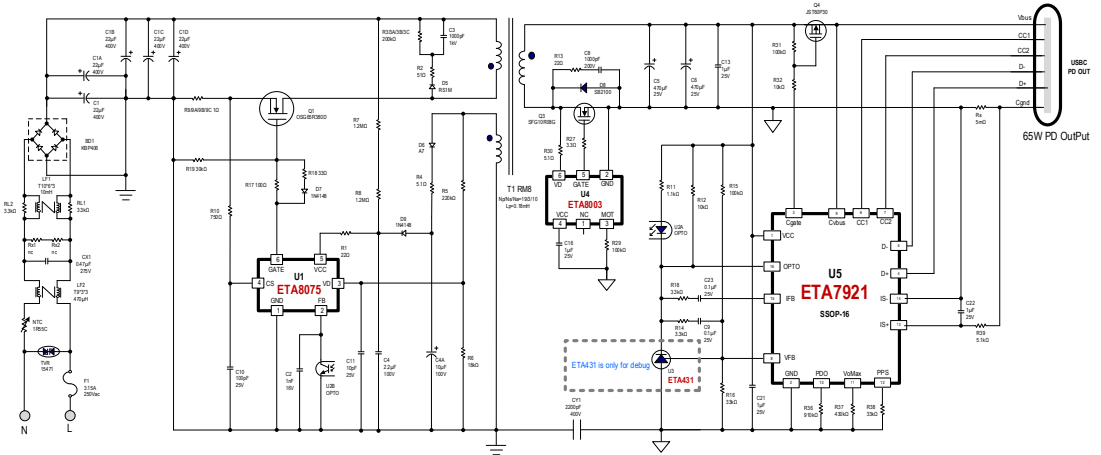
## ETA8077/P45

1. High switching frequency, DCM/Quasi-Resonant
2. HV startup, Brown-Out, X-cap discharge, CC/CV/CP optional.



## ETA8075/ETA8076

1. High switching frequency, DCM/Quasi-Resonant
2. VCC is wide supply voltage range of 7-77V, easily covering PD 5-20V output voltage range
3. ETA8075 series can be used with CoolMOS power devices, traditional wire-wound transformers, design ultra-cost-effective chargers, adapters
4. ETA8076 series can be used with D-GaN power devices, planar transformers, design small size and high-density chargers, adapters
5. The P30/P45 series in ETA8075/6 products supports constant current and constant power output





Part No	Power MOSFET	Package	Pout Max	Max Freq.	Operation Mode
ETA80511	2A/700V PL MOS	SOP-7	10W	80kHz	QR/CCM hybrid mode, constant voltage, overcurrent/over power protection
ETA80512	4A/800V PL MOS	DIP-7	25W	80kHz	QR/CCM hybrid mode, overcurrent, and other multiple fault protections
ETA80513	2A/900V PL MOS	DIP-7	15W	80kHz	QR/CCM hybrid mode, overcurrent, and other multiple fault protections
ETA80515	4A/650V PL MOS	DIP-7	25W	80kHz	QR/CCM hybrid mode, overcurrent, and other multiple fault protections
ETA80516	5A/650V PL MOS	DIP-7	30W	80kHz	QR/CCM hybrid mode, overcurrent, and other multiple fault protections
ETA80517	6A/650V SJ MOS	DIP-7	35W	80kHz	QR/CCM hybrid mode, overcurrent, and other multiple fault protections
ETA8055	0.58Ω/650V SJ MOS	A/ESOP-6	35W	80kHz	QR/CCM hybrid mode, overload, and other multiple fault protection
ETA8053	0.32Ω/650V SJ MOS	QFN68	45W	80kHz	QR/CCM hybrid mode, overload, and other multiple fault protection
ETA8050	0.28Ω/650V SJ MOS	ESOP-10W	60W	80kHz	QR/CCM hybrid mode, overload, and other multiple fault protection
ETA8050F	0.25Ω/650V SJ MOS	ESOP-10W	65W	80kHz	QR/CCM hybrid mode, overload, and other multiple fault protection
ETA80501	0.25Ω/650V SJ MOS	ESOP-10W	65W	80kHz	QR/CCM hybrid mode, 130V LDO Vaux, and complete fault protection
ETA80503	0.52Ω/650V SJ MOS	ESOP-6	High Eff 36W	80kHz	QR/CCM hybrid mode, constant voltage, overcurrent/over power protection
ETA80505	0.34Ω/650V SJ MOS	ESOP-10W/DFN68	High Eff 45W	80kHz	QR/CCM hybrid mode, constant voltage, overcurrent/over power protection
ETA80506	0.28Ω/650V SJ MOS	ESOP-10W/DFN68	High Eff 50W	80kHz	QR/CCM hybrid mode, constant voltage, overcurrent/over power protection
ETA80507	0.22Ω/650V SJ MOS	ESOP-10W/DFN68	High Eff 60W	80kHz	QR/CCM hybrid mode, constant voltage, overcurrent/over power protection
ETA80508	0.17Ω/650V SJ MOS	ESOP-10W	High Eff 66W	80kHz	QR/CCM hybrid mode, constant voltage, overcurrent/over power protection
ETA80509	0.14Ω/650V SJ MOS	ESOP-10W/TO220	75W/90W	80kHz	QR/CCM hybrid mode, constant voltage, overcurrent/over power protection
ETA8057	2Ω/650V PL MOS	ESOP-6	18W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection
ETA8056	1.2Ω/650V SJ MOS	SOP-7	20W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection
ETA8058	0.76Ω/650V SJ MOS	SOP-7/ A/ESOP-6	25W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection
ETA8059	0.52Ω/650V SJ MOS	A/ESOP-6	35W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection
ETA80571	2.2Ω/650V SJ MOS	ESOP-6	HV 20W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection
ETA8057P	1.7Ω/650V SJ MOS	ESOP-6	20W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection
ETA80563	1.1Ω/650V SJ MOS	ESOP-6	24W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection
ETA80582	0.89Ω/650V SJ MOS	ESOP-6	25W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection
ETA80593	0.52Ω/650V SJ MOS	ESOP-6	35W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection
ETA80597	0.52Ω/650V SJ MOS	ESOP-6	High Eff 36W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection
ETA80598	0.48Ω/650V SJ MOS	ESOP-10W	High Eff 45W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection

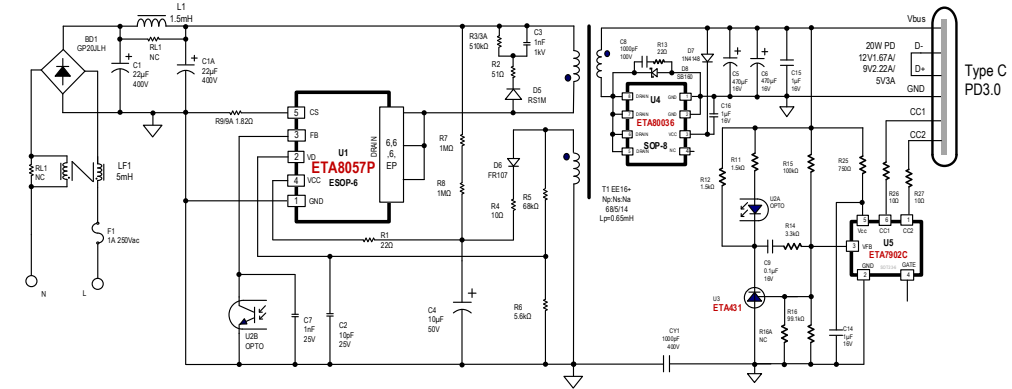






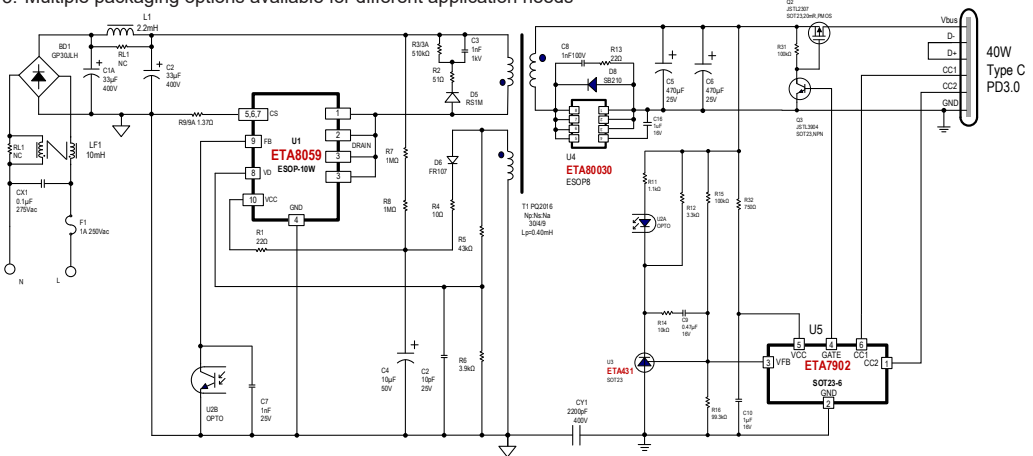
## ETA8056x/ETA8057x/ETA8058x/ETA8059x

1. Same packaging, shared among series of models, optional temperature, and controllable cost
2. Integrated super silicon MOS, fast switching speed, low loss, high efficiency, high reliability, and high production pass through rate
3. Supports constant power, reduced power mode, reduces current at low output voltage, and reduces pressure on secondary synchronous MOS



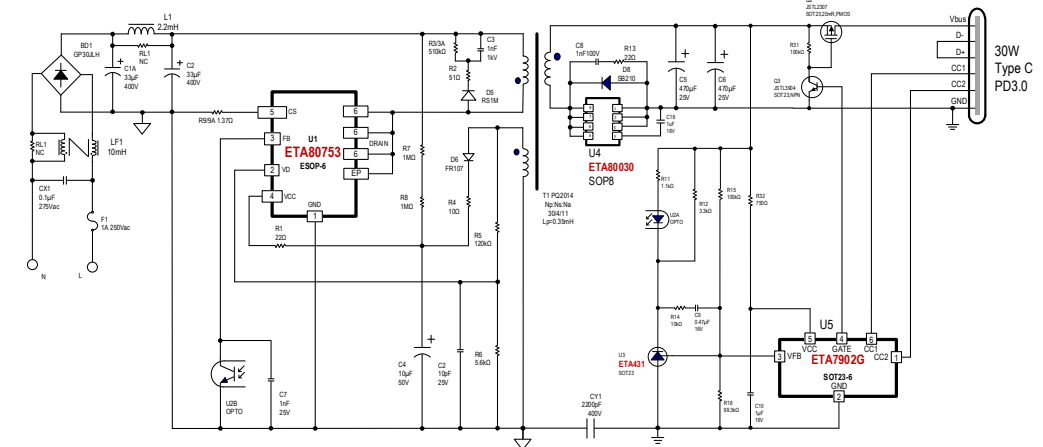
## ETA8056/ETA8057/ETA8058/ETA8059

1. Integrated Highly stable and reliable MOS, high efficiency, and high production pass through rate
2. Supports constant power, reduced power mode, reduces current at low output voltage, and reduces pressure on secondary synchronous MOS
3. Multiple packaging options available for different application needs



## ETA80753/ETA80755/ETA80756/ETA80757/ETA80758

1. Integrated super silicon MOS, stable and reliable, high efficiency, and high production pass through rate
2. Wide VCC range, pure QR operation, supporting constant power and constant current mode, entering constant current at low output voltage reduces the pressure of secondary synchronous MOS
3. Multiple packaging options available for different application needs



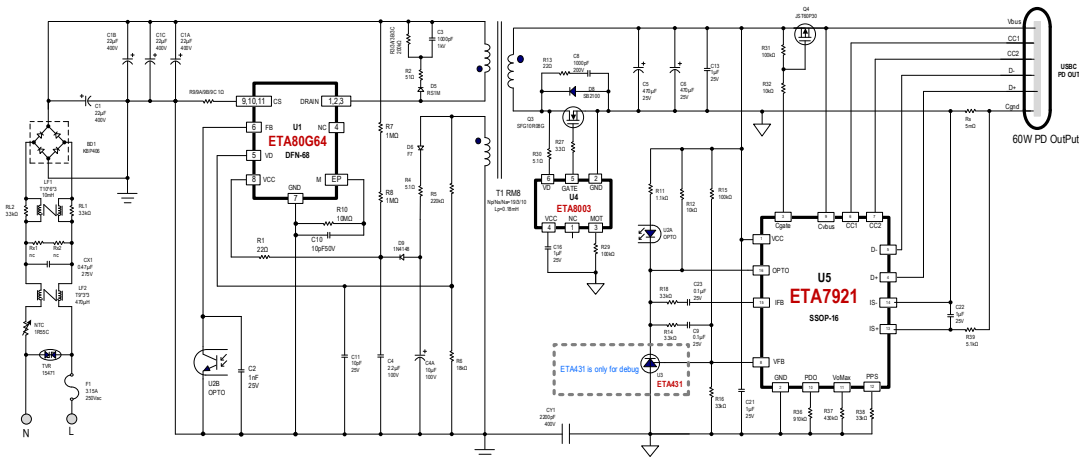


# 03 Integrated GaN MOS PWM Converter

Part No	Power MOSFET	Package	Pout Max	Max Freq.	Operation Mode
ETA80G21	1.5Ω/650V, GaN	SOP-7	20W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection, 7-37Vcc
ETA80G22	1Ω/650V, GaN	SOP-7	20W	110kHz	High-frequency, DCM/QR, Constant current/constant power operation, 7-77Vcc
ETA80G23	1Ω/650V, GaN	SOP-7	25W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection, 7-37Vcc
ETA80G24	0.8Ω/650V, GaN	HSOP-7	30W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection, 7-37Vcc
ETA80G26	0.68Ω/650V, GaN	SOP-7	25W	110kHz	High-frequency, DCM/QR, Constant current/constant power operation, 7-77Vcc
ETA80G27	0.55Ω/650V, GaN	HSOP-7	36W	80kHz	QR/CCM hybrid mode, Constant power/Power reduction control, complete fault protection, 7-37Vcc
ETA80G36	0.62Ω/650V, GaN	ESOP-7	30W	110kHz	High-frequency, DCM/QR, Constant current/constant power operation, 7-77Vcc
ETA80G37	0.55Ω/650V, GaN	HSOP-7	33W	110kHz	High-frequency, DCM/QR, Constant current/constant power operation, 7-77Vcc
ETA80G38	0.42Ω/650V, GaN	ESOP-7	36W	110kHz	High-frequency, DCM/QR, Constant current/constant power operation, 7-77Vcc
ETA80G61	0.25Ω/650V, GaN	QFN-68	45W	110kHz	High-frequency, DCM/QR, Constant current/constant power operation, 7-77Vcc
ETA80G62	0.22Ω/650V, GaN	DFN-68	50W	110kHz	High-frequency, DCM/QR, Constant current/constant power operation, 7-77Vcc
ETA80G64	0.15Ω/650V, GaN	DFN-68	60W	110kHz	High-frequency, DCM/QR, Constant current/constant power operation, 7-77Vcc
ETA80G64	0.15Ω/650V, GaN	ESOP-10W	65W	110kHz	High-frequency, DCM/QR, Constant current/constant power operation, 7-77Vcc
ETA80G66	0.11Ω/650V, GaN	ESOP-10W	67W	110kHz	High-frequency, DCM/QR, Constant current/constant power operation, 7-77Vcc
ETA80G66	0.11Ω/650V, GaN	ηSOP-12	75W	110kHz	High-frequency, DCM/QR, Constant current/constant power operation, 7-77Vcc

## ETA80GXX Series

1. Integrated GaN Mosfet, fast switching speed and high efficiency
2. Wide VCC range, pure QR operation, supporting constant power and constant current mode





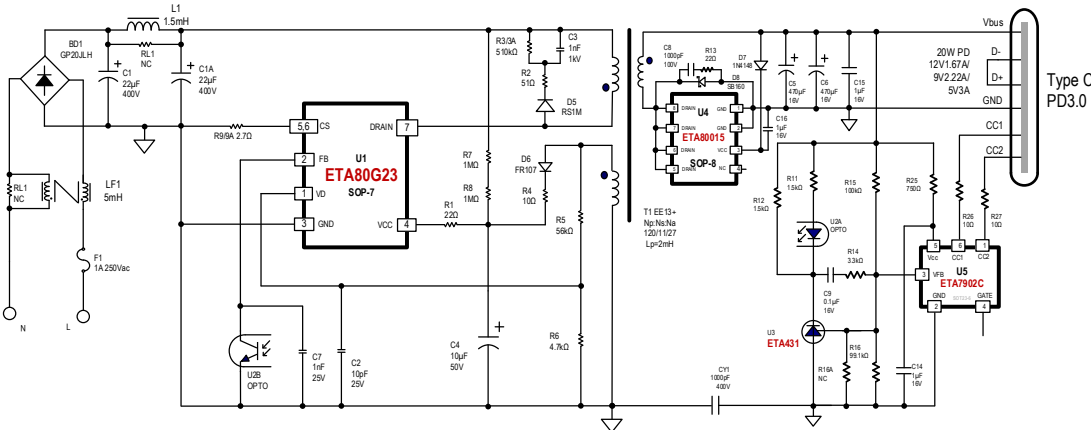
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## Secondary Synchronous Rectification

Part No	SR MOS	Package	Oper. Mode	Max Freq	Comment
ETA8003	Ext/100V	SOT23-6	DCM/QR/CCM	180kHz	Self-powered, high-speed shutdown, supports high side or low sides
ETA80030	11mΩ/100V	SOP-8/ESOP-8	DCM/QR/CCM	150kHz	Self-powered, high-speed shutdown, supports high/low sides, <b>30W PD/QC</b> adaptor
ETA80031	7mΩ/100V	ESOP-8	DCM/QR/CCM	150kHz	Self-powered, high-speed shutdown, supports high/low sides, <b>45W PD/QC</b> adaptor
ETA80033	5.6mΩ/100V	PDFN56	DCM/QR/CCM	150kHz	Self-powered, high-speed shutdown, supports high/low sides, <b>60W PD/QC</b> adaptor
ETA80035	15mΩ/60V	SOP-8	DCM/QR/CCM	150kHz	Self-powered, high-speed shutdown, supports high/low sides, <b>20W PD/QC</b> adaptor
ETA80036	11mΩ/60V	SOP-8	DCM/QR/CCM	150kHz	Self-powered, high-speed shutdown, supports high/low sides, <b>25W PD/QC</b> adaptor
ETA80037	20mΩ/80V	SOP-8	DCM/QR/CCM	150kHz	Self-powered, high-speed shutdown, supports high/low sides, <b>24W PD/QC</b> adaptor
ETA80038	11mΩ/80V	SOP-8	DCM/QR/CCM	150kHz	Self-powered, high-speed shutdown, supports high/low sides, <b>36W PD/QC</b> adaptor
ETA80039	13mΩ/85V	SOP-8	DCM/QR/CCM	150kHz	Self-powered, high-speed shutdown, supports high/low sides, <b>30W PD/QC</b> adaptor
ETA80015	15mΩ/60V	SOP-8	DCM/QR/CCM	120kHz	Self-powered, high-speed shutdown, supports high/low sides, <b>20W universal</b> adaptor
ETA80016	9mΩ/60V	SOP-8	DCM/QR/CCM	120kHz	Self-powered, high-speed shutdown, supports high/low sides, <b>27W universal</b> adaptor

### ETA80015/6

1. Self-powered technology without extra Winding. Support high-side/low-side synchronous rectifier circuit connection method
2. Suitable for 10-120KHz switching frequency. Support CCM, DCM and QR Operation Mode
3. ETA80015, Built-in power device, using SOP-8 universal package, good heat dissipation effect, fit for low cost PD 20W application
4. ETA80016, integrated low Rdson SR Mosfet, using SOP-8 universal package, good heat dissipation effect, fit for low cost PD 30W application.





# 05 USB Port Fast Charging Protocol IC

## USB Port Fast Charging Protocol Source IC

Part No	Package	Control mode	Output port	PDO	Compatible Protocols
ETA7901	SOT23-6	FB regulate	USBA	Fixed	QC2.0/3.0, FSP, SCP, AFC, Apple2.4A, BC1.2, VOOC
ETA7902	SOT23-6	FB regulate	Type-C	39W PDO: 5V1.5A/15V2.66A	PD3.0, PD2.0
ETA7902C	SOT23-6	FB regulate	Type-C	PD20W PDO: 5V3A/9V2.22A/12V1.66A	PD3.0, PD2.0
ETA7902G	SOT23-6	FB regulate	Type-C	PD30W PDO: 5V3A/9V3A/12V2.5A/15V2A	PD3.0, PD2.0

## USB Port Fast Charging Protocol Sink IC

Part No	Package	Features	Output port	PDO	Compatible Protocols
ETA7904	SOT23-6	Minimalist and low cost	Type-C	Vo set by ext Res and adaptive input PDO	PD3.1/3.0, Type-C V2.2
ETA7904L	SOT23-6	Minimalist and ultra-low cost	Type-C	Vo set by ext Res and adaptive input PDO	PD3.1/3.0, Type-C V2.2
ETA7905	SOT23-6	Optional: OVP/UVP/OTP	Type-C	Io/Vo set by ext Res and adaptive input PDO	PD3.1/3.0, Type-C V2.2
ETA7906	SSOP-10/DFN2*2	Optional: OVP/UVP/OTP	Type-C&USBA	Io/Vo set by ext Res and adaptive input PDO	PD3.1/3.0, Type-C V2.2, BC1.2
ETA7906C	SSOP-10/DFN2*2	Optional: OVP/UVP/OTP	Type-C&USBA	Io/Vo set by ext Res and fix input PDO	PD3.1/3.0, Type-C V2.2, BC1.2
ETA7907	DFN2*2-6	Minimalist and Simple	Type-C&USBA	Vo set by ext Res and adaptive input PDO	PD3.1/3.0, Type-C V2.2, BC1.2

### ETA7902

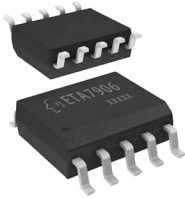
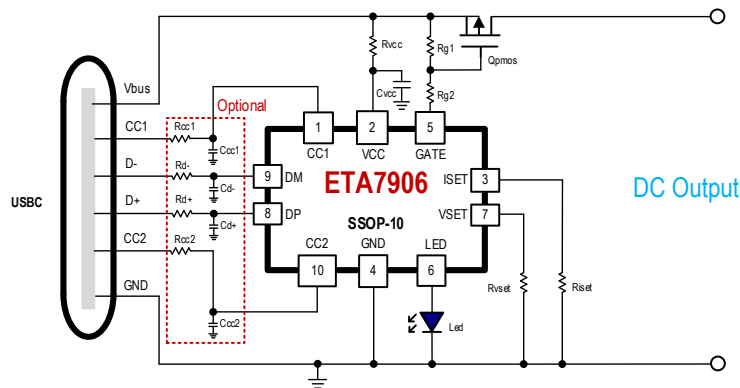
1. Simplified pin, compatible with PD2.0, PD3.0, support the maximum output voltage of 15V

### ETA7905

1. Simplified pin, compatible with PD3.1, Type-C V1.6 and backward compatible, support the maximum output voltage of 20V

### ETA7906/7

1. Simplify peripherals, fully compatible with PD3.1, Type-C V1.6, BC1.2, and XX2.0, with resistance settings for voltage and current, extremely easy to use





# 06 Auxiliary Series

## Auxiliary Power Supply HV Buck Series

Part No	Package	Input	Output	Standby Power	Comment
ETA8030	SOT33-5	90~265Vac	≥5V/3.3V 100mA	<30mW	700V, Auxiliary power supply of the main control chip MCU in small appliance system
ETA80301	SOT33-5	90~265Vac	≥5V/3.3V 50mA	<30mW	800V, Auxiliary power supply of the main control chip MCU in small appliance system
ETA80306	SOP-7	90~265Vac	≥5V/3.3V 50mA	<30mW	Integrated 800V HV NPN Transistor Switch and Freewheeling Diode and Power Supply Rectifier Diode
ETA80307	SOP-7	90~265Vac	≥5V/3.3V 100mA	<30mW	Integrated 800V HV NPN Transistor Switch and Freewheeling Diode and Power Supply Rectifier Diode

## Auxiliary Power Supply LDO Series

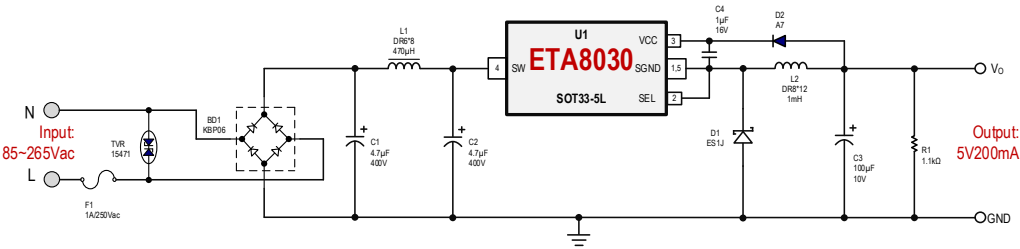
Part No	Package	Max Input	Output	Standby Power	Comment
ETA8020H	SOT23-3	130V	12.5V/10mA	<15mW	Auxiliary power supply of the main control chip in various systems
ETA8020L	SOT23-3	130V	5.5V/10mA	<15mW	Auxiliary power supply of the main control chip in various systems
ETA8021H	SOT23-3	90V	13V/20mA	<15mW	Auxiliary power supply of the main control chip in various systems
ETA8021L	SOT23-3	90V	5.5V/20mA	<15mW	Auxiliary power supply of the main control chip in various systems

## Auxiliary Reference Voltage Series

Part No	Package	Max Input	Ref Voltage	TC Range	Comment
ETA431	SOT23-3	37V	2.5V±1%	-40~125℃	Generation and stabilization of reference voltage in various systems

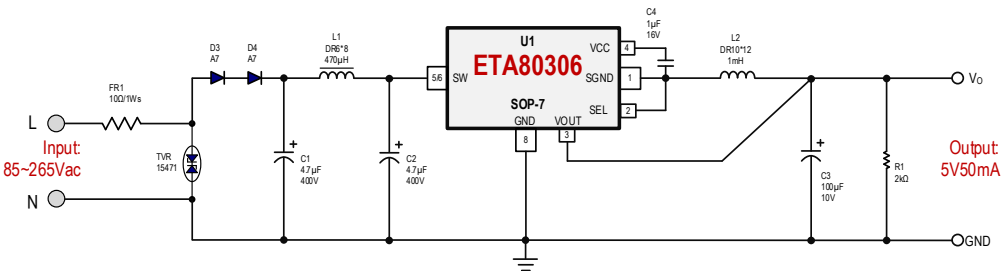
### ETA8030

1. 700V withstand voltage, High stability and reliability, dedicated chip for small household appliance MCU power supply
2. Low standby power consumption, small package, minimalist peripheral circuit



### ETA80306/7

1. Integrated 800V HV NPN Transistor Switch and High Voltage Startup Circuit, High stability and reliability
2. Integrated HV Freewheeling Diode and Power Supply Rectifier Diode, minimalist peripheral components
3. Low standby power consumption, Fault Protection, dedicated chip for small household appliance MCU power supply
4. Low EMI, streamlined circuitry, simple and easy to use

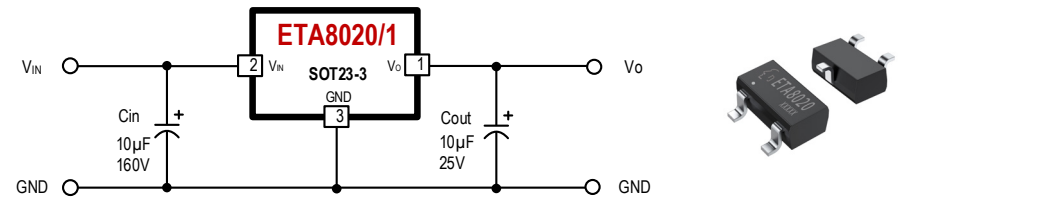




ETA8020/ETA8021

ETA8020: The withstand voltage of 130V easily covers the power supply of the main control chip in the PD3.1 adaptor wide output with 3.3V-28V

ETA8021: The withstand voltage of 90V easily covers the power supply of the main control chip in the PD3.0 adaptor wide output with 3.3V-20V



ETA431

- 1. Universal reference voltage operational amplifier, 36V withstand voltage, 2.5V full temperature range with 1% accuracy reference voltage.

07 AC Line Zero Crossing IC Series

Part No	Package	Input	Output	Power Consumption	Comment
ETA5001	SOT23-3	AC Line	Narrow pulse signal	<30mW	AC line zero crossing single detection, high precision, low power consumption
ETA50017	SOP-8	AC Line	Narrow pulse signal	<30mW	Integrated optocoupler, AC line zero crossing single detection, low power consumption
ETA5002	SOT23-3	AC Line	Wide pulse signal	<30mW	AC line zero crossing single detection, high precision, low power consumption
ETA5003	SOT-343	AC Line	Narrow and wide dual pulse signal	<50mW	AC line zero crossing dual detection, high precision, low power consumption
ETA5005	SOT-343	AC Line	Narrow dual pulse signal	<50mW	AC line zero crossing dual detection, high precision, low power consumption
ETA5006	SOT23-5	AC Line	Wide dual pulse signal	<50mW	AC line zero crossing dual detection, high precision, low power consumption

ET5001/ETA50017/ETA5002/ETA5003/ETA5006

- 1. High precision, low power consumption
- 2. ETA5003 suitable for electric meter, sweeper and other electrical power systems
- 3. ETA5005 suitable for AC motor, floor scrubber, high-speed hair dryer and other appliances

