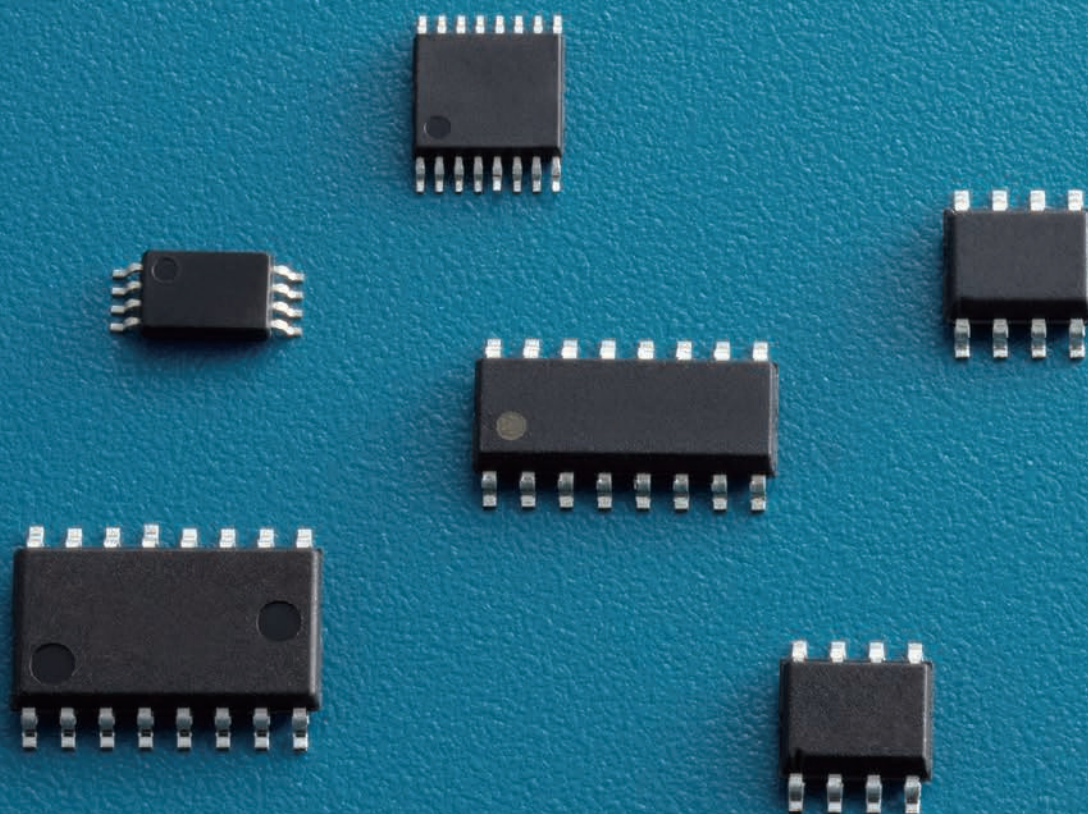


FUJI Power Semiconductors

Power Supply Control ICs Selection Guide



CONTENTS

AC/DC Power Supply Control ICs

Green Mode PWM-ICs (Current Mode)	6
General PWM-ICs	8
Green Mode Quasi-resonant ICs (Current Mode)	10
Power Factor Correction ICs	12
Current Resonant ICs	14

Driver ICs

DC/DC Power Supply Control ICs	16
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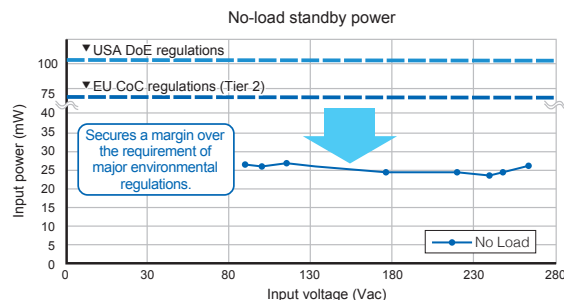
Green Mode PWM-ICs

FA8A60N/70N/80N/90N Series

The AC/DC PWM Control IC FA8A60N/70N/80N/90N Series offer the best system for flyback circuits. With a rich variety of functions integrated in the small-sized package of SOP8, it makes excellent cost performance via a compact power supply design that leads to good energy saving at light loads.

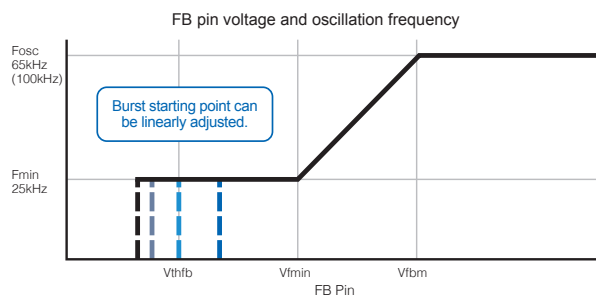
1. Low standby power (Burst operation function)

It achieves low standby power with its burst operation function. It is also capable of clearing the energy-saving standards for external power supplies such as DoE*1 and CoC*2 even securing some margin.



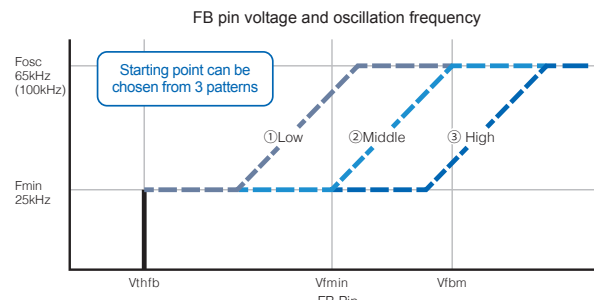
3. Burst starting point can be adjusted

The burst starting point can be continuously adjusted, which makes it easy to improve efficiency at light loads and implement measures for acoustic noise reduction.



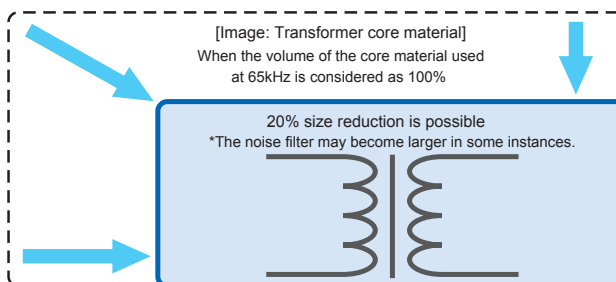
2. Switching frequency reduction adjustment is available

The frequency reduction starting point can be chosen from three patterns, which makes it possible to improve efficiency for each power supply.



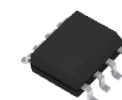
4. Reduced size of the power supply (100kHz type)

In addition to the 65kHz type, a 100kHz type is also available. The high frequency has made it possible to reduce the size of the power supply transformer.



Applications (for flyback circuits)

Office automation equipment, AC adapters, external power supplies, LCD TVs, etc.



Package: SOP-8

Product Line-up

Type	500V Starting circuit	65kHz	FA8A60N	FA8A61N	FA8A70N	FA8A71N
		100kHz	FA8A64N	FA8A65N	FA8A74N	FA8A75N
	650V Starting circuit	65kHz	FA8A80N	FA8A81N	FA8A90N	FA8A91N
		100kHz	FA8A84N	FA8A85N	FA8A94N	FA8A95N
Overload protection (OLP)		Auto-Recovery	Latch	Auto-Recovery	Latch	
Delay time		200ms	200ms	200ms	200ms	
Line compensation		Built-in	Built-in	Built-in	Built-in	
Detection level		1 level	1 level	1 level	1 level	
X-Cap discharge function		None	Built-in			
Frequency reduction function		Selectable (3 patterns)				
Burst operation point adjustment		Linearly adjustable				
Power-off mode		Built-in				
DSS (Dynamic self supply)		Built-in				
Overvoltage protection		25.5V (latch)				
Over temperature protection		140°C (latch)				

*1 DoE (United States Department of Energy): The energy-saving regulations in the United States that stand in for the Energy Star program promoted by the United States Department of Energy.

*2 CoC (Code of Conduct): Abbreviation for the EU Code of Conduct. Tier 2 became effective in January 2016 as a replacement of the EuP directive.

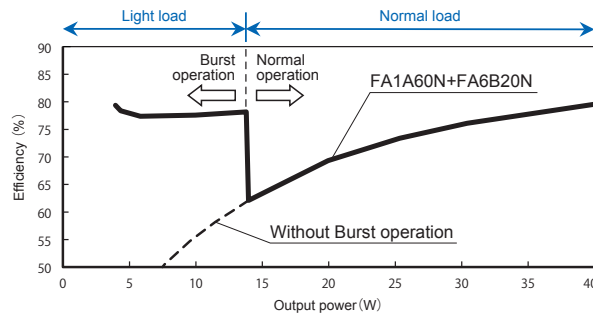
Critical mode PFC control IC and LLC current resonance control IC for high-efficiency power supplies

FA1A60N/FA6B20N

The critical mode PFC Control IC FA1A60N and LLC current resonance control IC FA6B20N provide an optimum system for LLC converters with an input of 75W or higher. The auto standby function enables the products to be applied not only to internal power supplies for LCD TVs, etc but also to adapters that do not have external standby signals.

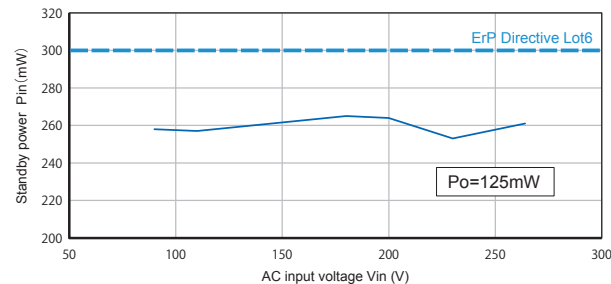
1. Improved efficiency at light load

Efficiency above 75% is achieved at 3% of rated power by providing burst control for both PFC control IC and LLC control IC at light load.



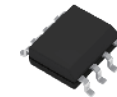
2. Low standby power

Standby power below 260mW is achieved without standby power supply when input is 230V AC and output power is 125mW. (ErP Directive Lot6*1: 0.3W or lower)

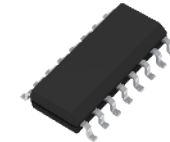


Application examples

LCD TVs, high power adapters, office automation (OA) equipment, communication power supplies and industrial power supplies



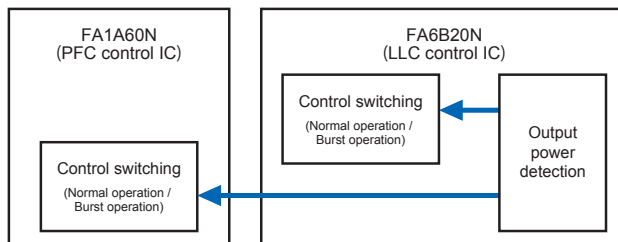
FA1A60N package
:SOP-8



FA6B20N package
:SOP-16 (N)

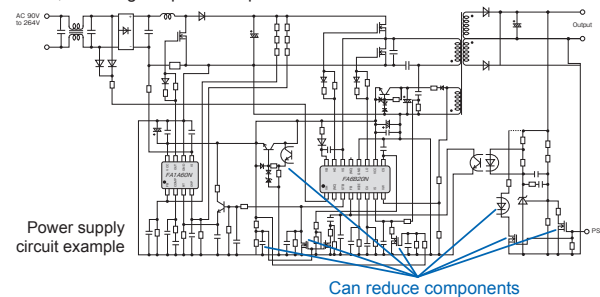
3. Auto standby function

Output power is detected by LLC control IC, and at light load condition, both PFC control IC and LLC control IC are switched from normal operation to burst operation.



4. Reduced power supply components

Because the auto standby function is integrated, an external standby signal is unnecessary. This makes it possible to reduce the number of components by seven, including the photo coupler.



*1 The ErP Directive is also called the Eco Design Directive, the EU regulation that obligates environmentally conscious design

Contents

No.	Title	Page	Applicable circuit						
			Flyback	Forward	Full-bridge	Half-bridge Current Resonant	Boost	Buck	Inverting
1	Product map	4							
2	AC/DC Power Supply Control ICs	Green Mode PWM-ICs (Current Mode)	6	✓					
3		General PWM-ICs	8	✓	✓		(✓) *1	(✓) *1	
4		Green Mode Quasi-resonant ICs (Current Mode)	10	✓					
5		Power Factor Correction ICs	12	✓			✓		
6		Current Resonant ICs	14			✓			
7	Driver ICs	15			✓	✓		✓	
8	DC/DC Power Supply Control ICs	16	✓				✓	✓	✓
9	Application circuit examples	18							
10	Package outlines	20							

*1: Some products can be utilized depending on the applicable circuit

Type nomenclature

FA8A00N (example)

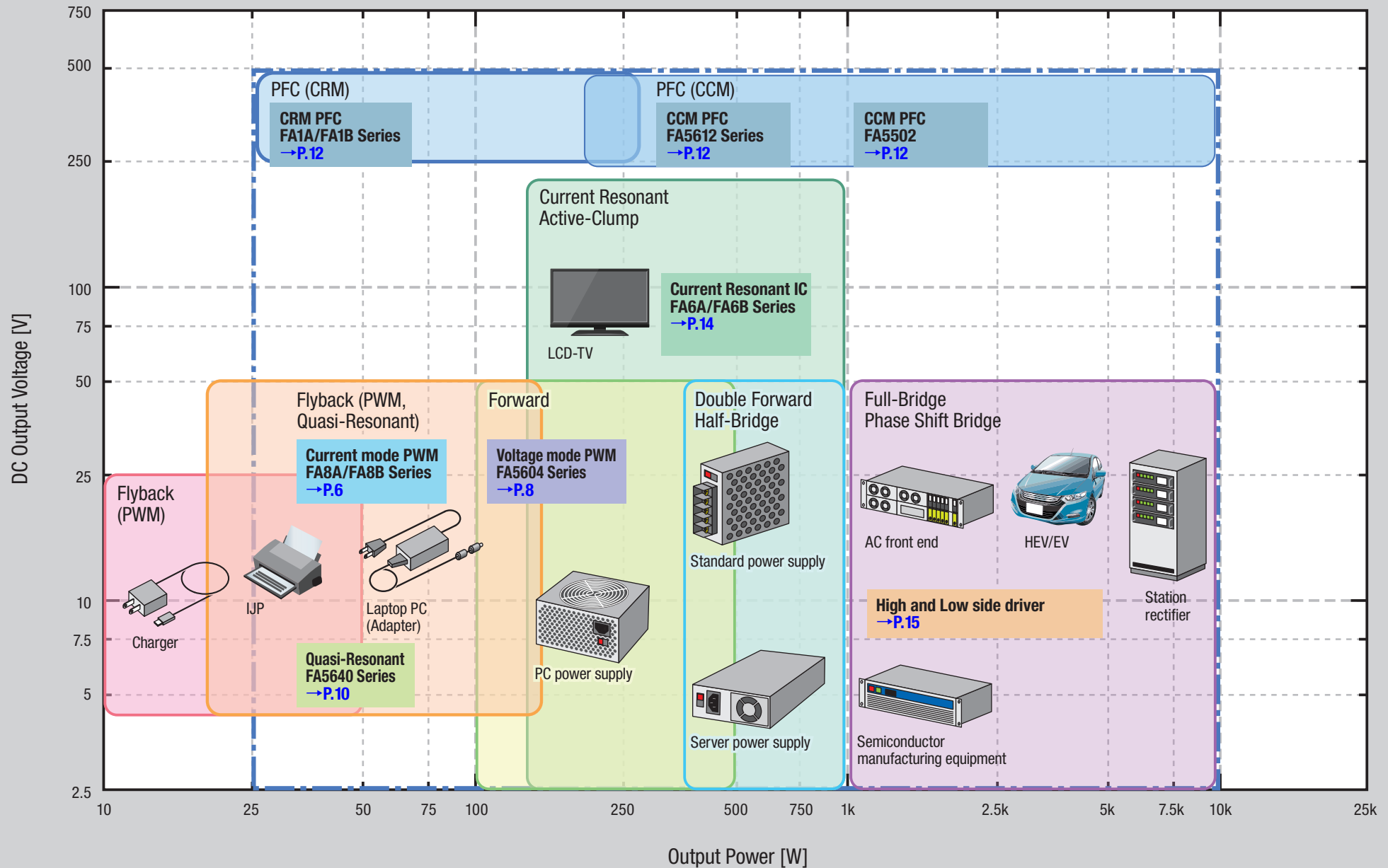
F		A		8		A	00	N	
Company symbol		Control system		Series		Generation	Number	Package code	
F	Fuji	A	Analog	1	CRM PFC	A	Two-digit integer	N	SOP
				6	LLC	B			
				8	PWM	C			
					...				

FA5590N (example)

F		A		55		90	N	
Company symbol		Control system		Series		Number	Package code	
F	Fuji	A	Analog	3X	AC/DC DC/DC	Two-digit integer	M/N	SOP
				5X	AC/DC		V	TSSOP
				7X	DC/DC			
				13X	AC/DC			

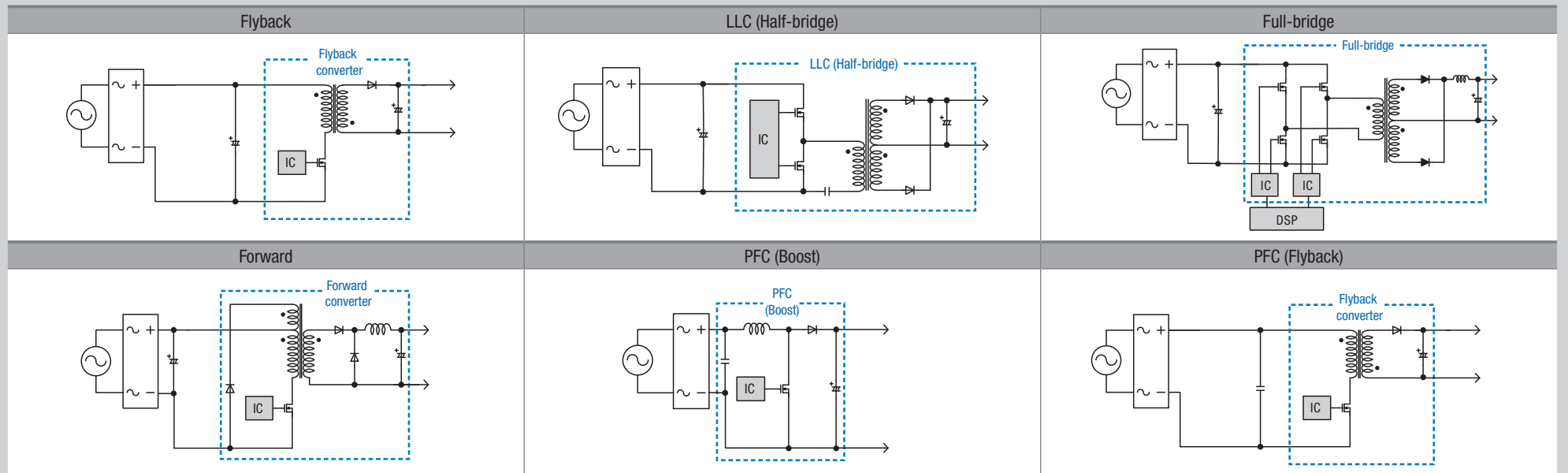
Product Map

Application specific output power/output voltage and applicable ICs



Circuit type (AC/DC)

Circuit type	Product category	Page	Output power 10W	50W	100W	150W	200W	300W	500W	1kW -
Flyback	Green Mode PWM-ICs (Current Mode)	6								
	General PWM-ICs	8								
	Green Mode Quasi-resonant ICs (Current Mode)	10								
Forward	General PWM-ICs	8								
LLC (Half-bridge)	Current Resonant ICs	14								
Full-bridge	Driver ICs	15								
PFC (Boost)	Power Factor Correction ICs (Critical Conduction Mode)	12								
	Power Factor Correction ICs (Continuous Conduction Mode)	12								
PFC (Flyback)	Power Factor Correction ICs (FA1B00N, FA1A21N, FA5601N)	12								



■ Green Mode PWM-ICs (Current Mode)

Generation	Series	Type name	Control mode	Applied circuit	Built-in start up circuit	X-Cap discharge function	Brown out function	Max Duty	Frequency fsw	Overcurrent detection	Protection mode			Light-load switching	Power supply voltage Vcc	Vcc threshold voltage		Package	Remarks	
											Over load	Over power	Overvoltage			ON	OFF			
6th generation	FA8A00 Series (Basic functions version)	FA8A00N	Current mode	Flyback	✓ (500V)	✓	Fixed	83%	65kHz	+ detection	Auto-Recovery	2 Stage (OPP ratio 1:1.4)	Latch Vcc detection	Linearly frequency reduction + Intermittent operation	12-24V	13V	6.5V	SOP-8		
		FA8A01N									Timer-latch Delay 70 ms									
		FA8A40N							Auto-Recovery											
		FA8A41N							Timer-latch Delay 70 ms											
		FA8A27N					Timer-latch Delay 860 ms		2 Stage (OPP ratio 1:1.8)		10-28V									
		FA8A37N					Timer-latch Delay 1.6 s													
		FA8A39N					Timer-latch Delay 2.5 s													
		FA8A12N					Auto-Recovery					2 Stage (OPP ratio 1:1.4)			12-24V					
	FA8A60 Series (Advanced functions version)	FA8A60N			✓ (500V)	-	83%	65kHz	+ detection	Auto-Recovery	1 Stage	Latch Vcc detection	Linearly frequency reduction + Intermittent operation (Frequency reduction/burst point adjustable)	10-24V	12.5V	6.5V				
		FA8A61N								Timer-latch										
		FA8A64N						Auto-Recovery												
		FA8A65N						Timer-latch												
		FA8A70N				Auto-Recovery														
		FA8A71N				Timer-latch														
		FA8A74N				Auto-Recovery														
		FA8A75N				Timer-latch														
	FA8A80 Series (Advanced functions, VH high withstand-voltage version)	FA8A80N			✓ (650V)	-	83%	65kHz	+ detection	Auto-Recovery	1 Stage	Latch Vcc detection	Linearly frequency reduction + Intermittent operation (Frequency reduction/burst point adjustable)	10-24V	12.5V	6.5V				
		FA8A81N								Timer-latch										
		FA8A83N				✓				Fixed							Auto-Recovery			
		FA8A84N				-		-		100kHz		Timer-latch					-		OCP,OLP No correction	
		FA8A85N										Auto-Recovery								
		FA8A86N				✓		Fixed		Auto-Recovery										
		FA8A87N				✓		-		65kHz		Timer-latch					Latch Vcc detection			
		FA8A90N										Auto-Recovery								
		FA8A91N										Timer-latch								
		FA8A94N										Auto-Recovery								
		FA8A95N										Timer-latch								
	FA8Bxx Series	FA8B16N			✓ (500V)	✓	Fixed	83%	65kHz	+ detection	Auto-Recovery	2 Stage (OPP ratio 1:1.5)	Latch Vcc detection	Linearly frequency reduction + Intermittent operation	12-24V	12.5V	8V			
5th generation	FA5680 Series	FA5680N	✓ (750V)	-	-	85%	65kHz	- detection	Auto-Recovery	1 Stage	Latch Vcc detection	Linearly frequency reduction + Intermittent operation	11-24V	18V	8V	OCP,OLP correction by external circuit				
		FA5681N							Timer-latch											

Green Mode PWM-ICs (Current Mode)

Features

- With 500V/650V/750V withstand voltage start up circuit
- Green mode functions (Intermittent Switching/Linearly reduced switching frequency)
- Protect functions (Over voltage/Brown out/2 stage Over power)
- Low EMI noise

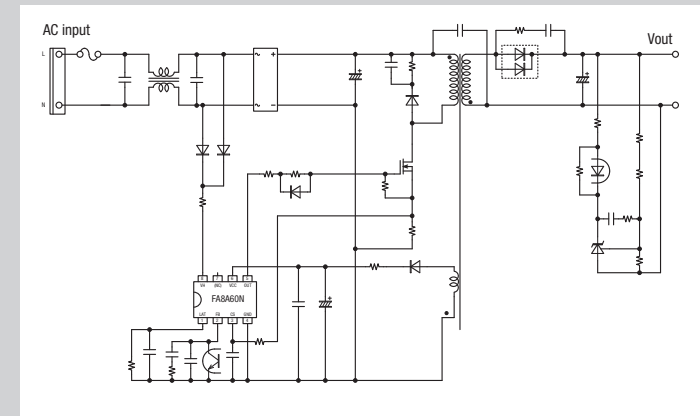
Green mode PWM-ICs with Brown Out function

Green Mode PWM IC									
Brown out function	With								
Current sense	Positive								
Over power protection	2 Stage OPP ratio 1:1.4			2 Stage OPP ratio 1:1.8			2 Stage OPP ratio 1:1.5	1 Stage	
Frequency (kHz)	65		100	65			65	65	100
Overload protection	Auto-Recovery	Timer-latch	Auto-Recovery	Timer-latch	Timer-latch		Auto-Recovery	Timer-latch	Auto-Recovery
OLPdelay time (ms)	70	70	70	70	860	1600	2500	890	200
X-Cap discharge function	With	With	With	With	With	With	With	With	Without
Start up circuit 500V	FA8A00N	FA8A01N	FA8A40N	FA8A41N	FA8A27N	FA8A37N	FA8A39N	FA8B16N	
Start up circuit 650V								FA8A83N	FA8A86N

Green mode PWM-ICs without Brown Out function

	Green ModePWM IC											
Brown out function	Without											
Over power protection	1Stage								2Stage			
Current sense	Negative				Positive				Positive			
Overload protection	Auto-Recovery		Timer-latch		Auto-Recovery		Timer-latch		Auto-Recovery			
Frequency (kHz)	65		65		65		100		65			
X-Cap discharge function					With		With		With			
OCP OLP correction					With						With	
Start up circuit 500V					FA8A60N		FA8A70N		FA8A12N			
Start up circuit 650V					FA8A80N		FA8A90N		FA8A95N			
Start up circuit 750V	FA5680N		FA5681N									

Circuit example (Flyback) : FA8A60N



General PWM-ICs

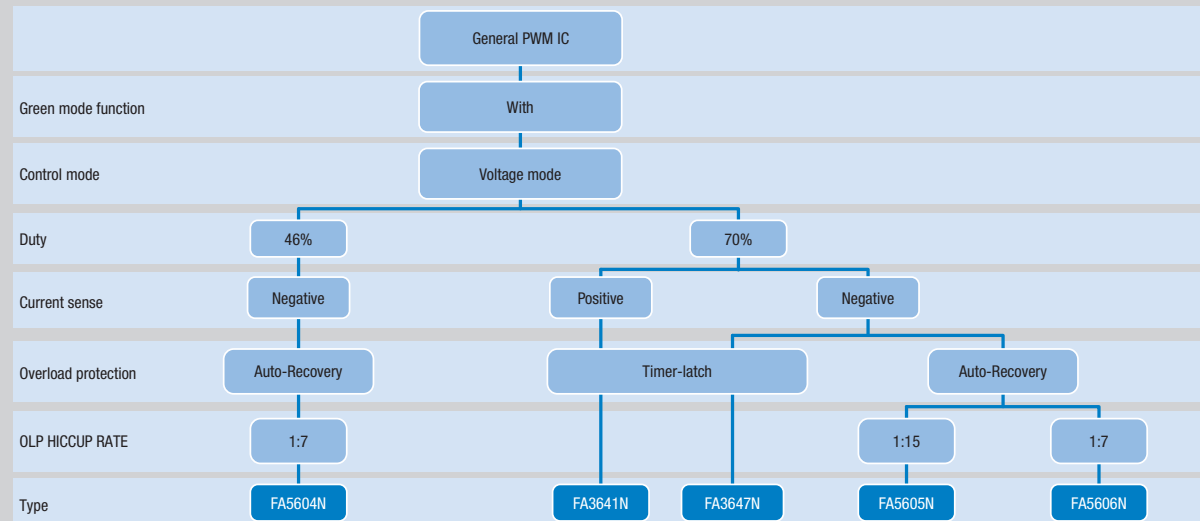
Series	Type name	Control mode	Applied circuit	Max Duty	Frequency fsw	Overcurrent detection	Protection mode		Light-load switch operation	Power supply voltage Vcc	Vcc threshold voltage		Package	Features
							Overload	Overvoltage			ON	OFF		
FA1384× Series	FA13842N	Current mode	Flyback	96%	External settings 10-500kHz	+ detection	—	—	—	10-25V	16.5V	9V	SOP-8	384 Series pin compatible, 5V reference voltage output, With error amplifier
	FA13843N			9.6V										
	FA13844N		Forward	48%	External settings 5-250kHz						16.5V			
	FA13845N			9.6V										
FA5504 Series	FA5504N	Forward	46%	External settings 10-500kHz	+ detection	Timer-latch	CS latch Vcc voltage detection	—	10-28V	16.5V	9V	With error amplifier 5V reference voltage output		
FA551× Series	FA5510N	Forward	46%	External settings 10-500kHz	+ detection	Timer-latch	CS latch Vcc voltage detection	—	10-28V	16.5V	9V	5V reference voltage output		
	FA5511N	Flyback	70%		— detection									
	FA5514N	Forward	46%											
	FA5515N	Flyback	70%											
FA364× Series	FA3641N	Voltage mode	Flyback	70%	External settings 30-500kHz	+ detection	Timer-latch	CS latch Vcc voltage detection	Frequency reduction	10-28V	16.5V	9V		5V reference voltage output Frequency-reduction function added to FA5511/15
	FA3647N			— detection										
FA5604 Series	FA5604N		Forward	46%	External settings 100-300kHz	— detection	Auto-Recovery	CS latch (External detection)	Frequency reduction Start/stop FB voltage 1.8V/1.95V	10-30V	17.5V	9.7V		Overload current drooping Frequency reduction
	FA5605N		Flyback	70%					Frequency reduction Start/stop FB voltage 1.55V/1.65V					
	FA5606N								—					
	FA5607N													

General PWM-ICs

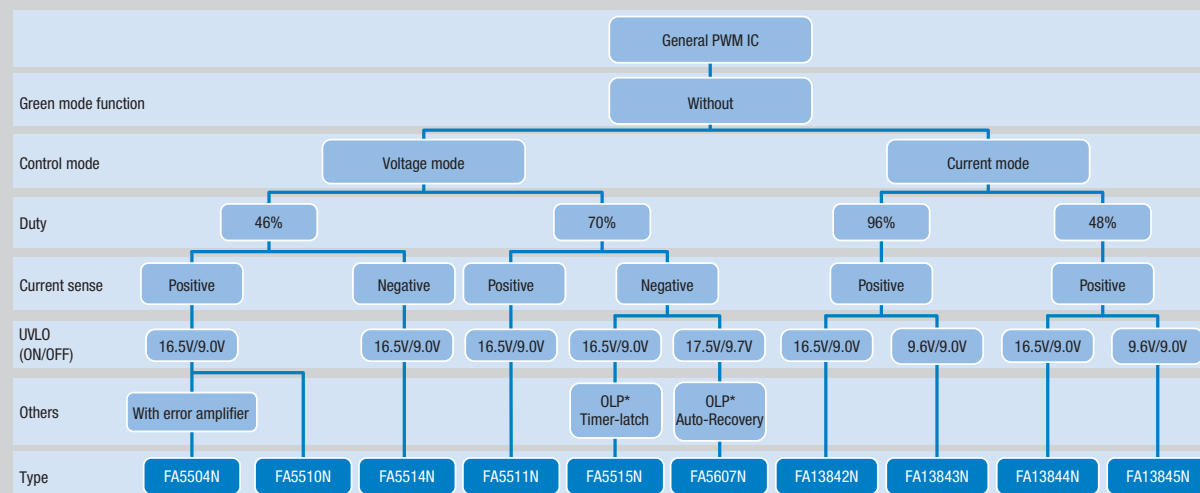
Features

- Voltage mode control
- Operating frequency can be set externally
- 5V reference voltage output

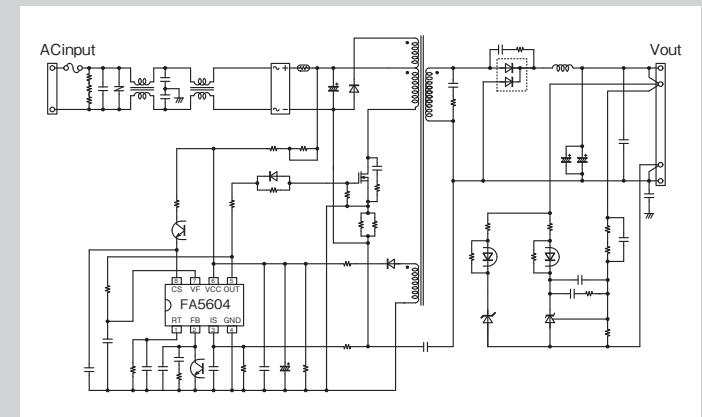
General PWM Control IC Series with Green Mode Function



General PWM Control IC Series without Green Mode Function



Circuit example (Forward) : FA5604N



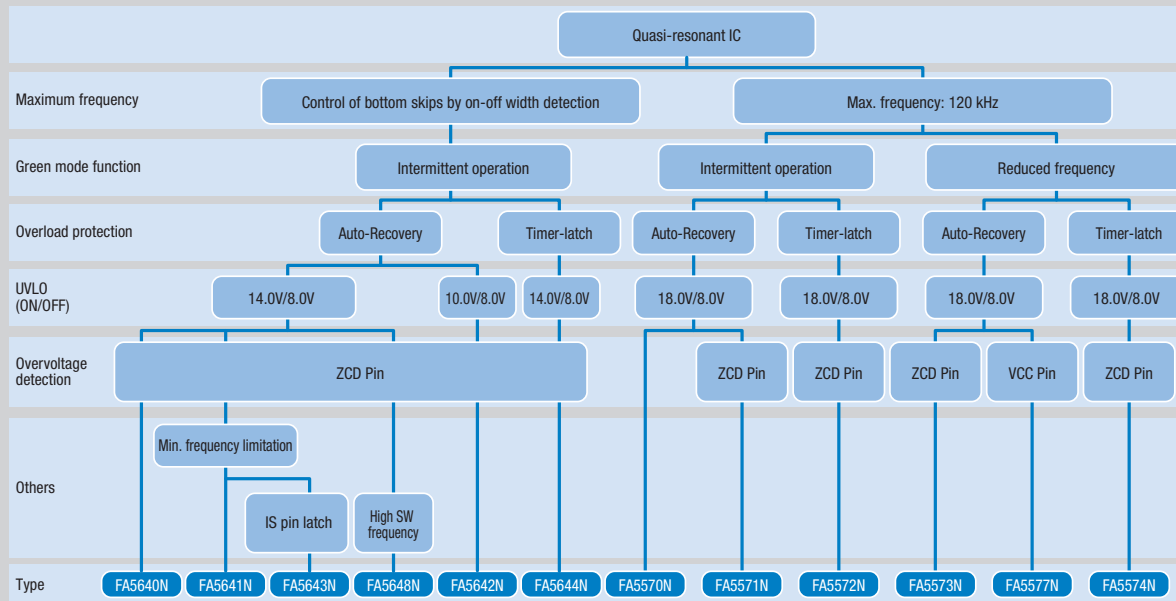
■ Green Mode Quasi-resonant ICs (Current Mode)

Generation	Series	Type name	Control mode	Applied circuit	Built-in start up circuit	Frequency fsw	Overcurrent detection	Protection mode		Light-load switch operation	Power supply voltage Vcc	Vcc threshold voltage		Package	Features	
								Overload	Overvoltage			ON	OFF			
4th generation	FA5640 Series	FA5640N	Current mode	Flyback	✓ (500V)	Bottom skip count control via self-excited on-off width detection, estimated frequency switching from 1st to 2nd bottom 110kHz (FA5648 is 260 kHz)	+ detection +0.5V (AC100V) +0.45V (AC230V)	Auto-Recovery	Latch ZCD voltage detection	Intermittent operation	11-26V	14V	8V	SOP-8	—	
		FA5641N										14V			Minimum frequency (25kHz)	
		FA5642N													Vcc on-voltage (10V)	
		FA5643N						IS pin latch stop								
		FA5644N						Overload latch stop								
		FA5648N						For High SW frequency								
3rd generation	FA5571 Series	FA5570N			✓ (500V)	Self-oscillation Maximum 120kHz	+ detection +1.0V	Auto-Recovery	—	Intermittent operation	10-28V	18V	8V		Without overvoltage protection	
		FA5571N						Timer-latch	Latch ZCD voltage detection							Overvoltage ZCD detection
		FA5572N						Auto-Recovery								
		FA5573N						Timer-latch								
		FA5574N						Linearly frequency reduction	Latch Vcc voltage detection	Overvoltage Vcc detection						
		FA5577N														

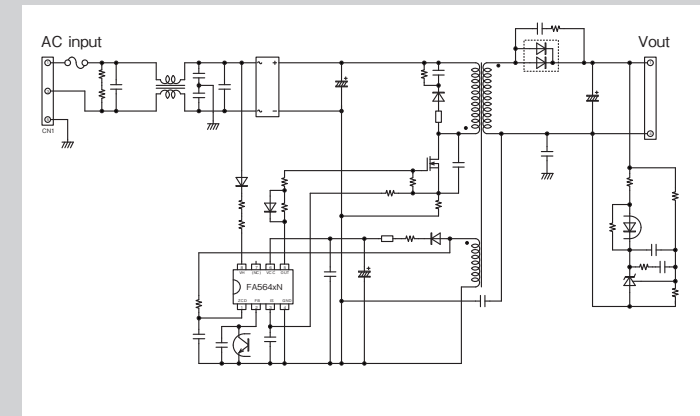
Green Mode Quasi-resonant ICs (Current Mode)

Features

- Built-in 500V withstand voltage start up circuit
- Green mode functions (Intermittent Switching/Linearly reduced switching frequency)
- Protect functions (overvoltage/overload, etc.)



Circuit example (Flyback) : FA5640N



Power Factor Correction ICs

Critical Conduction mode PFC Control IC

Series	Type name	Control mode	Applied circuit	OVP pin	Zero current detection	Overcurrent detection	Frequency fsw	Protection mode		FB open/ short circuit protection	Light-load switching	Power supply voltage Vcc	Vcc threshold voltage		Package	Features		
								Overload	Overvoltage				ON	OFF				
FA1Axx Series	FA1A00N	Voltage mode	PFC (Boost)	✓	CS pin (Resistance)	– detection	Self-oscillation	Input current limitation (Auto-recovery)	Output current limitation (Auto-recovery)	✓	Frequency reduction	10-26V	9.6V	8.8V	SOP-8	Light-load bottom skip function Output overvoltage double protection		
	FA1A01N												12.4V					
	FA1A10N			–												9.6V		
	FA1A11N												12.4V					
	FA1A50N		✓						Frequency reduction + Intermittent operation	9.6V	8.8V		Light-load bottom skip function FA1A00N enhanced version					
	FA1A60N									12.5V	7.5V		Light-load intermittent switching coordinated operation with FA6B19N/20N/22N					
	FA1A61N									12.5V	7.5V		Light-load intermittent operation coordinated operation with FA6B21N					
	FA1A21N												For LED lighting Soft start function Overload protection					
FA5590 Series	FA5590N	PFC (Boost)	–	IS pin (Resistance)	– detection	Self-oscillation	Input current limitation (Auto-recovery)	Output current limitation (Auto-recovery)	✓	Max. frequency limitation	10-26V	9.6V	9V		Max. frequency setting (100k~800kHz)			
	FA5591N											13V						
	FA5696N		✓			9.6V												
	FA5601N																	
FA1Bxx Series	FA1B00N		PFC (Boost/ Flyback)	–	ZCD pin (Winding)	+ detection	Self-oscillation	Auto-Recovery	Output current limitation		Max. frequency limitation	10-24V	13V	9V		For LED lighting (PFC Flyback)		

Continuous Conduction Mode PFC Control IC

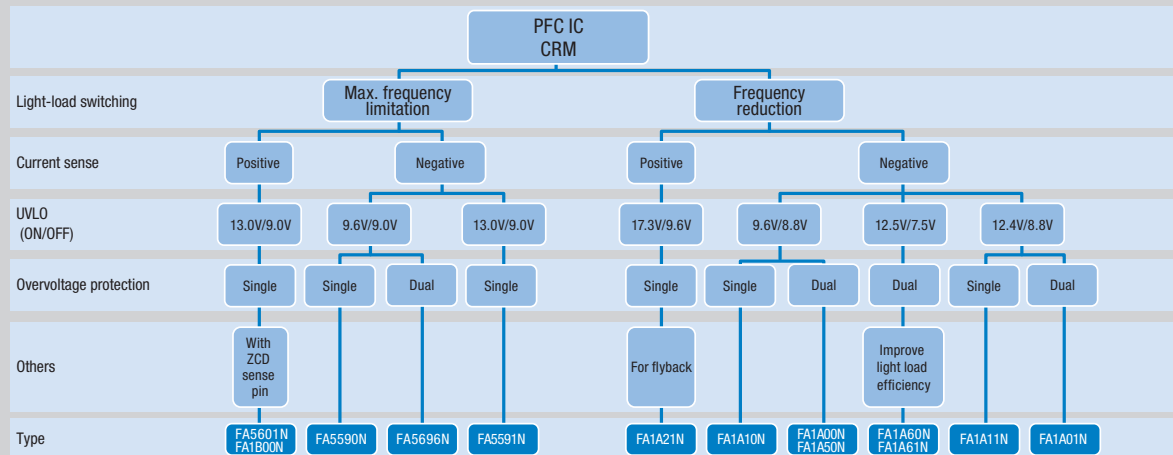
Series	Type name	Control mode	Applied circuit	OVP pin	Max Duty	Overcurrent detection	Frequency fsw	Protection mode		FB open/ short circuit protection	Light-load switching	Power supply voltage Vcc	Vcc threshold voltage		Package	Features
								Overload	Overvoltage				ON	OFF		
FA5612 Series	FA5612N	Average current	PFC (Boost)	—	94%	— detection -0.5V (AC100V) -0.4V (AC230V)	External selection (50-70 kHz scattered, 60 kHz, 65 kHz)	Input current limitation (Auto-recovery)	Output current limitation (Auto-recovery)	✓	—	10-26V	9.6V	9V	SOP-8	Overcurrent detection level switching Fixed frequency, jitter switching
	FA5613N					—	13V									
	FA5614N			—	94%	— detection -0.5V (AC100V) -0.4V (AC230V)	External selection (106-148 kHz scattered, 120 kHz, 130 kHz)	Input current limitation (Auto-recovery)	Output current limitation (Auto-recovery)		—		9.6V			High SW frequency Overcurrent detection level switching Fixed frequency, jitter switching
	FA5615N					—	13V									
FA5502 Series	FA5502M			✓	94%	— detection	External settings 15-150kHz	Input current limitation (Auto-recovery)	Output current limitation (Auto-recovery)	—	—	10-28V	16.5V	8.9V	SOP-16 (M)	ON/OFF pin Synchronous pin

Power Factor Correction ICs

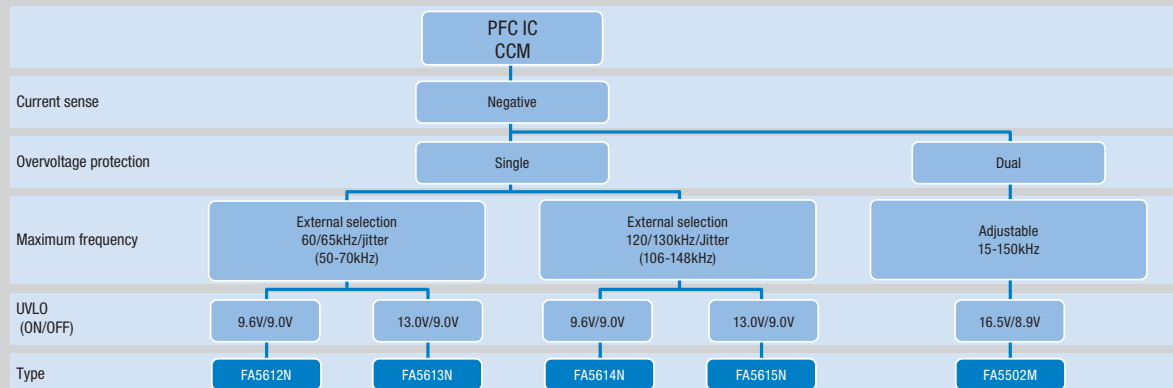
Features

- Wide electric power range (From 75W to 1kW)
- Power factor ≥ 0.99
- Protect functions (FB pin open short/Over voltage, etc.)

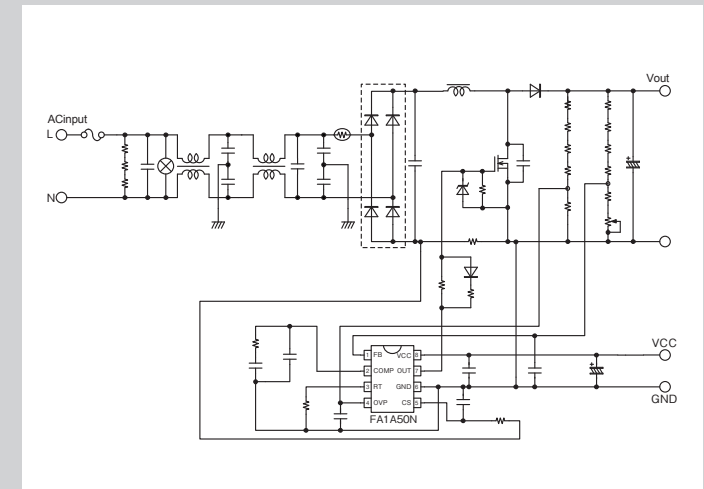
Critical Conduction mode PFC Control IC



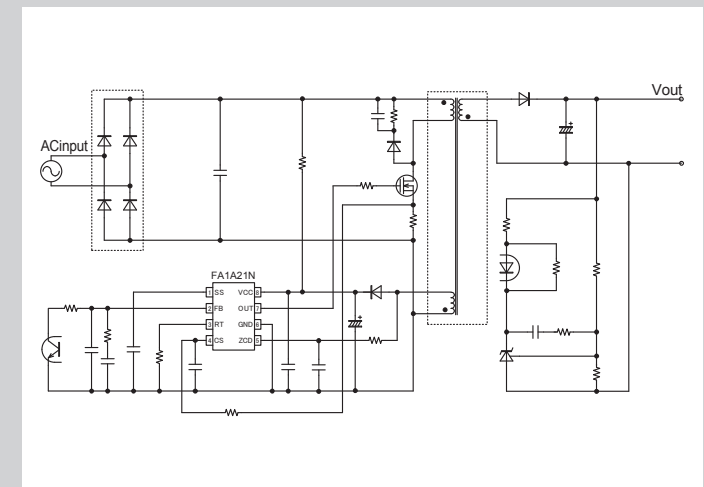
Continuous Conduction Mode PFC Control IC



Circuit example (PFC boost) : FA1A50N



Circuit example (PFC flyback) : FA1A21N

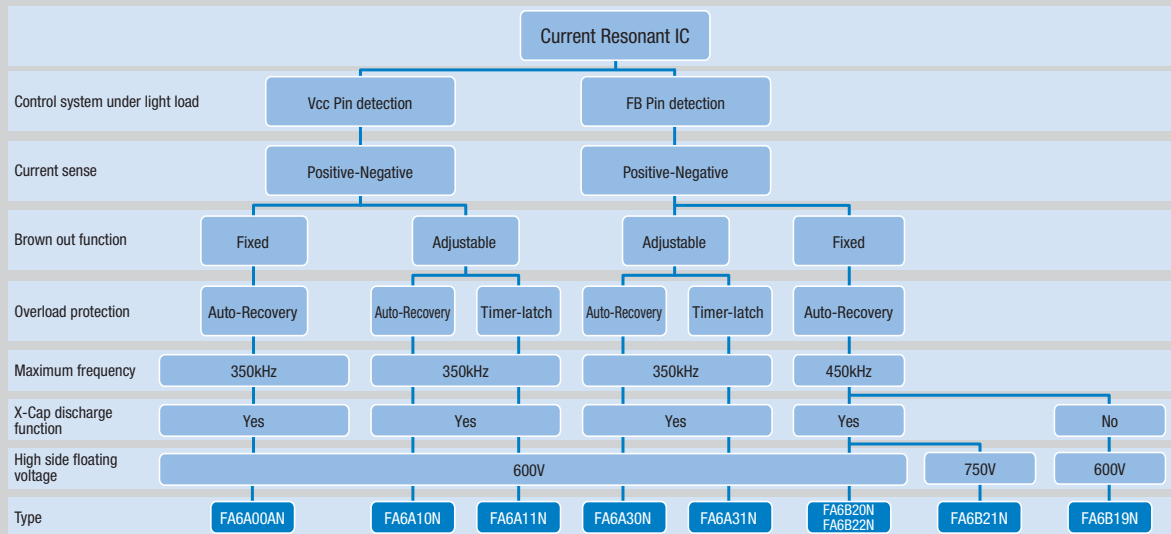


Current Resonant ICs

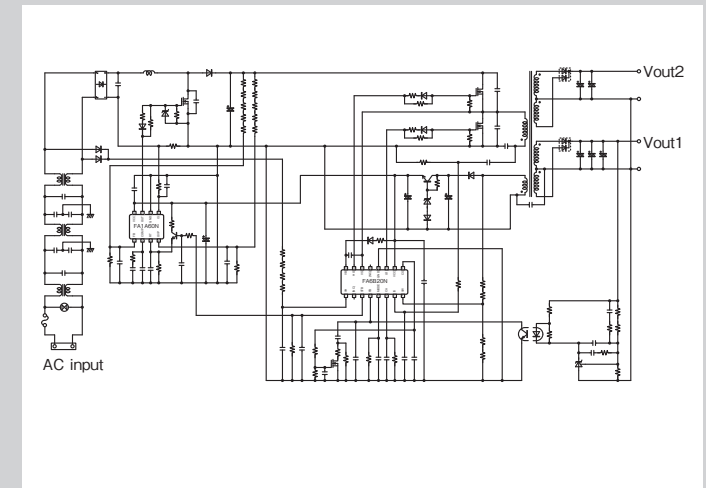
Generation	Series	Type name	Applied circuit	Built-in start up circuit	High side floating voltage	X-Cap discharge function	Brown out function	Low standby mode switching	Duty	Current sense	Frequency fsw	Protection mode			Light-load switching	Power supply voltage Vcc	Vcc threshold voltage		Package	Features	
												Overcurrent	Overload	Overvoltage			ON	OFF			
3rd generation	FA6Bxx Series	FA6B19N		✓ (600V)	600V	—	✓ Fixed	CA Pin detection Auto switching/ external switching	50%	Positive-Negative	25-450kHz	Auto-recovery	Auto-Recovery	Auto-Recovery	Burst operation FB pin control	14-29V	14V	9V		Auto standby function State setting function	
		FA6B20N			✓	Fixed														Transient response improvement Auto standby function	
		FA6B21N																		750V	BO detection delay extension type Auto standby function
		FA6B22N																		600V	
2nd generation	FA6Axx Series	FA6A00AN	Current resonant LLC (Half bridge)	✓ (600V)	600V	✓	✓ Fixed	External switching STB pin	50%	Positive-Negative	38-350kHz	Timer-latch	Auto-Recovery	Timer-latch	Burst operation Vcc pin control	14-27V	12V	9V	SOP-16 (N)	Power good signal output State setting function Supports W/W voltage	
		FA6A10N					Auto-recovery					Auto-Recovery	Brown out Detection level adjustment State setting function Supports W/W voltage								
		FA6A11N					Timer-latch					Timer-latch									
		FA6A30N					Auto-recovery					Auto-Recovery			Burst operation FB pin control						
		FA6A31N					Timer-latch					Timer-latch									

Features

- Realize 1 convertor circuit structure at world wide input power
- Built-in High side driver
- Preventing capacitive region operation
- Protect functions (Over current/Over voltage/Over load/Over heat/Brown out)
- Green mode function (Intermittent switching)



Circuit example (PFC + LLC) : FA1A60N, FA6B20N



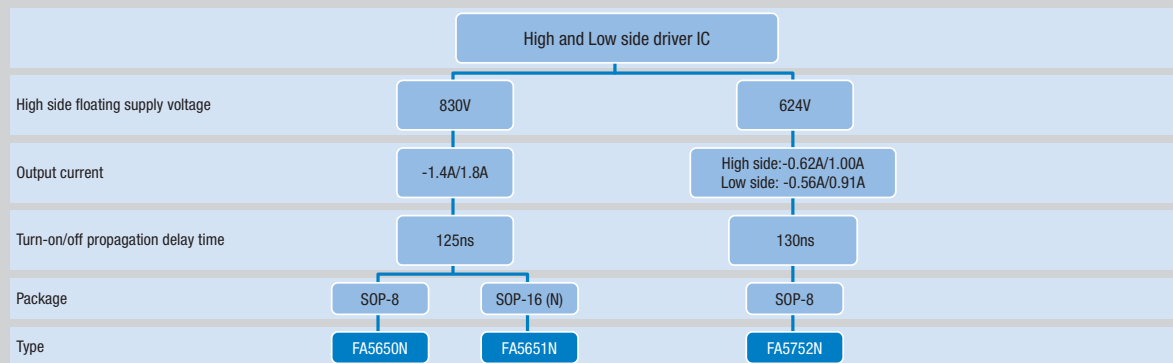
Driver ICs

High and Low side driver ICs

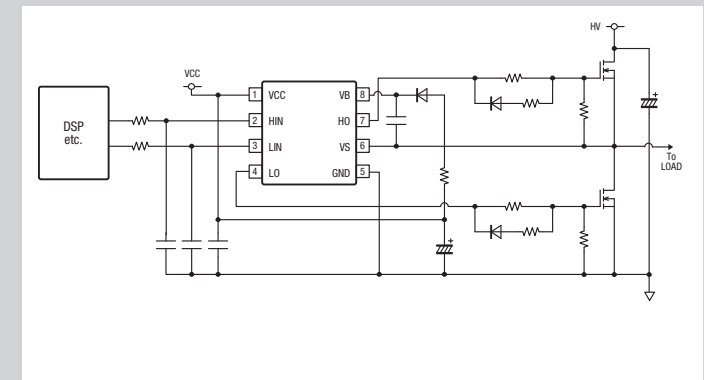
Series	Type name	Number of input/output pin	Absolute maximum ratings				Input threshold voltage	Turn-on/off propagation delay	Recommended power supply voltage VCC, VBS	VCC, VBS threshold voltage		Package	Features
			High side floating supply voltage	Output current	Power supply voltage	Maximum frequency				ON	OFF		
FA5650 Series	FA5650N	2	830V	-1.4/1.8A	30V	500kHz	Logic "1" 2.1V Logic "0" 1.1V	125ns	12-18V	8.9V	8.2V	SOP-8	High-side and low-side delay time difference 30ns (max), high-side dVs/dt withstand 50kV/μs, input 3.3V logic compatible
	FA5651N											SOP-16	
FA5752 Series	FA5752N	2	624V	High side IHO: -0.62A/1.00A Low side ILO: -0.56A/0.91A	24V	500kHz	Logic "1" 2.1V Logic "0" 1.3V	130ns	12-18V	8.9V	8.2V	SOP-8	

Features

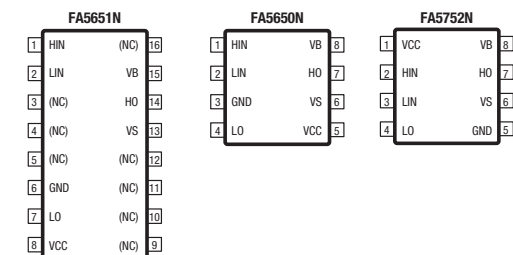
- High negative transient voltage on VS pin
- Wide range supply voltage up to 30V (FA5650/5651)
- 3.3V logic compatible
- Built-in under voltage lockout
- Allowable high slew rate of VS pin: dVs/dt up to 50kV/μs
- High speed response: Turn on/off delay time 125ns (Typ) (FA5650/5651)



Circuit example : FA5752N



Pin Layout

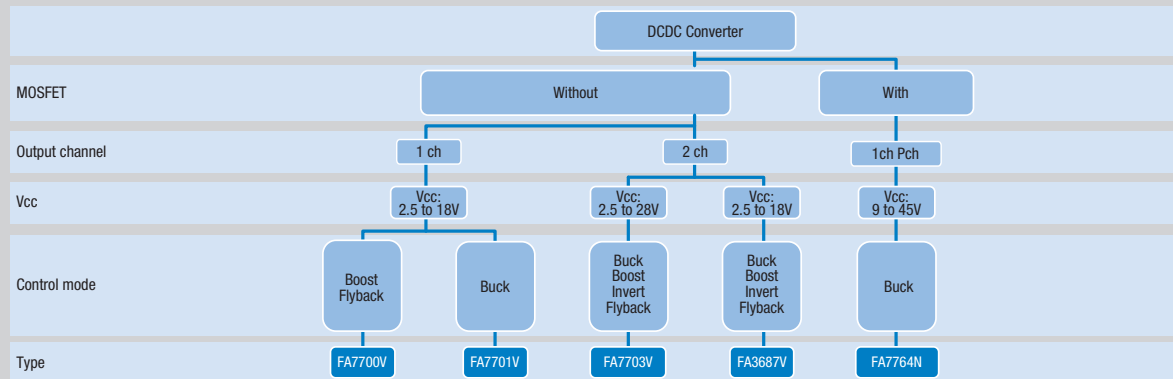


DC/DC Power Supply control ICs

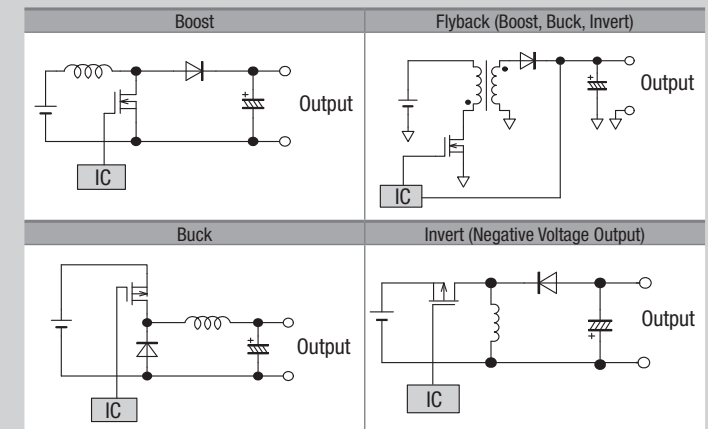
Type name	Output channel	Built-in power MOSFET	Control mode				Frequency	Max Duty	Protection function	Reference voltage	Input voltage Vcc	Vcc threshold voltage		Operating temperature range	Package	Features
			Boost	Flyback	Buck	Inverting						ON	OFF			
FA7700V	1	—	✓	✓			50k-1MHz	80%	Timer-latch short-circuit	0.88V	2.5-18V	2.07V	1.93V	-30~+85°C	TSSOP-8	Soft start ON/OFF function
FA7701V	1	—			✓		50k-1MHz	100%	Timer-latch short-circuit	0.88V	2.5-18V	2.07V	1.93V	-30~+85°C		Soft start ON/OFF function
FA7703V	2	—	✓	✓	✓	✓	50k-1MHz	External settings	Timer-latch short-circuit	1.0V	2.5-28V	2.0V	1.85V	-30~+85°C	TSSOP-16	Max. duty limit setting per ch Soft start
FA3687V	2	—	✓	✓	✓	✓	300k-1.5MHz	External settings	Timer-latch short-circuit	1.0V	2.5-18V	2.2V	2.1V	-30~+85°C		Max. duty limit setting per ch Soft start
FA7764N	1	✓ 1.5A			✓		30k-400kHz	95%	Overcurrent, Timer-latch short circuit, Over temperature, Rectifier diode/open	1.0V	9-45V	8.9V	8.2V	-20~+85°C	SOP-8E	Soft start ON/OFF function

Features

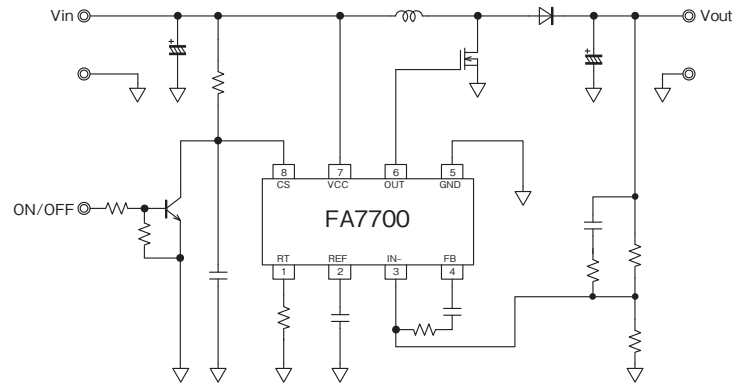
- Supports a wide range of input voltages
- ON/OFF control function
- Soft start, short circuit protection (timer latch), low voltage protection (UVLO)
- Output voltage, operating frequency can be set externally



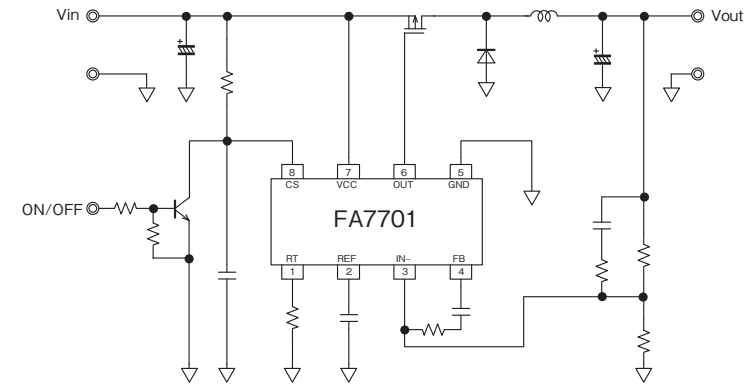
Circuit type (DC/DC)



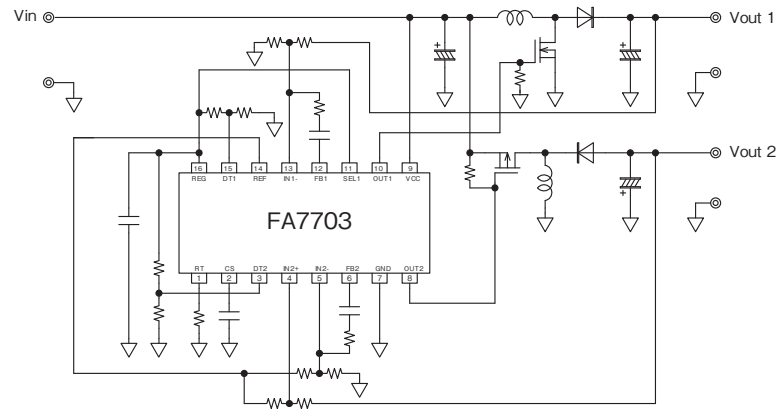
● Circuit example (Boost) : FA7700V



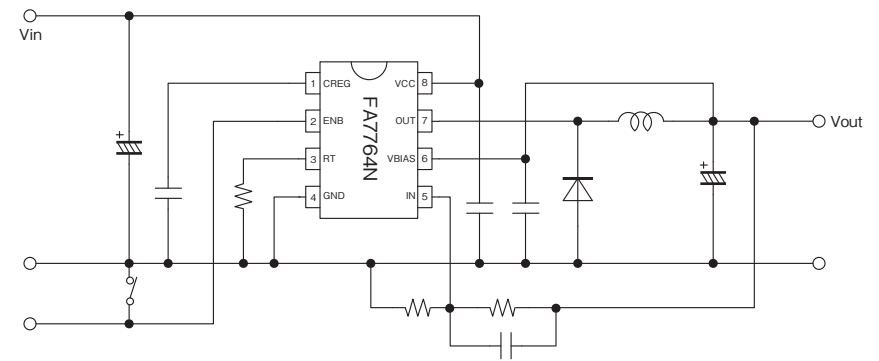
● Circuit example (Buck): FA7701V



● Circuit example (Boost, Invert) : FA7703V

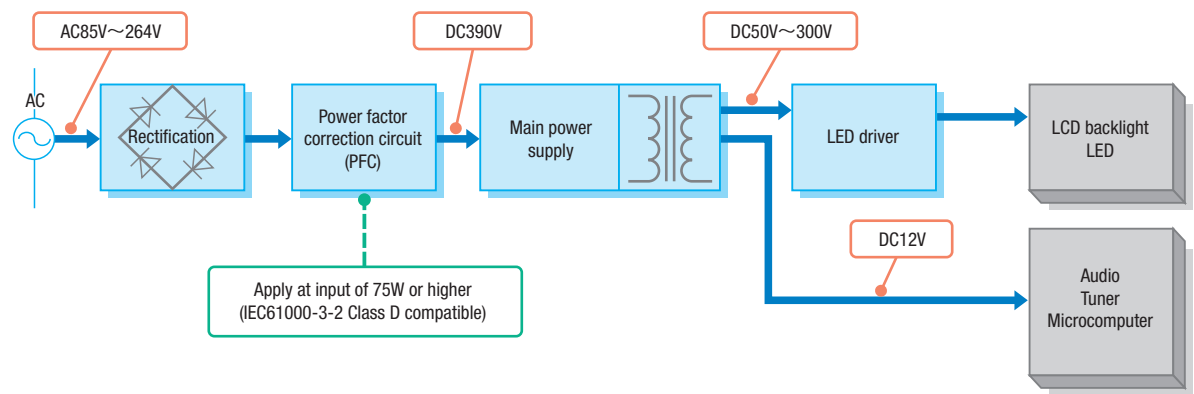


● Circuit example (Buck): FA7764N



Application circuit examples

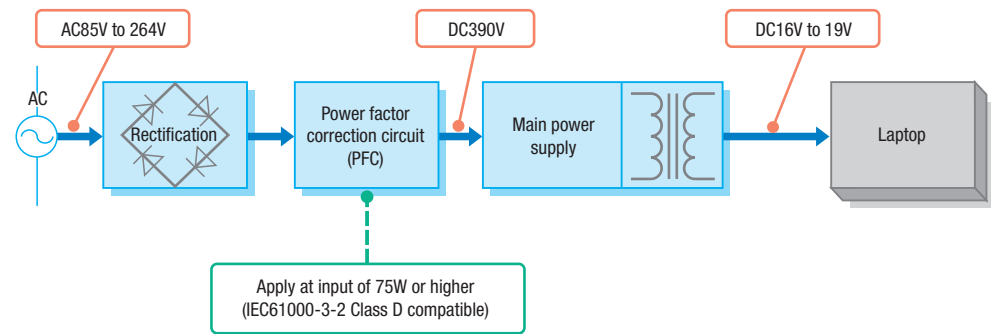
1. LCD TV power supply



Recommended IC

Circuit	Type	Recommended IC	Page
Power factor correction	PFC (75W-200W)	FA1Axx Series	12
	PFC (more than 200W)	FA561x Series	12
Main power supply	Quasi-resonant	FA564x Series	10
	PWM	FA8A6x Series	6
	LLC	FA6Axx Series	14
		FA6Bxx Series	14

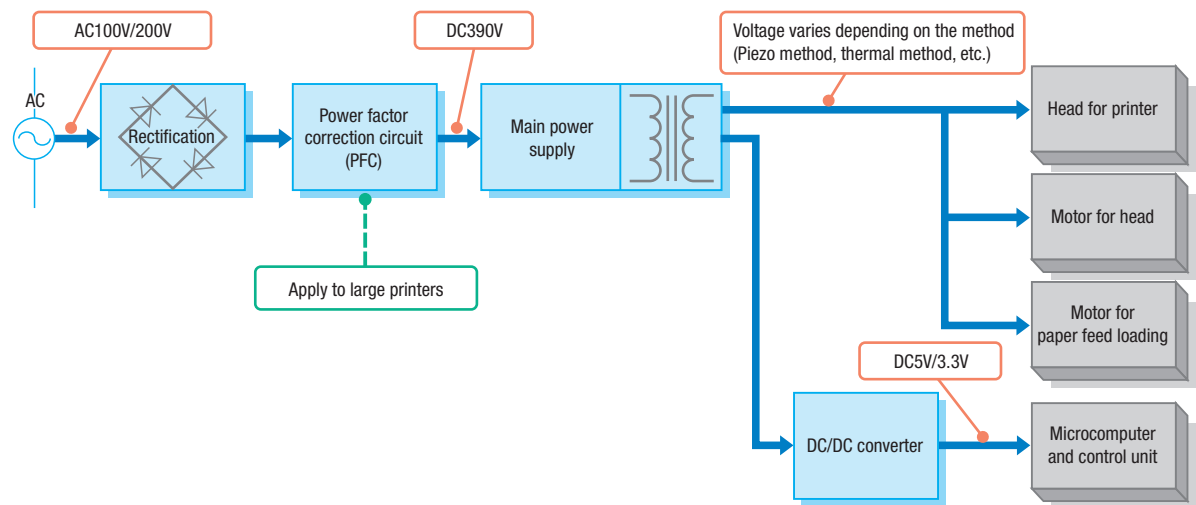
2. Laptop (AC Adapter) Power Supply



Recommended IC

Circuit	Type	Recommended IC	Page
Power factor correction	PFC (75W-200W)	FA1Axx Series	12
	PFC (more than 200W)	FA561x Series	12
Main power supply	Quasi-resonant	FA564x Series	10
	PWM	FA8A6x Series	6
	LLC	FA6Bxx Series	14

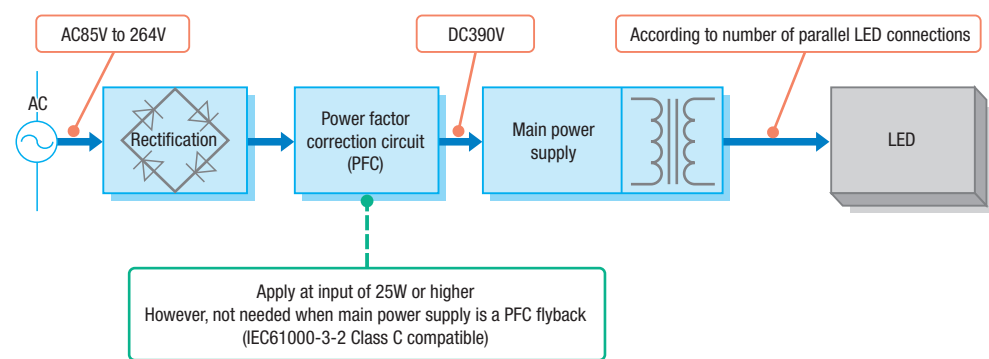
3. Printer (IJP) Power Supply



Recommended IC

Circuit	Type	Recommended IC	Page
Power factor correction	PFC (75W-200W)	FA1Axx Series	12
	PFC (more than 200W)	FA561x Series	12
Main power supply	Quasi-resonant	FA564x Series	10
	PWM	FA8A6x Series	6

4. LED lighting Power Supply

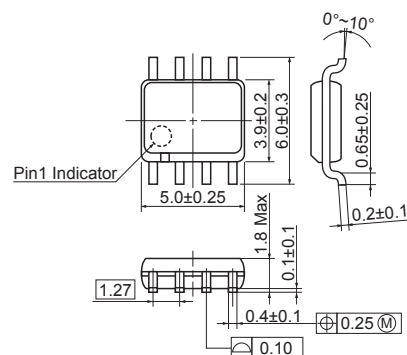


Recommended IC

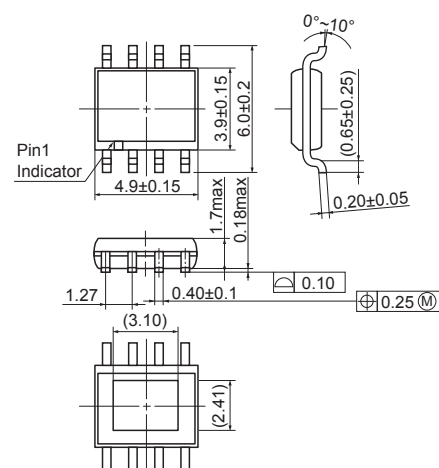
Circuit	Type	Recommended IC	Page
Power factor correction	PFC (25W-200W)	FA1Axx Series	12
		FA1B00N/FA5601N	12
	PFC (more than 200W)	FA561x Series	12
Main power supply	Quasi-resonant	FA564x Series	10
	PWM	FA8A6x Series	6
	LLC	FA6Bxx Series	14
	PFC Flyback	FA1A21N	12
		FA1B00N/FA5601N	12

Package Outlines, mm

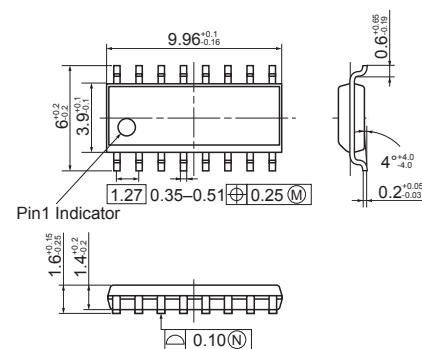
SOP-8 *1



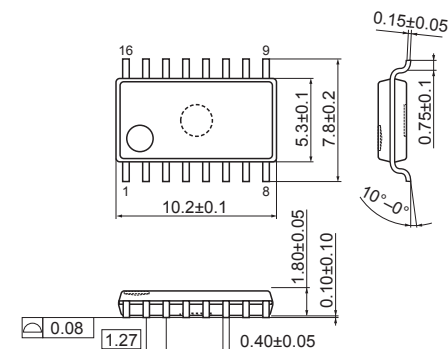
SOP-8E



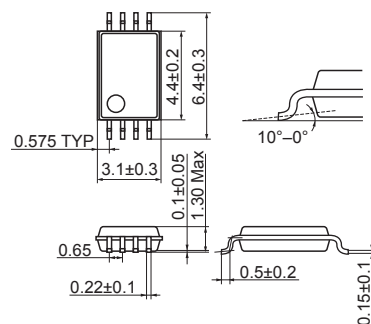
SOP-16(N)



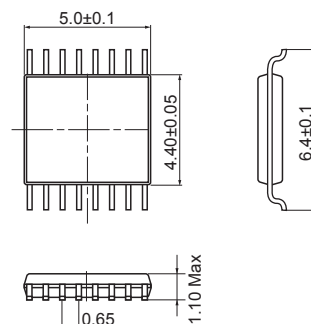
SOP-16(M)



TSSOP-8



TSSOP-16



*1) This is the package size for the representative device type (FA8AxxN). For other ICs, please refer to the separate application note (specifications).

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