

AXElite Power Solution 电源管理IC及解决方案

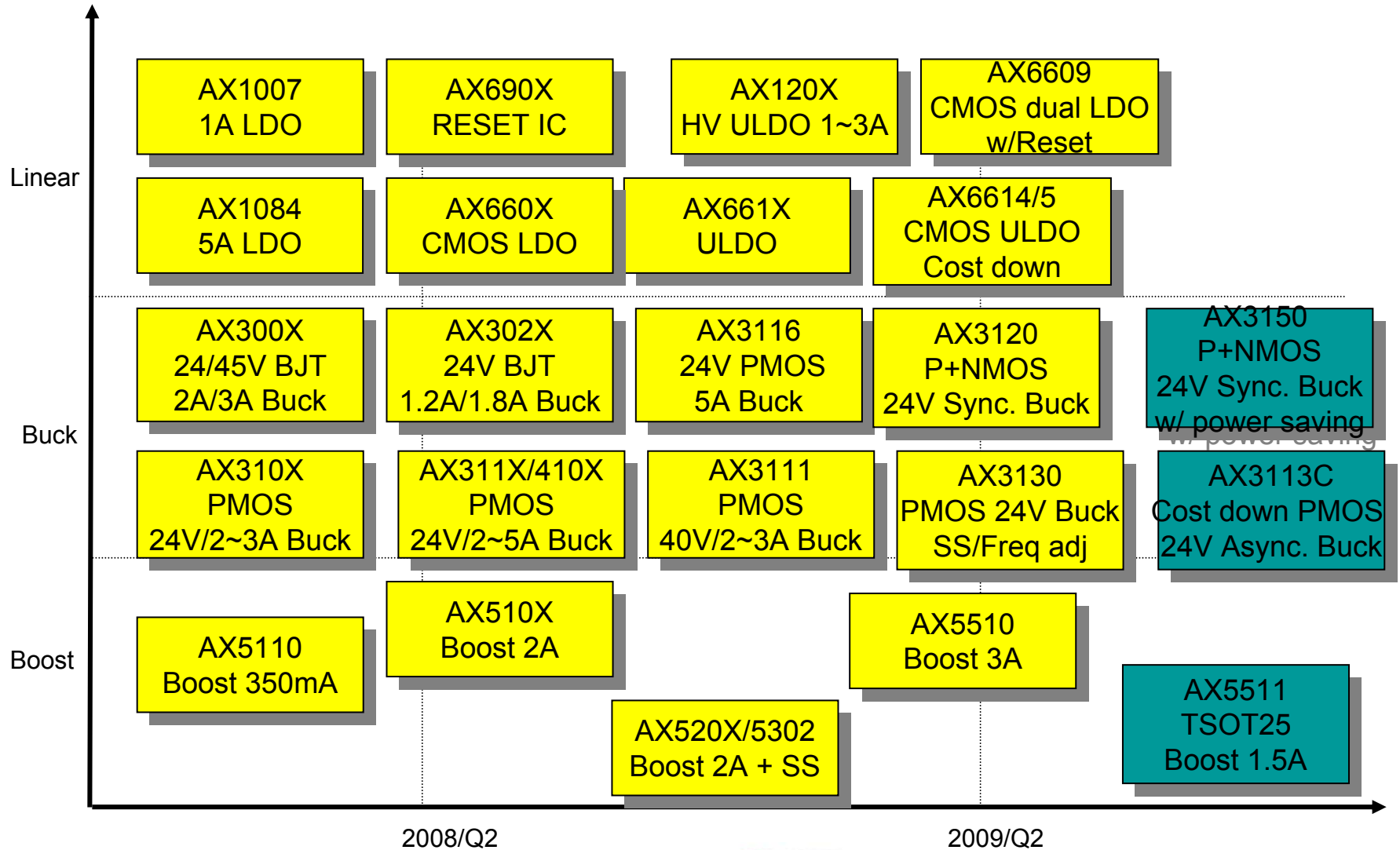
2010 Oct



AXEElite Parts number

-
- AX30XX : Buck Converter , Transistor inside
- AX301X : Buck Converter , w/ OVP/OCP function
- AX31XX : Buck Converter , Mosfet inside
- AX311X : HV Async Buck , Mosfet inside
- AX313X : Async Buck w/ OSC/Softstart adjustable
- AX33XX : Buck Controller
- AX20XX : Buck Converter , Mosfet inside , Vref 0.25v
- AX21XX : Buck Controller , Vref 0.25v
- AX22XX : Boost Converter , Mosfet inside , Vref 0.25v
- AX312X : Sync Buck Converter , P+NMOS
- AX35XX : Buck Synchronous Converter Mosfet inside
- AX52XX : Boost Converter , Mosfet inside
- AX53XX : Boost Synchronous Controller , Mosfet inside
- AX66XX : CMOS LDO / CMOS ULDO
- AX69XX : RESET IC
- AX77XX : Charge Pump IC

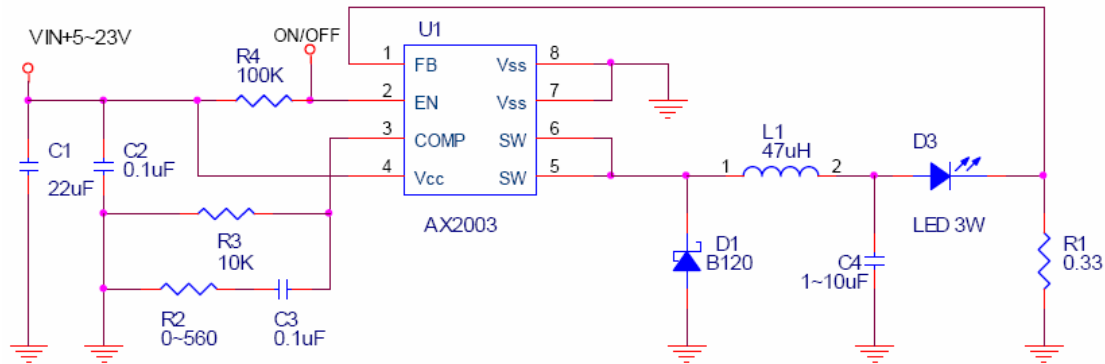
Product roadmap in 2009~2010



Buck Solution

AX20xx(LED Driver)

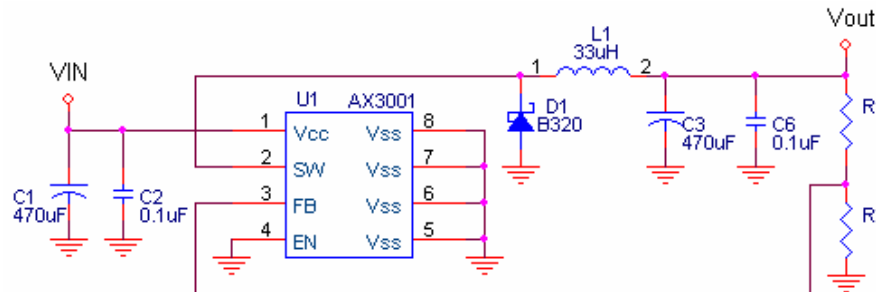
- Buck Converter , Mosfet inside , Vref 0.25v
- Circuit



- AX2001/A Vin 4.5V-23V , Iout 1A , Freq 330KHz/500KHz
- AX2002/A Vin 3.6V-23V , Iout 2A , Freq 330KHz/500KHz
- AX2003/A Vin 3.6V-23V , Iout 3A , Freq 330KHz/500KHz
- OCP , OTP , Enable

AX30xx

- Buck Converter , Transistor inside , Vref 1.23V/0.75V
- Circuit

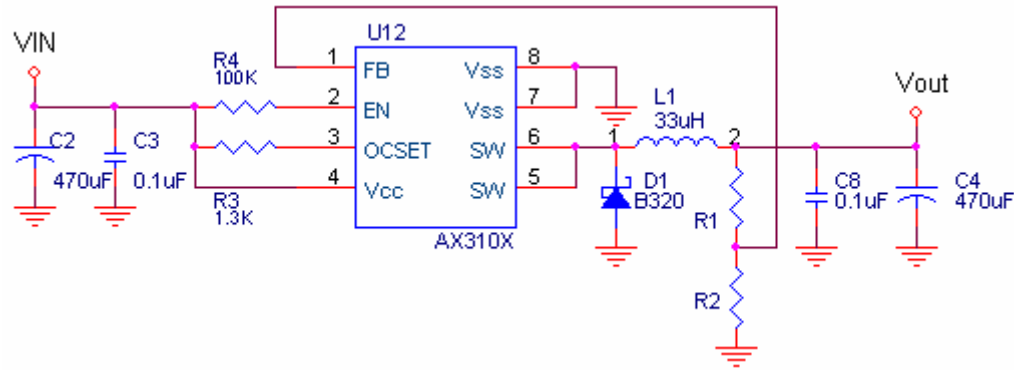


| Part No. | Vin Oper | Iout | Freq. | Package |
|--------------|-----------|------|--------------|-----------------|
| AX3001 | 4.5V- 22V | 2A | 150K | SOP8 |
| AX3002 | 4.5V- 22V | 3A | 150K | TO-263 |
| AX3003 | 4.5V- 22V | 3A | 150K | TO-252 |
| AX3005/6 | 4.5V- 40V | 3A | 150K | TO-263/220/252 |
| AX3007/A/B/C | 4.5V- 40V | 2A | 150K/80K/52K | SOP8/TO-252/263 |
| AX3020 | 4.5V- 24V | 1.5A | 200K | SOP8 |
| AX3022 | 4.5V- 24V | 1.5A | 200K | SOT89 |
| AX3023/A | 4.5V- 28V | 1A | 200K/38K | SOT23-5 |

- OCP , OTP , SD

AX310x(EC)

- Buck Converter . Mosfet inside
- Circuit

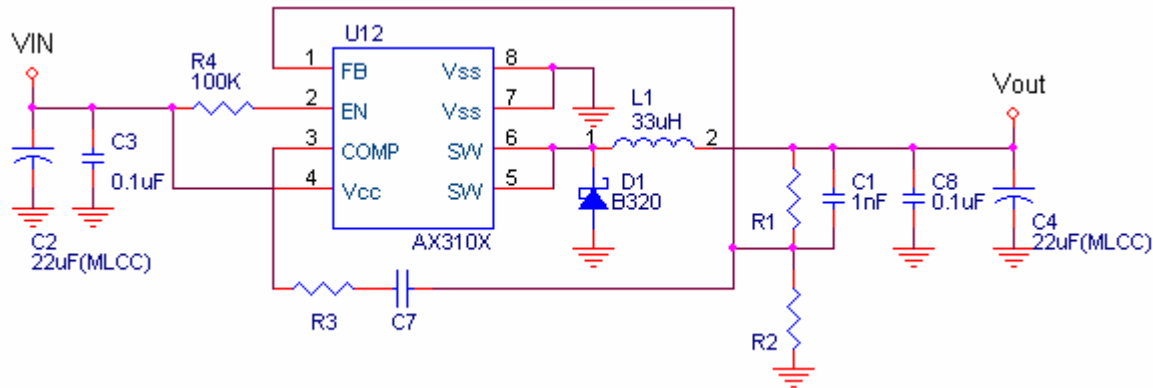


| Part No. | Vin oper | Iout | Package |
|----------|----------|------|---------|
| AX3113 | 4V-23V | 2A | SOP8 |
| AX3101 | 3.6V-20V | 2A | SOP8 |
| AX3102 | 3.6V-23V | 3A | SOP8 |
| AX3104 | 3.6V-23V | 2A | SOP8 |
| AX3107 | 3.6V-20V | 3A | SOP8 |
| AX3113 | 4V-23V | 2A | SOP8 |
| AX4101 | 3.6V-23V | 2.5A | SOP8 |
| AX4102 | 3.6V-23V | 3.5A | SOP8 |
| AX3116 | 4.5V-23V | 5A | SOP8 |

- OCP(adj) , OTP , EN , Vref : 0.8v , Freq : 330K

AX310x(MLCC)

- Buck Converter , Mosfet inside
- Circuit



| Part No. | Vin oper | Iout | Package |
|----------|----------|------|---------|
| AX3103/A | 3.6V-23V | 3A | SOP8 |
| AX3105/A | 3.6V-23V | 2A | SOP8 |
| AX3106/A | 3.6V-20V | 2A | SOP8 |
| AX3108/A | 3.6V-20V | 3A | SOP8 |
| AX3109 | 4V-23V | 5A | DIP8 |

- Vref : 0.8v , MLCC/EC Cout
- OCP , OTP , EN , Freq : 330K/500K(A)

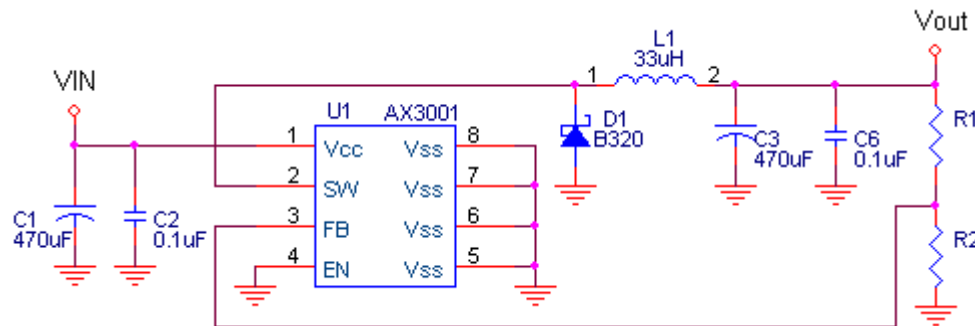
**General Buck
Solution(BJT)**

AX300X

pin to pin with LM575/2576/2596(NS)

AP150X(DII)

- Buck Converter , Transistor inside
- Circuit

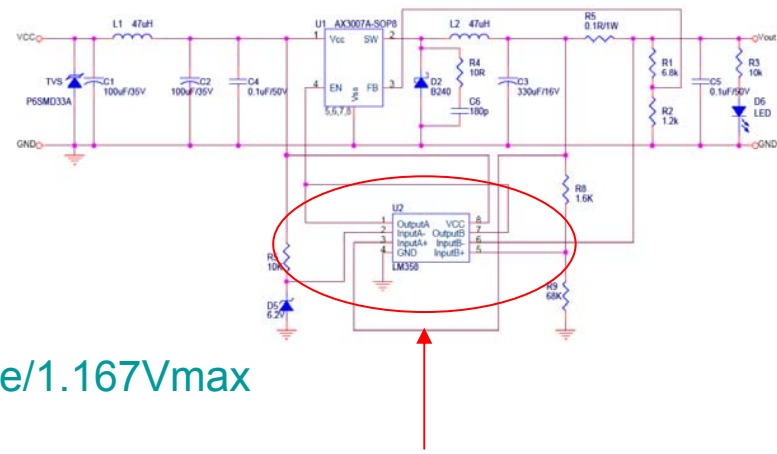
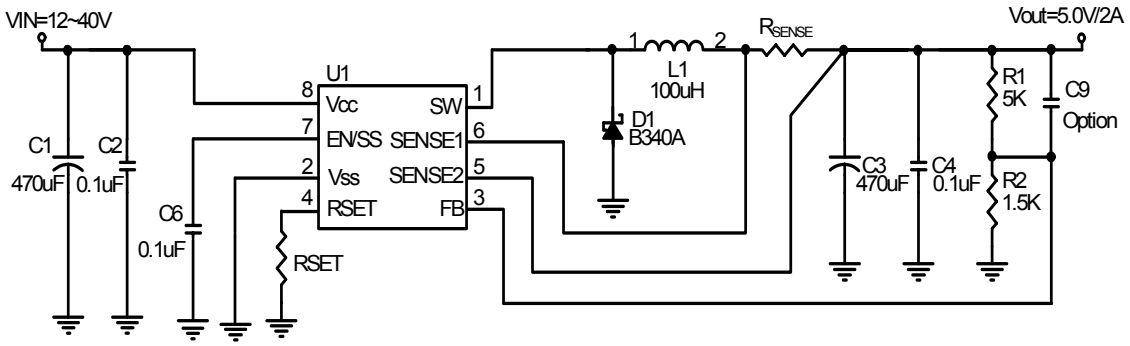
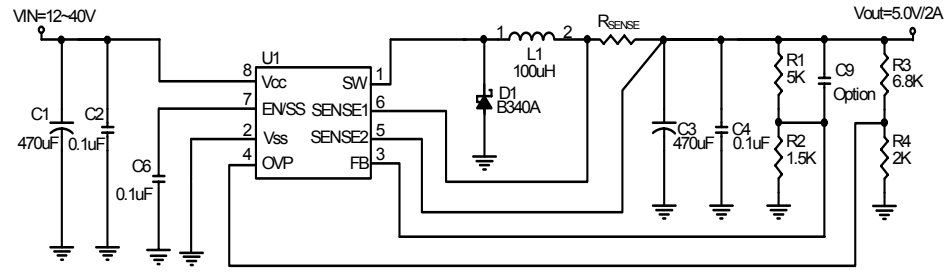


- Vin : 4.5V to 40V , Vref : 1.23V
- OCP , OTP , On/Off , SCP , 52KHz(B/C)/85KHz(A)/150KHz
- 2A:SOP8(AX3001 - 24V, AX3007A/B/C - 40V)
3A:TO263-5(AX3002-24V/AX3005-40V)
3A:TO252-5 (AX3003-24V/AX3006-40V)

Car Use Buck Solution(BJT)

AX3015(A)for Car Use solution (OVP inside/L.C. function)

- Buck Converter , Transistor inside
- Circuit



- Vin : 4.5V to 40V , 1% Vref : 1.143Vmin/1.115Vtype/1.167Vmax
- OCP , OTP , On/Off , SCP , 50KHz/150KHz(A)
- 2A:SOP8-EP
- OVP & Line compensation function support
- OCP setting possibility

Outside OVP/OCP circuit

**Cost effective
Solution(BJT)**

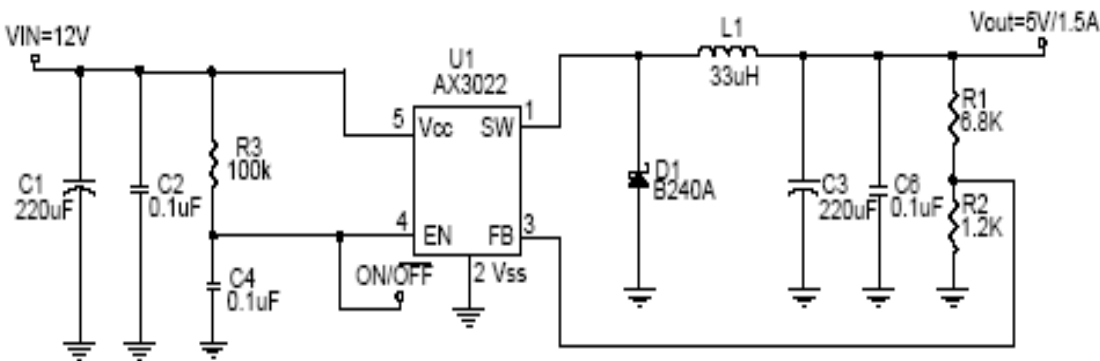
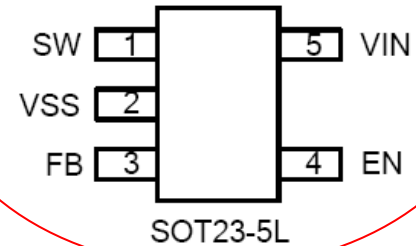
AX302X

replace for MC34063/MP2359

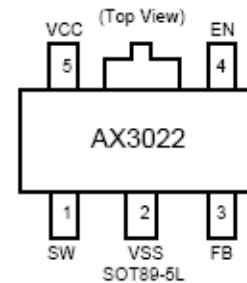
- Buck Converter , Transistor inside
- Circuit

Competition Price

(Top View)



Pinout of AX3022 is SOT89-5L; the pin assignment is given by:



| Name | Description |
|-----------------|---------------------------------|
| V _{cc} | Operating voltage input |
| SW | Switching output |
| FB | Output voltage feedback control |
| EN | ON/OFF Shutdown |
| V _{ss} | GND pin |

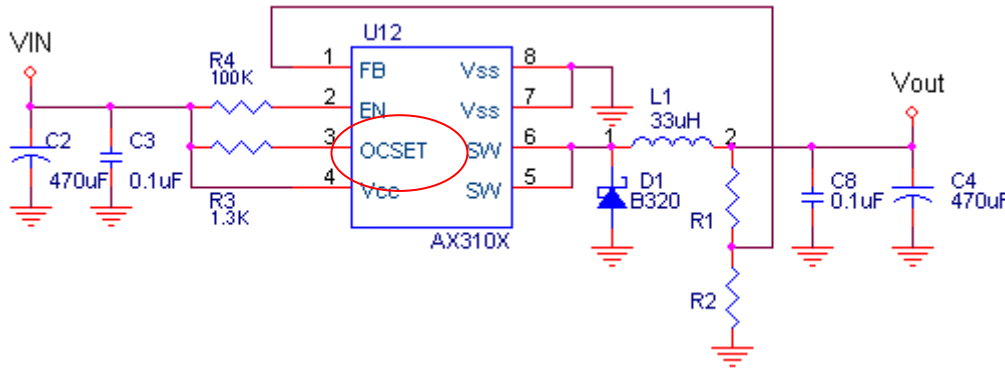
- Vin : 4.5V to 28V , Vref : 0.75V
- OCP , OTP , On/Off , SCP , 200KHz
- 2A:SOP8(AX3020/AX3021)
- 1.5A:SOT89-5(AX3022)
- 1.2A:SOT23-5(AX3023)

**High efficiency
Solution(PMOS)**

AX310X

(pin to pin – AP1513/1510/1530)

- Buck Converter , Mosfet inside
- Circuit



| Part No. | Vin oper | Iout | Package |
|----------|----------|------|---------|
| AX3101 | 3.6V-20V | 2A | SOP8 |
| AX3102 | 3.6V-23V | 3A | SOP8 |
| AX3113 | 3.6V-20V | 2A | SOP8 |
| AX3107 | 3.6V-20V | 3A | SOP8 |
| AX3109 | 4V-23V | 5A | PDIP |
| AX4102 | 4V-23V | 3.5A | SOP8 |

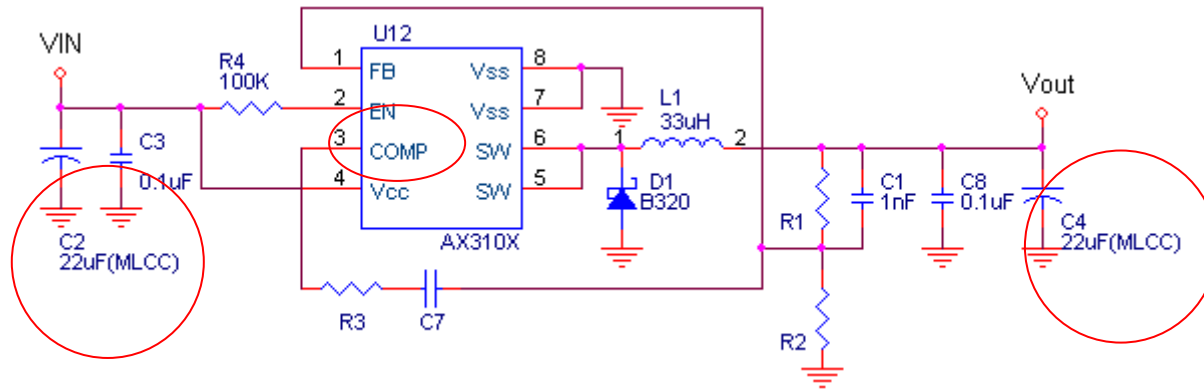
- OCP(adj) , OTP , Soft start , SCP , EN , Vref : 0.8v , Freq : 330K

High efficiency
MLCC compare
(PMOS)

AX310X

MLCC compatible - recommend

- Buck Converter , Mosfet inside
- Circuit



| Part No. | Vin oper | Iout | Package |
|----------|----------|------|---------|
| AX3103/A | 3.6V-23V | 3A | SOP8 |
| AX3105/A | 3.6V-23V | 2A | SOP8 |
| AX3106/A | 3.6V-20V | 2A | SOP8 |
| AX3108/A | 3.6V-20V | 3A | SOP8 |

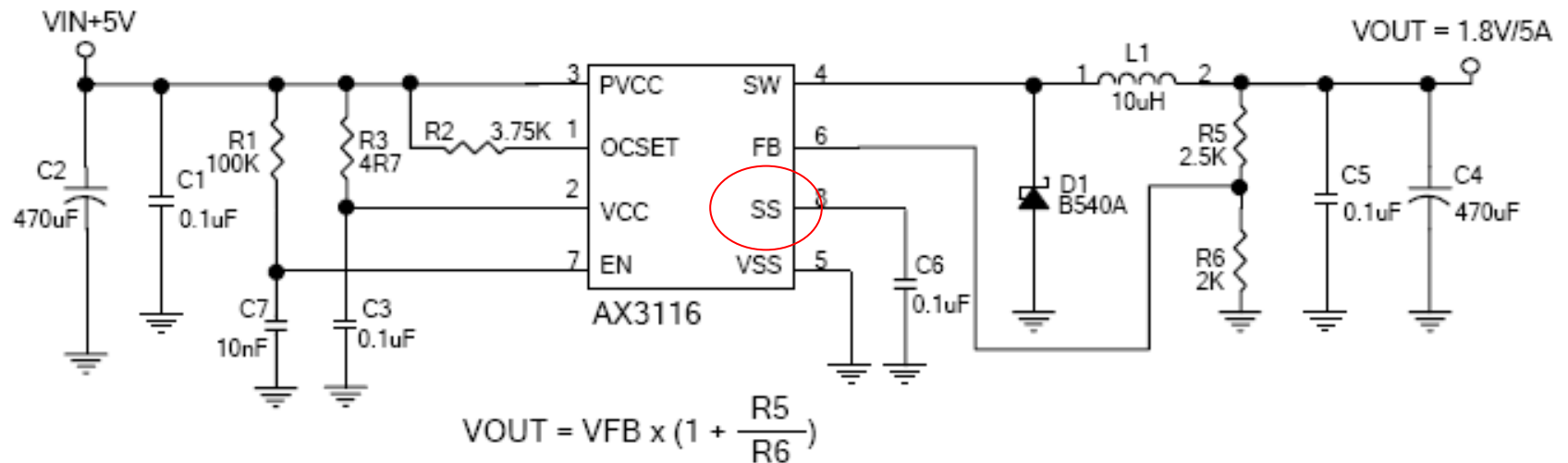
- Vref : 0.8v , MLCC/EC Cout
- OCP , OTP , SCP , Softstart , EN , Freq : 330K/500K(A version)

**High current
Buck converter
(PMOS)**

AX3116

5A buck converter solution

- Buck Converter , Mosfet inside
- Circuit



VFB = 0.8V ; R4 suggest 0.8K ~ 4k

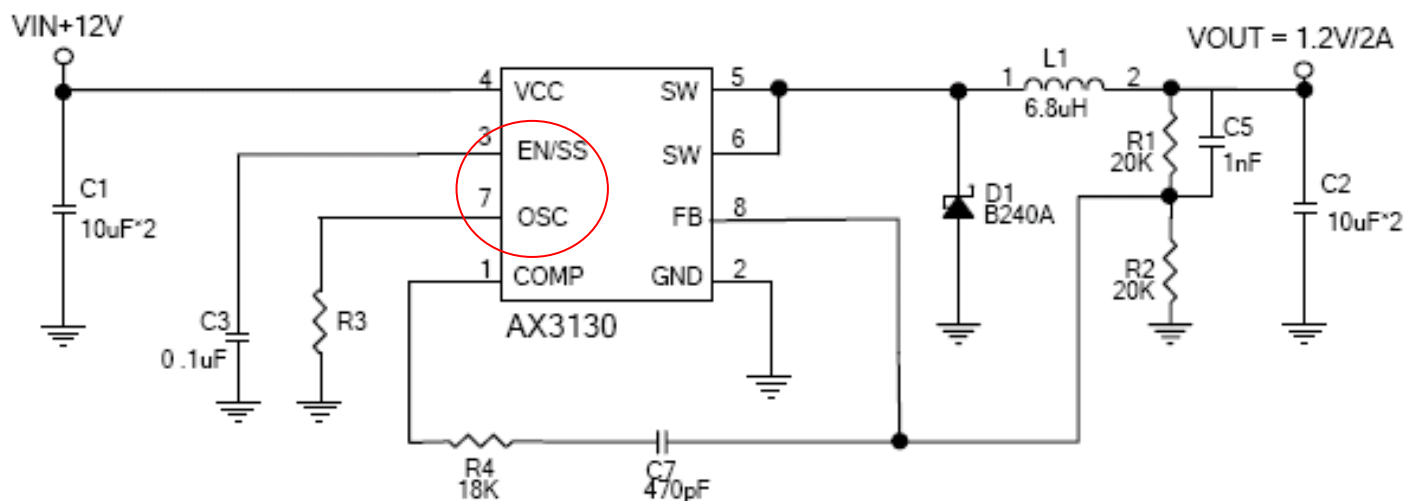
- Vref : 0.8v , SS pin – adjustable soft-start , SOP-EP PKG type
- OCP , OTP , SCP , SCP , Softstart , EN , Freq : 330K

High OSC version
Buck converter
(PMOS)

AX3130/AX3131

1.5MHz 2A/3A buck converter

- Buck Converter , Mosfet inside
- Circuit

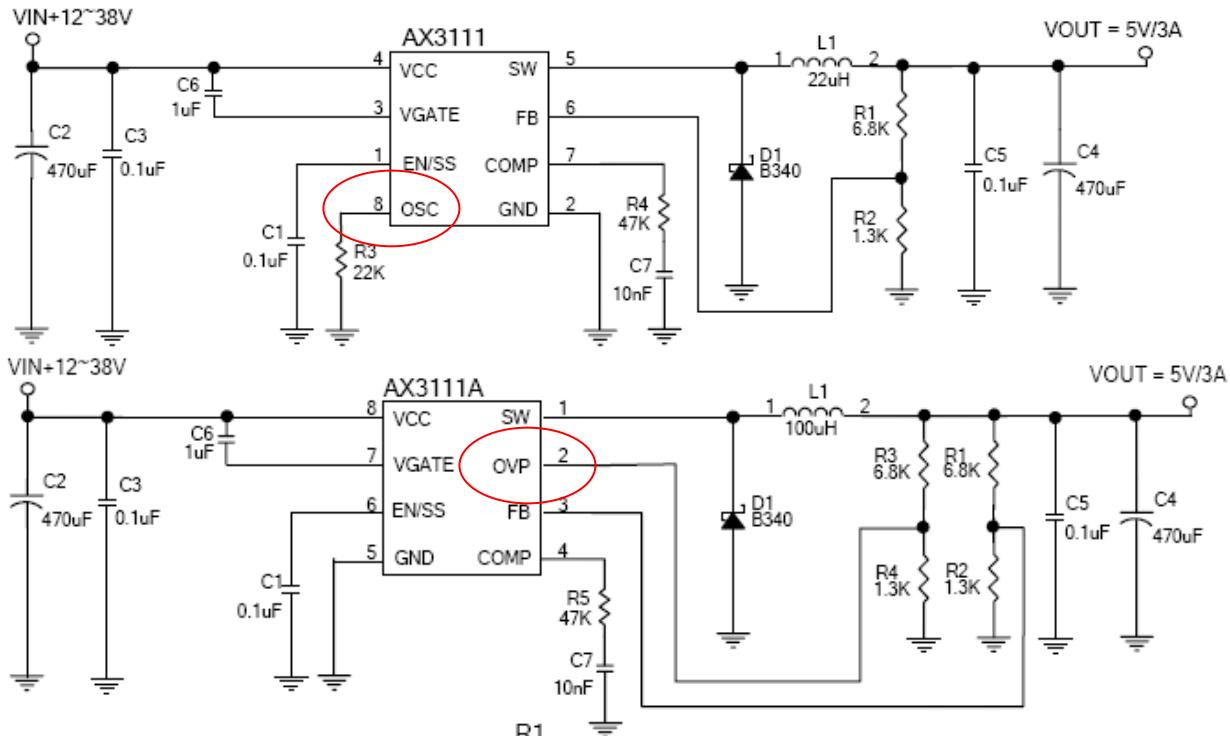


- SOP8(2A) , SOP-EP PKG type(3A)
- Vref : 0.6v , SS pin – adjust soft-start , OCP , OTP , SCP , SCP , Softstart , EN , Freq : 150KHz ~ 1.5MHz

High input rating
Solution(PMOS)

AX3110/3111(A) 40V 2/3A buck PMOS

- Buck Converter , Mosfet inside
- Circuit



$$V_{OUT} = V_{FB} \times \left(1 + \frac{R1}{R2}\right)$$

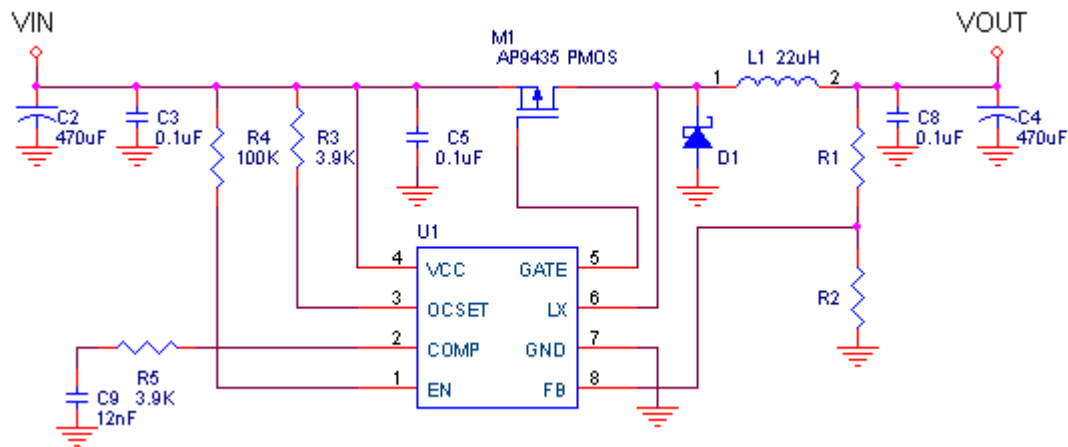
VFB = 0.8V ; R2 suggest 0.8K ~ 3k

- OCP(adj) , OTP , Soft start ADJ , SCP , EN , Vref : 0.8v , Freq : adj or 50KHz(A type) , 45V max. rating

**High current
solution**

AX3301/AX3302

- Buck Controller
- Circuit



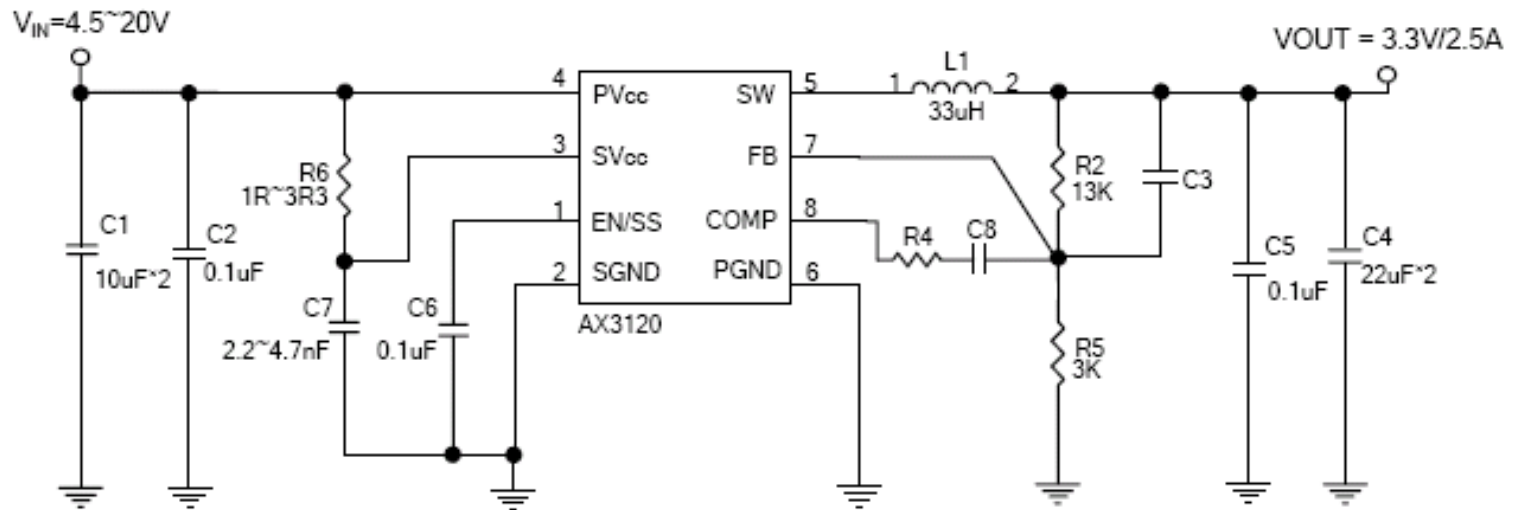
- Vin : 3.6V to 23V , Vout : 0.8V to Vin
- OCP(adj) , OTP , Soft start , EN , 330KHz
- SOP8 , MSOP8 , SOT26(AX3302)

**Board reduce
24V buck solution**

AX3120/3121

24V Sync buck solution

- Buck Synchronous Converter 2 Mosfet inside (PMOS+NMOS)
- Circuit



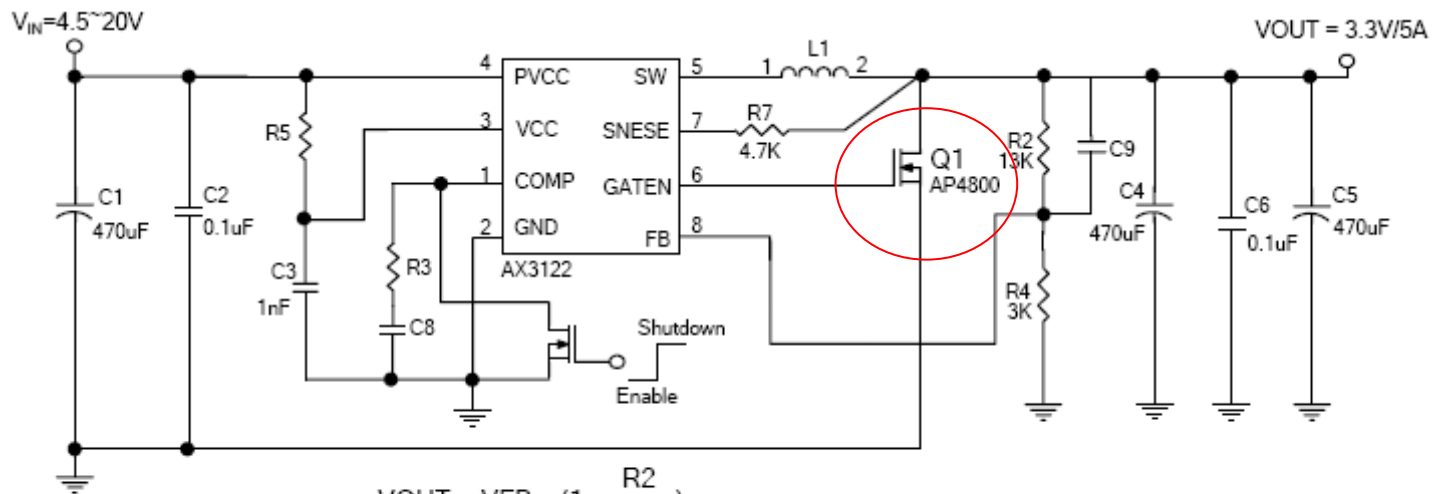
- V_{in} : 4V to 24V , V_{out} : 0.6V to V_{in}
- OCP , OTP , EN , 250KHz~330KHz
- SOP8-EP(2.5A/3.5A)

Board reduce
24V buck solution

AX3122

24V Sync buck solution

- Buck Synchronous Converter
- Circuit



$$V_{OUT} = V_{FB} \times \left(1 + \frac{R2}{R4}\right)$$

$$V_{FB} = 0.62V ; R4 \text{ suggest } 3K \sim 6.8k$$

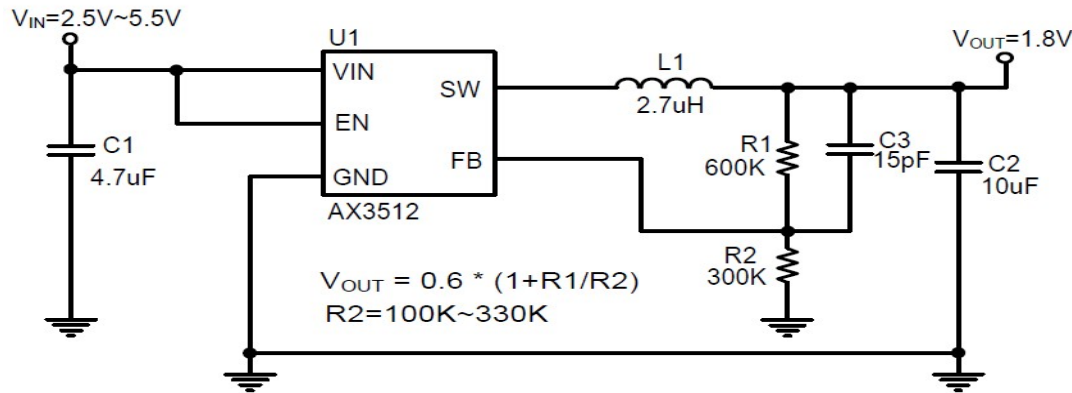
$$V_{IN} < 15V . R5 = 4R7 ; V_{IN} \geq 15V . R5 = 3R3$$

- V_{in} : 4V to 24V , V_{out} : 0.6V to V_{in}
- OCP , OTP , EN , 300KHz
- SOP8-EP(5A)

**Board reduce
5V buck solution**

AX351x Sync buck solution

- Buck Synchronous Converter 2 Mosfet inside
- Circuit



| Part No. | Vin oper | Iout | Freq | Package |
|----------|-----------|------|--------|------------------|
| AX3512 | 2.5V-5.5V | 0.6A | 1.4MHz | TSOT23-5/TDFN-6L |
| AX3513 | 2.5V-6V | 1A | 1.4MHz | TSOT23-5/DFN-6L |
| AX3514/A | 2.6V-5.5V | 2A | 1.2MHz | SOP8/DFN |
| AX3516 | 2.6V-5.5V | 2.5A | 1.2MHz | SOP8/DFN |
| AX3519 | 2.8V-5.5V | 4A | 1MHz | SOP8/TDFN |

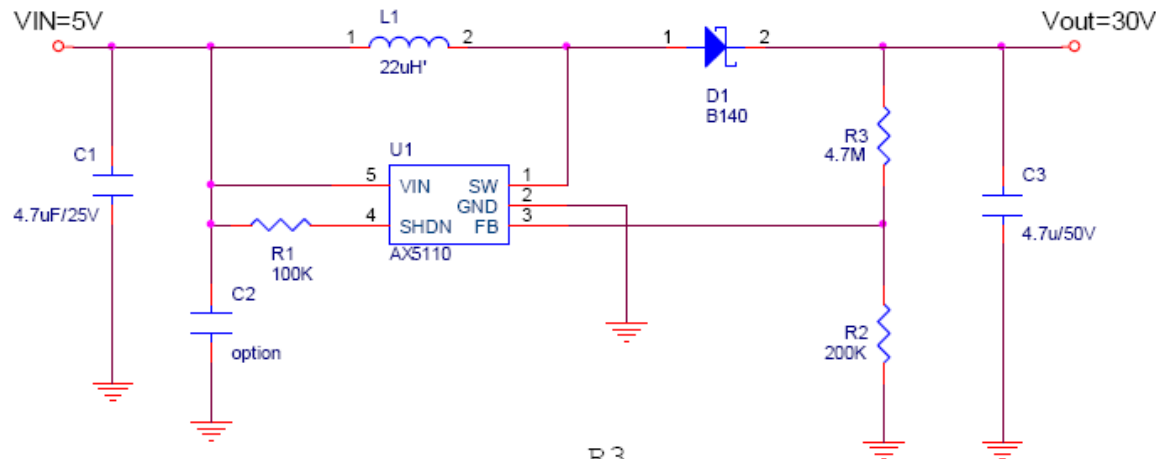
- Vin : 2.5V to 5.5V , Vout : 0.6V to Vin
- OCP , OTP , EN , 1.5MHz
- SOT23-5(1A), SOP8/DFN10(2A), SOP8-EP(3.5A)

Booster Solution

**General boost
Solution SOT23-5**

AX5110

- Booster Converter , Mosfet inside
- Circuit



$$V_{out} = V_{FB} * (1 + \frac{R3}{R2})$$

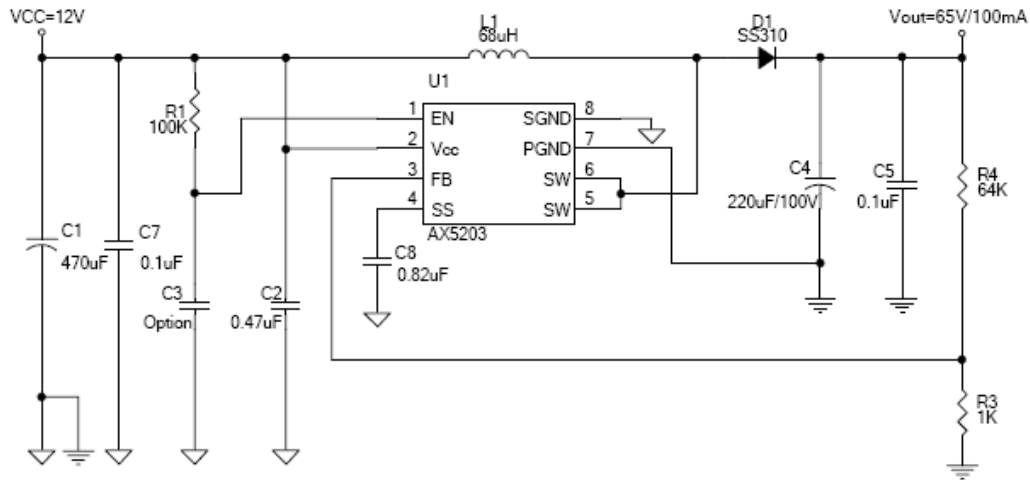
$V_{FB} = 1.23V$, $R2$ suggest 100K~300K

- OTP , EN , Softstart , OCP , SCP , 34Vout , 350mA Iout

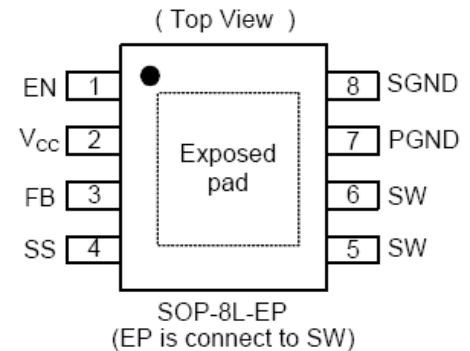
**General boost
Solution(NMOS)**

AX5201 series

- Booster Converter , Mosfet inside
- Circuit



| Part No. | Vin | Vout | Isw | Package |
|----------|----------|----------|-----|---------|
| AX5201 | 3V-20V | 3.3V-32V | 3A | SOP8-EP |
| AX5203 | 4.5V-23V | 5V-68V | 2A | SOP8-EP |
| AX5204 | 3V-20V | 3.3V-32V | 2A | SOP8-EP |

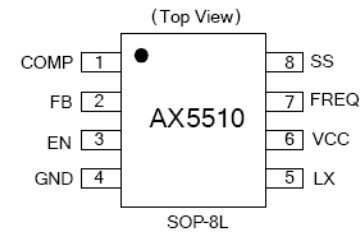
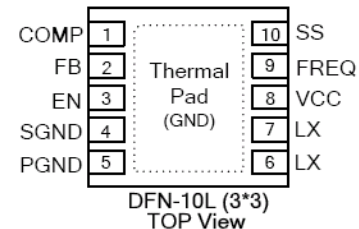
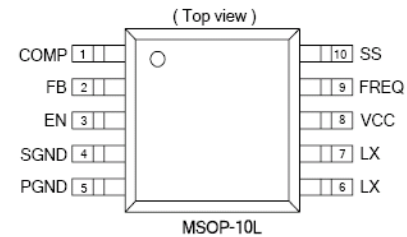
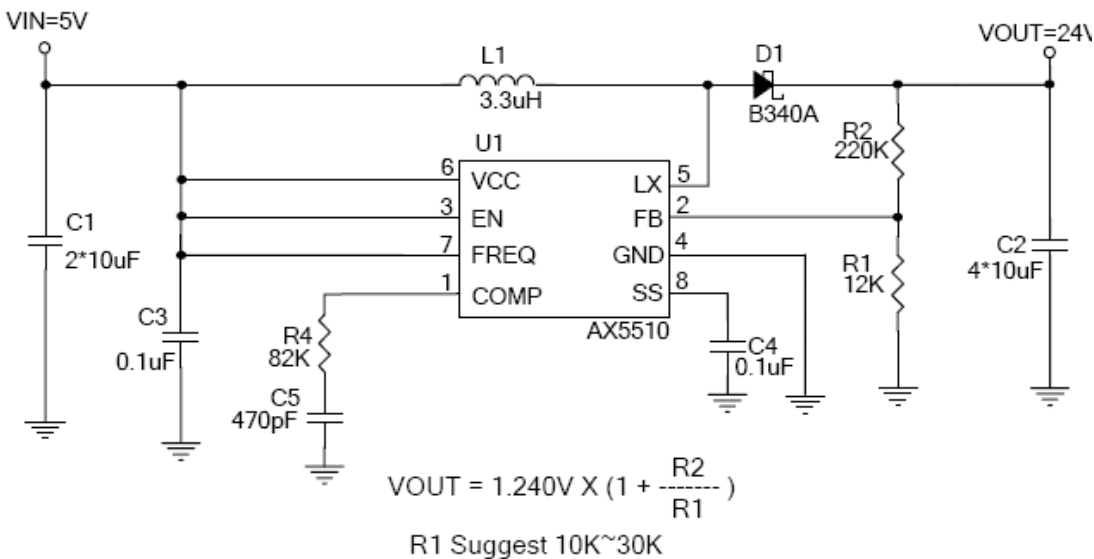


- OTP , OCP , EN , Softstart , 500KHz

**General boost
Solution(MLCC)**

AX5510(3A)/AX5510A(2A) series

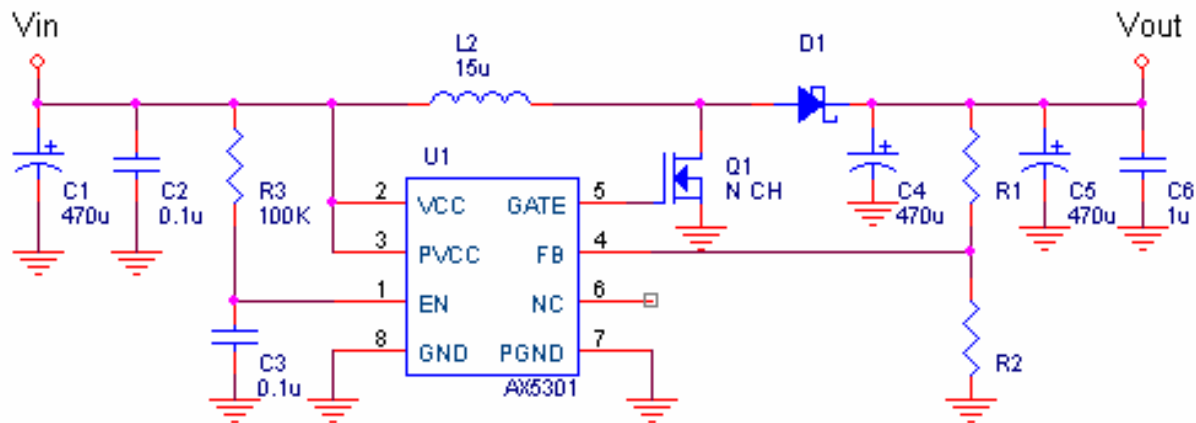
- Booster Converter , Mosfet inside
- Circuit



- OTP , OCP , EN , Soft-start , MLCC , 600KHz/1.2MHz

AX5301/2

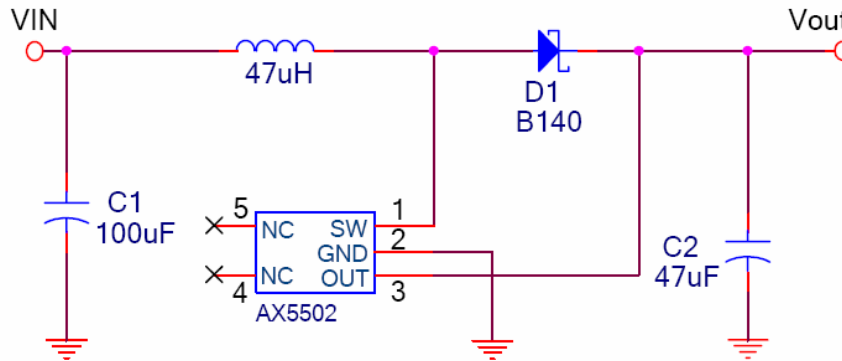
- Booster Controller
- Circuit



- AX5301 : Vin 3V – 24V , Vref 1V , Freq 500K
- AX5302 : Vin 3V – 24V , Vref 1V , Freq 500K + OCP

AX550X

- Booster Converter , Mosfet inside
- Circuit



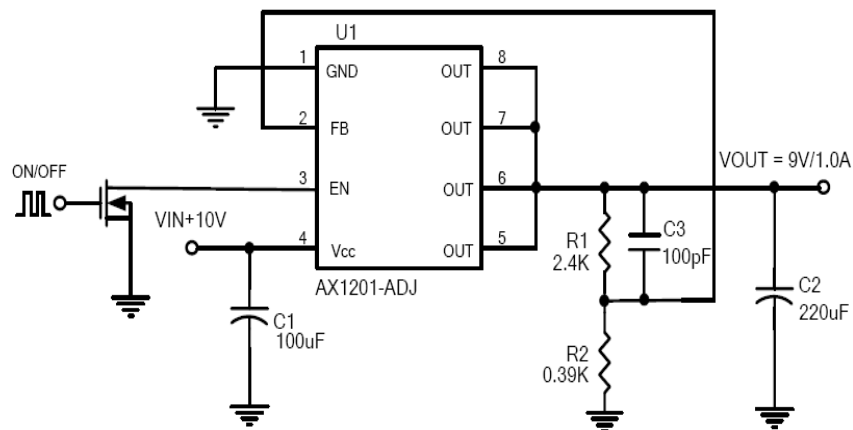
| Part No. | Vin | Vout | Iout | Package |
|----------|---------|---------|------|---------|
| AX5502 | 0.8V-5V | 2.4V-5V | 0.1A | SOT23-5 |
| AX5203 | 0.8V-5V | 2.4V-5V | 0.1A | SOT23-5 |

- OTP , EN(AX5503) , VFM

Linear Solution

AX120x

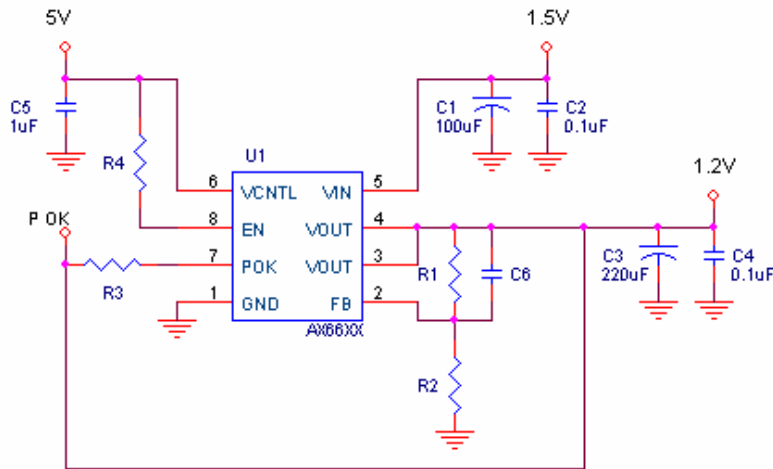
- High Vin , Ultra Low Dropout
- Circuit



| Part No. | Vin Oper | Iout / Dropout | Vout VFreq. | Package |
|----------|-----------|----------------|------------------|------------------|
| AX1201 | 5.1V- 23V | 1A(0.14V) | 5V/9V/12V/Adj | SOP8/TO220-5 |
| AX1202 | 5.1V- 23V | 2A(0.27V) | 5V/9V/12V/Adj | TO220-5/TO263-5 |
| AX1202 | 5.1V- 16V | 2A(0.27V) | 5V/9V/12V/Adj | SOP8/TO252-5 |
| AX1203 | 5.1V- 16V | 3A(0.4V) | 5V/9V/12V/Adj | TO-263-5/TO220-5 |
| AX1204 | 3.1V- 12V | 1A(0.15V) | 2.5V/3.3V/5V/Adj | SOP8 |
| AX1205 | 3.1V- 12V | 2A(0.3) | 2.5V/3.3V/5V/Adj | SOP8 |

AX661x

- Ultra Low Dropout Linear Regulator
- Circuit

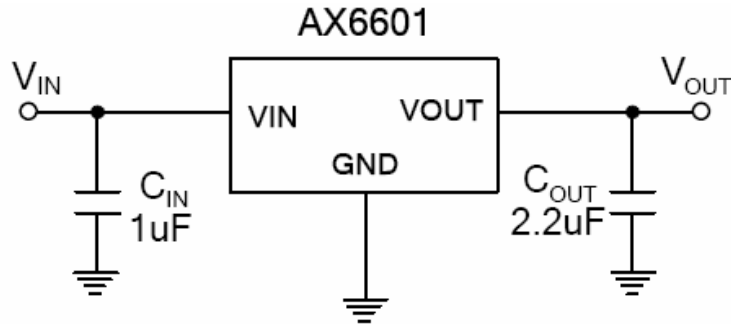


| Part no. | Vin | Iout | Dropout | Package |
|----------|------------|------|---------|-------------------|
| AX6610 | 1.1V-5V | 3A | 0.17V | SOP8-EP |
| AX6611 | 1.1V-5V | 5A | 0.22V | SOP8-EP |
| AX6612 | 1.1V-5V | 1.5A | 0.15V | SOP8-EP |
| AX6613 | 1V-6V | 1A | 0.2V | SOP8-EP |
| AX6614 | 1V-6V | 2A | 0.3V | SOP8/SOT23-6/DFN8 |
| AX6615 | 1.2V-3.65V | 3A | 0.23V | SOP8/DFN10 |

- Power OK , OCP , OTP

AX660X

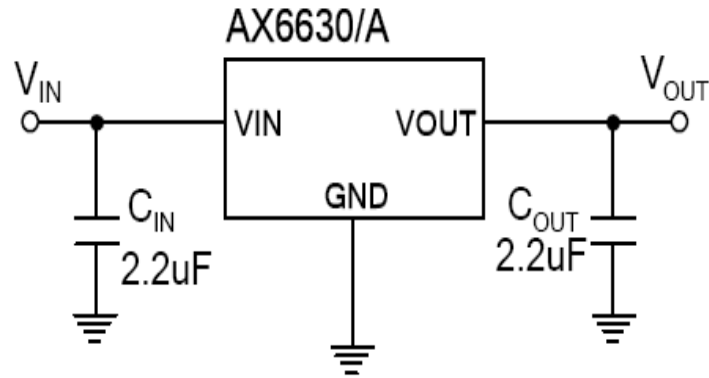
- CMOS LDO
- Circuit



| Part no. | Vin max | Iout | Vout | Package |
|----------|-----------|---------|------------------------------------------|--------------------|
| AX6601 | 2.6V-6V | 300mA | 1.5V/1.8V/2.5V/2.8V/3.0V/3.3V | SOT23/SOT89 |
| AX6602 | 2.6V-6V | 300mA | Adj | SOT23-5(EN) |
| AX6603 | 2.6V-6V | 300mA | 1.2V To 5V 0.1V/STEP | SOT23-5(EN+BP) |
| AX6603A | 2.6V-6V | 300mA | 1.5V/1.8V/2.5V/2.8V/3.3V | SOT23-5(EN+BP) |
| AX6604/5 | 2.5V-6V | 200mAX2 | Dual | SOT23-6(EN) |
| AX6606 | 2.8V-5.5V | 600mA | 1.0V/1.1V/1.2V/1.3V/1.4V/1.5V/Adj | SOT23-5 |
| AX6607 | 2.8V-5.5V | 600mA | 1.5V/1.8V/2.5V/2.6/2.7/2.8V/3.0/3.3V/Adj | SOT23-5(EN+BP)/DFN |
| AX6608 | 2.8V-5.5V | 300mA | 1.2V/1.5V-3.3V 0.1V STEP | SOT23-5/SC70 |
| AX6608A | 2.8V-5.5V | 300mA | 1.5V/1.8V/2.5V/2.8V/3.0/3.3V | SOT23 |

AX663X

- High Current CMOS LDO
- Circuit



| Part no. | Vin max | Iout | Vout | Dropout | Package |
|----------|-----------|---------|-----------------------------------------|-------------|--------------------------|
| AX6630 | 2.6V-5.5V | 1.2A | 1.2V - 5V / 0.1V STEP | 0.38V(1A) | SOT89/SOT223/TO252/TO263 |
| AX6631 | 2.6V-5.5V | 1.2A | 1.2V - 5V / 0.1V STEP | 0.38V(1A) | SOP8/TO252 |
| AX6632 | 2.6V-5.5V | 1.2A | 1.2V - 5V / 0.1V STEP | 0.38V(1A) | SOP8/DFN16 |
| AX6634 | 2.6V-5.5V | 600mA | 1.2V - 5V / 0.1V STEP | 0.22V(0.6A) | SOT89 |
| AX6636 | 2.8V-5.5V | 600mAX2 | (3.3V/1.8V) / (3.3V/2.5V) / (3.3V/1.2V) | 0.3V(0.6A) | SOP8 |
| AX6637 | 2.8V-5.5V | 700mAX2 | (3.3V/1.8V) / (3.3V/2.5V) / (3.3V/1.2V) | 0.4V(0.7A) | TO252-5 |
| AX6638 | 3.4V-5.5V | 700mAX2 | (3.3V/1.8V) / (3.3V/2.5V) / (3.3V/1.2V) | 0.4V(0.7A) | TO252-5 |

LDO

| Part No. | Vin oper | Iout | Vout | Package |
|-----------------------|-------------|-----------|----------------------------|----------------------|
| AX1007(替換 AMS1117) | 2.75V – 12V | 1A | 1.5V/1.8V/2.5V/3.3V/5V/Adj | SOT223/TO252 |
| AX1110 | 2.5V-12V | 0.35A | 1.5V/1.8V/2.5V/3.3V/5V/Adj | SOT23 |
| AX1112 | 2.5V-12V | 0.35A | 1.2V | SOT23 |
| AX1113 | 2.75V – 12V | 0.4A | 1.8V/3.3V/5V/Adj | SOT89 |
| AX1115 | 2.75V – 12V | 0.35A | 5V | SOT23 |
| AX1116 | 2.5V-14V | 0.15A | 1.8V/2.5V/3.3V/Adj | SOT23-5 |
| AX1120 | 2.75V-12V | 0.6A+0.6A | 3.3V+1.8V | SOP8/TO252 |
| AX1184 | 2.5V-12V | 4A(0.7V) | Adj | SOP8/TO263-5/TO220-5 |
| AX1212A | 2.6V – 12V | 1A | 1.2 | SOT223/TO252 |
| AX1250 | 1.5V – 2.5V | 2A | DDR | SOP8 |

Products Summary

- AX2001 : AX2002 cost down version
- AX2004 : 24V linear LED driver(0.2VREF)
- AX2005 : 40V buck LED driver(0.2VREF)
- **AX2006 : Pin to Pin with PT4115**
- AX313x : 24V 1.5MHz async buck converter
- AX312x : 24V 300KHz sync buck converter
- AX311x : 40V adj Fosc PMOS async buck converter
- AX351x : 5V 1A ~ 3.5A sync buck converter
- AX3015 : 40V 2A buck + line compensation + OVP
- **AX3112 : 40V 3A PMOS buck + line compensation + OVP**
- **AX900x : multi channel PMU series – WIMAX/EBOOK/Panel Site(10.1"~12.4")**
 - e.g. **2 x 1A sync buck + 2 x 300mA CMOS LDO for AX9004**
 - 1.5A boost converter + 1.5A single ch. WLED driver for AX9003**
- ASIC for customer request

Other Products

- AX431/2 : Shunt Regulator
- AX69XX : RESET IC(809/810)
- LED1113 : Linear LED driver 500mA
- AX9601 : Sync Buck PWM 800mA + LDO 400mA
- AX6302 : Linear controller
- AX3114 : Pin to Pin MP1410 (A.L. Only)
- AX3115 : Pin to Pin MP1583 (A.L. Only)



我们专“芯”，因为我们专业

授权代理商：

深圳市四海恒通科技有限公司

地址：深圳市福田区福虹路鼎盛时代A座9楼9B

电话：0755-8398 3377 135 9011 2223

E-mail: sales@gofotech.com

网站: www.gofotech.com