

Selection Guide



Product Portfolio

| | |
|--------------------------------------|---|
| <i>EPD Panel Power</i> | 1 |
| <i>Motor Driver</i> | 1 |
| <i>HV Buck DC/DC Converter</i> | 1 |
| | 2 |
| <i>LV Buck DC/DC Converter</i> | 3 |
| <i>Boost DC/DC Controller</i> | 3 |
| <i>USB Power Switch</i> | 3 |
| <i>Low Dropout Regulator</i> | 4 |
| <i>White LED Driver</i> | 4 |
| <i>Li-ion Charger</i> | 4 |
| <i>DDR5</i> | 4 |
| <i>Reset</i> | 5 |
| <i>BLDC</i> | 5 |

Selection Guide

EPD Panel Power

| Part No. | Key Features | V _{IN} (V) | V _{OUT} (V) | I Limit (mA) | Freq. (KHz) | I _q (μA) | I _s (μA) | OCP | OVP | Package |
|----------|---|---------------------|--|--------------------------|-------------|---------------------|---------------------|-----|-----|---------------|
| FP9928A | Power Supplier Solution with I ² C Interface for EPD Panel | 2.7~5.5 | VPOS (15V), VNEG (-15V), VGH (22V), VGL (-20V), VCOM (1ch, 8bit) | VPOS=60mA VNEG=60mA | - | - | - | V | V | TQFN-24 (4×4) |
| FP9929A | Power Supplier Solution with I2C Interface for EPD Panels | 2.7~5.5 | VPOS (15V), VNEG (-15V), VGH (22V), VGL (-20V), VCOM (1ch, 8bit) | VPOS=200mA VNEG=200mA | - | 1500 | 0.1 | V | V | TQFN-32 (5×5) |
| FP9931 | Power Supplier Solution with I2C Interface for EPD Panels | 2.9~5.5 | VPOS (7~15V), VNEG (-7~-15V), VGH (15~30V), VGL (-15~-25V), VCOM (1ch, 8bit) | VPOS=350mA VNEG=350mA | 1MHz | 1500 | 0.1 | V | V | TQFN-40 (5×5) |

Motor Driver






| Part No. | Key Features | V _{IN} (V) Range | Output Current (mA) | Control Volt. Range (V) / Interface | Thermal Shut Down | Package |
|----------|--|---------------------------|---------------------|-------------------------------------|-------------------|---------------------|
| FP5501 | Low-saturation, Low-voltage 2 Channels Bi-directional | 1.8~5.5 | 0~400/ Channel | 1.8~5.5 | V | TDFN-10(3×3) |
| FP5502 | Low-saturation, Low-voltage Bi-directional | 1.8~5.5 | 0~400 | 1.8~5.5 | V | SOT-23-6 |
| FP5530 | Dual H-Bridge Motor Driver Driver Two DC Motors or One Stepper Motor | 2.7~15V | 0~700 Channel | 0~5.5 PWM | 150C | TSSOP-16 TQFN-16 |
| FP5532 | One H-Bridge Motor Driver Bi-Directional | 0~11V | 0~1800 | 1.8~6 PWM | 150C | SOP8 DFN8 |

HV Buck DC/DC Converter

| Part No. | Key Features | Type | V _{IN} (V) | V _{OUT} (V) | I _{OUT} (mA) | Eff.% Max. | Freq. (KHz) | I _q (μA) | I _s (μA) | Shut Down | OCP | Package |
|----------|--|----------|---------------------|----------------------------|-----------------------|------------|-------------|---------------------|---------------------|-----------|-----|----------------------|
| FR9204 | 18V, 2.5A Synchronous Step-Down DC/DC Converter with High Efficiency at Light Load | HV Sync. | 4.3~18 | 0.8V to 8V | 2500 | 94 | 500 | 250 | 1 | V | V | SOT-563 |
| FR9204F | 18V, 2.5A Synchronous Step-Down DC/DC Converter | HV Sync. | 4.3~18 | 0.8V to 8V | 2500 | 94 | 500 | 250 | 1 | V | V | SOT-563 |
| FR9204FH | 18V, 2.5A Synchronous Step-Down DC/DC Converter | HV Sync. | 4.3~18 | 0.765V to 8V | 2500 | 93 | 1200 | 250 | 1 | V | V | SOT-563 TSOT-23-6 |
| FR9205 | 18V, 2A Synchronous Step-Down DC/DC Converter with High Efficiency at Light Load | HV Sync. | 4.3~18 | 0.765V to 8V | 2000 | 94 | 850 | 250 | 1 | V | V | SOT-23-6 |
| FR9205F | 18V, 2A Synchronous Step-Down DC/DC Converter | HV Sync. | 4.3~18 | 0.765V to 8V | 2000 | 94 | 850 | 250 | 1 | V | V | SOT-23-6 |
| FR9206 | 18V, 3A Synchronous Step-Down DC/DC Converter with High Efficiency at Light Load | HV Sync. | 4.3~18 | 0.765V to 8V 0.8V to 8V | 3000 | 94 | 500 | 250 | 1 | V | V | SOT-563 TSOT-23-6 |
| FR9206F | 18V, 3A Synchronous Step-Down DC/DC Converter | HV Sync. | 4.3~18 | 0.765V to 8V 0.8V to 8V | 3000 | 94 | 500 | 250 | 1 | V | V | SOT-563 TSOT-23-6 |
| FR9207 | 18V, 4A Synchronous Step-Down DC/DC Converter with High Efficiency at Light Load | HV Sync. | 4.5~18 | 0.76V to 8V | 4000 | 94 | 500 | 400 | 1 | V | V | TSOT-23-6 |
| FR9207F | 18V, 4A Synchronous Step-Down DC/DC Converter | HV Sync. | 4.5~18 | 0.76V to 8V | 4000 | 94 | 500 | 400 | 1 | V | V | TSOT-23-6 |
| FR9208F | 18V, 5A Synchronous Step-Down 85T DC/DC Converter | HV Sync. | 4.3~18 | 0.765~8V | 5000 | 94 | 500 | 400 | 1 | V | V | TSOT-23-6 |

Selection Guide

HV Buck DC/DC Converter

| Part No. | Key Features | Type | V _{IN} (V) | V _{OUT} (V) | I _{OUT} (mA) | Eff.% Max. | Freq. (KHz) | I _q (μA) | I _s (μA) | Shut Down | OCP | Package |
|---|---|-----------|---------------------|----------------------------|-----------------------|------------|---------------------|---------------------|---------------------|-----------|-----|-----------------------------|
| FR9208 | 18V, 5A Synchronous Step-Down DC/DC Converter with High Efficiency at Light Load | HV Sync. | 4.3~18 | 0.765~8V | 5000 | 94 | 500 | 400 | 1 | V | V | TSOT-23-6 |
|  FR9209 | 16V, 12A Synchronous Step-Down DC/DC Converter with High Efficiency at Light Load | HV Sync. | 6~16 | 0.6V to 5.5V | 12000 | 94 | 600 800 1000 | 300 | 1 | V | V | TQFN-21 3x4 |
|  FR9212A/B | 18V, 2A Synchronous Step-Down DC/DC Converter with High Efficiency at Light Load | HV Sync. | 4.2~18 | 0.768V to 8V 0.6V to 8V | 2000 | 94 | 600 | 250 | 1 | V | V | SOT-23-6 |
|  FR9212AF/BF | 18V, 2A Synchronous Step-Down DC/DC Converter | HV Sync. | 4.2~18 | 0.768V to 8V 0.6V to 8V | 2000 | 94 | 600 | 250 | 1 | V | V | SOT-23-6 |
| FR9838 | 36V, 5A, 130KHz Synchronous Step-Down DC/DC Converter for Charger Application | HV Sync. | 4.5~36 | 0.8~20 | 5000 | 97 | 130 | 1000 | NA | X | V | TDFN-10 (5x6) |
|  FR9835A | 28V, 5A Asynchronous Step-Down DC/DC Converter | HV ASync. | 3.5~28 | 0.75 to ~Vin | 5000 | 92 | Adj 200~ 2500 | 100 | 1 | V | V | SOP-8 (EP) |
|  FR9839A | 40V, 5A Asynchronous Step-Down DC/DC Converter | HV ASync. | 3.5~40 | 0.75 to ~Vin | 5000 | 92 | Adj 200~ 2500 | 100 | 1 | V | V | SOP-8 (EP) |
| FR9608 | 28V, 3A Synchronous Step-Down DC/DC Converter | HV Sync. | 4.5~28 | 0.925~16V | 3000 | 93 | 340 | 1200 | 2 | V | V | SOP-8 (EP) |
| FR9609 | 28V, 3A Synchronous Step-Down DC/DC Converter with High Efficiency at Light Load | HV Sync. | 4.5~28 | 0.925~16V | 3000 | 93 | 340 | 1200 | 2 | V | V | SOP-8 (EP) |
| FR9850 | 18V, 2A Synchronous Step-Down DC/DC Converter with High Efficiency at Light Load | HV Sync. | 4.5~18 | 0.765V to 8V | 2000 | 94 | 850 | 250 | 1 | V | V | SOT-23-6 |
| FR9850F | 18V, 2A Synchronous Step-Down DC/DC Converter | HV Sync. | 4.5~18 | 0.765V to 8V | 2000 | 94 | 850 | 250 | 1 | V | V | SOT-23-6 |
| FR9854 | Sync. 4A Buck Internal Comp. Converter with fast constant on time control technique (FCOT) | HV Sync. | 4.5~18 | 0.765~8V | 4000 | 94 | 630 | 600 | 1 | V | V | SOP-8 (EP) |
| FR9855 | Sync. 5.5A Buck Internal Comp. Converter with fast constant on time control technique (FCOT) External SS/PG | HV Sync. | 4.5~18 | 0.765~8V | 5500 | 94 | 630 | 600 | 1 | V | V | SOP-8 (EP) |
| FR9855B | Sync. 5.5A Buck Internal Comp. Converter with fast constant on time control technique (FCOT) External SS/PG | HV Sync. | 4.5~18 | 0.6~8V | 5500 | 94 | 630 | 600 | 1 | V | V | SOP-8 (EP) TDFN-10 (3x3) |
| FR9856B | Sync. 6A Buck Internal Comp. Converter with fast constant on time control technique (FCOT) External VREG/PG | HV Sync. | 4.5~18 | 0.765~8V | 6000 | 94 | 630 | 600 | 1 | V | V | SOP-8 (EP) |
| FR9863 | 28V, 3A Synchronous Step-Down DC/DC Converter with High Efficiency at Light Load | HV Sync. | 4.5~28 | 0.596V to 12V | 3000 | 94 | 500 | 150 | 3 | V | V | TSOT-23-6 |
| FR9863F | 28V, 3A Synchronous Step-Down DC/DC Converter | HV Sync. | 4.5~28 | 0.596V to 12V | 3000 | 94 | 500 | 150 | 3 | V | V | TSOT-23-6 |

Selection Guide

LV Buck DC/DC Converter

| Part No. | Key Features | Type | V _{IN} (V) | V _{OUT} (V) | I _{OUT} (mA) | Eff.% Max. | Freq. (KHz) | I _q (μA) | I _s (μA) | Shut Down | OCP | Package |
|----------------|---|-------------|---------------------|----------------------|-----------------------|------------|--------------|---------------------|---------------------|-----------|-----|------------------------|
| FP6315 | 3A High Efficiency Sync. Buck Converter | Low V Sync. | 2.5~5.5 | 0.6~Vin | 3000 | 95 | 1100 2200 | 25 | 0.1 | V | V | SOT-563 |
| FP6335 | 1.2A High Efficiency Sync. Buck Converter, Pure PWM | Low V Sync. | 2.5~6.0 | 0.6~Vin | 1200 | 95 | 1500 | 400 | 0.1 | V | V | SOT-23-5/6 TDFN-6 |
| FP6356 | 2A High Efficiency Sync. Buck Converter, Pure PWM | Low V Sync. | 2.5~6.0 | 0.6~Vin | 2000 | 95 | 1000 | 400 | 0.1 | V | V | SOT-23-5/6 |
| FP6359 | 3A High Efficiency Sync. Buck Converter, Pure PWM | Low V Sync. | 2.5~6.0 | 0.6~Vin | 3000 | 95 | 1000 | 80 | 0.1 | V | V | SOT-23-6 |
| FP6373A | 3A High Efficiency Sync. Buck Converter | Low V Sync. | 2.7~5.5 | 0.6~Vin | 3000 | 96 | 1000 | 80 | 0.1 | V | V | SOT-23-6 |
| FP6381 | 1.5A High Efficiency Sync. Buck Converter | Low V Sync. | 2.5~6.0 | 0.6~Vin | 1500 | 95 | 1500 | 80 | 0.1 | V | V | TDFN-6 (2×2) |
| FP6392 | 3.5A High Efficiency Sync. Buck Converter | Low V Sync. | 2.7~5.5 | 0.6~Vin | 3500 | 96 | 1000 | 80 | 0.1 | V | V | TDFN-10 (3×3) |
| FP6385 | 3.5A High Efficiency Sync. Buck Converter | Low V Sync. | 2.5~6.0 | 0.6~Vin | 3500 | 95 | 1000 | 80 | 0.1 | V | V | SOT-23-6 (FC) |
| FP6396 | 1.2A High Efficiency Sync. Buck Converter | Low V Sync. | 2.5~6.0 | 0.6~Vin | 1200 | 95 | 1500 | 30 | 0.1 | V | V | SOT-23-5/6 TSOT23-5 |
| FP6397 | 2A High Efficiency Sync. Buck Converter | Low V Sync. | 2.5~6.0 | 0.6~Vin | 2000 | 95 | 1000 | 40 | 0.1 | V | V | SOT-23-5/6 |

Boost DC/DC Converter


| Part No. | Key Features | V _{IN} (V) | V _{OUT} (V) | I Limit (mA) | Eff.% Max. | Freq. (KHz) | I _q (μA) | I _s (μA) | Shut Down | OTP | Package |
|----------------|---|---------------------|----------------------|--------------|------------|-------------|---------------------|---------------------|-----------|-----|-----------------------|
| FP6715 | Low Start-up Sync. Boost Converter, Automatically PWM or PFM Mode | 1.9~Vout | 1.9~5.25 | 2500 | 93 | 550 | 25 | 1 | V | V | SOT-23-6 |
| FP6722 | Low Quiescent Current Boost Converter | 0.7~5.5 | 1.8~5.5 | 500 | 96 | - | 5 | 1 | V | V | SOT-23-6 |
| FP6730 | Large Input Voltage Range, Current Mode Step-up Converter | 3~24 | Vin~24 | 2500 | 93 | 1000 | 120 | 1 | V | - | SOT-23-5 SOT-23-6 |
| FP6733 | Low Vin Stratup PWM Controlled, Step-up DC/DC Converter | 0.9~5.5 | 2.9~5.5 | 1000 | 90 | 550 | 17 | 0.1 | V | V | SOT-23-6 TSOT-23-6 |
| FP67380 | 1Mhz 2.5A Current-Mode Step-Up DC/DC Converter | 3~24 | Vin~24 | 2500 | 95 | 1000 | 250 | 0.1 | V | V | TDFN-6 (2×2) |
| FP6770 | Low Noise, DC/DC Charge Pump Regulator | 2.7~4.5 | 2.7~5 | 300 | 90 | 2000 | 3000 | 0.01 | V | V | SOT-23-6 |

USB Power Switch

| Part No. | Output Current (A) | Channel No. | V _{IN} (V) | Current Limit Type (A) | RDS(ON) (mΩ) | Package |
|------------------------|---|-------------|---------------------|---|----------------|---|
| FP6861C | 0.55, 0.7, 1.1, 1.5 1.9, 2.1, 2.5, 3 (min) | 1 | 2.7~5.5 | 0.775, 1, 1.25, 1.4, 1.75 2.15, 2.45, 2.9, 3.5 | 70/100 | SOT-23-5 SOP-8 |
| FP6861E-A | Adjustable | 1 | 2.7~5.5 | 0.12~1.7 | 100 | SOT-23-6 TDFN-6 (2×2) |
| FP6861E-C/E/F/H | 0.7, 1.1, 1.5, 2.1 (min) | 1 | 2.7~5.5 | 1, 1.4, 1.75, 2.45 | 110 | SOT-23-5 |
| FP6861G | 2.2, 2.56, 3.2 (min) | 1 | 2.5~5.5 | 2.6, 3.0, 3.76 | 45 | SOT-23-5 (FC) |
| FP6861J | Adjustable | 1 | 2.7-6 | 0.2~3.76 | 35 55 70 | TSOT-23-6 (FC) TDFN-6 (2×2) SOT-23-6 (WB) |

Selection Guide

Low Dropout Regulator

| Part No. | Key Features | I _{OUT} (mA) | V _{IN} (V) | V _{drop} (mV) | V _{OUT} (V) | Accuracy | I _q (μA) | I _s (μA) | Shut Down | OTP | OCP | Package |
|--|--|-----------------------|---------------------|------------------------|--|----------|---------------------|---------------------|-----------|-----|-----|-----------------------|
| FP6145 | 3A Ultra-Low Dropout with Low ESR Cap. | 3000 | 1.2~5.5 | 240 | ADJ | ±2% | 1000 | 10 | V | V | V | SOP-8 (EP) |
| FP6145B | 2A Ultra-Low Dropout with Low ESR Cap. | 2000 | 1.2~5.5 | 240 | ADJ | ±2% | 1000 | 10 | V | V | V | SOP-8 (EP) |
| FP6166 | 600mA, Low Noise, High PSRR 70dB | 600 | 2.0~5.5 | 800 | ADJ | ±2% | 35 | 0.1 | V | V | V | SOT-23-5 SOP-8 |
| FP6183 | 300mA, Low Iq LDO | 300 | 1.75~5.5 | 250 | 0.9, 1.0, 1.1, 1.2, 1.8, 2.5, 2.8, 3.0, 3.3 | ±1% | 2 | 0.1 | V | V | V | TDFN (1x1) |
| FP6185 | Low Noise, High PSRR 70dB | 300 | 1.75~5.5 | 250 | 1.2, 1.5, 1.8, 2.5, 2.8, 3.0, 3.3 | ±1% | 2 | 0.1 | V | V | V | SOT-23-5 |
| FP6186 | Low Noise, High PSRR 75dB | 300 | 2.2~5.5 | 230 | ADJ | ±1% | 60 | 0.1 | V | V | V | SOT-23-5 |
| FP6186A | Low Noise, High PSRR 75dB | 600 | 2.2~5.5 | 400 | ADJ | ±1% | 60 | 0.1 | V | V | V | SOT-23-5 |
| FP6187 | Low Noise, High PSRR 75dB | 300 | 1.5~5.5 | 160 | 1.2, 1.8, 2.8, 3.0 | ±1% | 45 | 0.1 | V | V | V | SOT-23-5 TDFN (1x1) |
|  FP6168 | Low Noise, High PSRR 80dB | 300 | 1.9~5.5 | 160 | 1.0, 1.05, 1.1, 1.2, 1.5, 1.8, 2.2, 2.5, 2.8, 3.0, 3.3 | ±1% | 10 | 0.1 | V | V | V | SOT-23-5 UTDFN-4(1x1) |


White LED Driver

| Part No. | V _{IN} (V) | V _{OUT} (V) Max. | LED Numbers Max. | Driving Type | Brightness Control | Eff. (%) Max. | Freq. (Hz) | OVP | Package |
|----------|---------------------|---------------------------|------------------|-------------------------|--------------------|---------------|------------|-----|--|
| FP6395 | 2.5~6 | 6 | 2 | Buck | - | 95 | 1.5M | V | TDFN-6 (1.6x1.6) TDFN-6 (2x2) SOT-23-6 |
| FP6745 | 2.5~5.5 | 40 | 10 | Boost | PWM or Linear | 87 | 1.3M | V | TSOT-23-5 TSOT-23-6 |
| FP6755 | 2.5~5.5 | 29 | 8 | Boost | PWM | 87 | 1.3M | V | SOT-23-6 TDFN-6 (2x2) |
| FP6757 | 2.5~5.5 | 29 | 8 | Boost | PWM | 87 | 1.3M | V | SOT-23-6 TDFN-6 (3x3) |
| FR9708/A | 2.8~24 | 24 | 8 | Buck, Boost, Buck-Boost | PWM or Linear | 95 | 1.2M | V | SOT-23-6 |

Li-ion Charger

| Part No. | V _{IN} (V) | I _{OUT} Max. (A) | V _{OUT} TYP. (V) | Vol. Accy. (%) | VSEN | Temp. Sense | Safety Timer | Package |
|----------|---------------------|---------------------------|---------------------------|----------------|------|-------------|--------------|---------------------------------------|
| FP6908 | 4.5~28 | 1 | 4.2 ; 4.35 | 1 | V | v | V | SOP-8 SOT-23-5 TDFN-8 (2mmx2mm) |

DDR5


| Part No. | Application | V _{IN} (V) | V _{OUT} (V) | I _{OUT} (mA) | Accuracy | Freq. (Hz) | I _q (μA) | OCP | OVP | Package |
|--|-----------------------|---------------------|----------------------|-----------------------|----------|---------------|---------------------|-----|-----|--------------------|
|  FP9968 | DDR5, SO-DIMM & UDIMM | 4.25~5.5 | 0.8V ~ 2.5V | 8.5A | 0.75% | 750k ~ 1.5MHz | 25 | V | V | TQFN-28L (3mmx4mm) |

Selection Guide

Reset

| Part No. | V _{IN} (V) | Supply Current (µA) | V _{TH} (V) | VTH. Accy. (%) | Low Iq (µA) | Reset Output | Circuit Type | Package |
|----------|---------------------|---------------------|---|----------------|-------------|-----------------|--------------|---|
| FP6805 | 1.5~6 | 1.5 | 2.2/2.3/2.6/2.7/2.8/2.9/ 3.1/4.0/4.4/4.6V/Adjust | ±1 | 1.5/2.5 | Active Low/High | Open-Drain | TSOT-23-3 TSOT-23-5 TSOT-23-6 TDFN-6 |
| FP6806 | 1.5~6 | 1.6 | 2.2/2.3/2.6/2.7/2.8/2.9/ 3.1/4.0/4.4/4.6V | ±1 | 1.6/2.6 | Active Low/High | Push-Pull | TSOT-23-3 TSOT-23-5 TSOT-23-6 |

BLDC

| Part No. | Key Features | V _{IN} (V) Range | Flash (KB) | SRAM (KB) | ADC | Timer | Interface | PWM | Others | I/O | Package |
|--|---|---------------------------|------------|-----------|------------------|--|--------------------------|------------------|-------------------|-------|-----------------|
|  FP5600 | Cortex-M0+ 96MHz MCU Motor Accelerator CORDIC IP 12 bit ADC with 2 S/H circuit 0.8us conversion time | 2.7~5.5 | 64 | 16 | 12Bit*16ch/1MSPS | QEI*2/Timer*2 Etimer*3/RTC*1 WDT*1 | UART*3 SPI*1 I2C*1 | 2*6ch (Motor) | OP/PGA*4 CMP*4 | 25/45 | LQFP-32/LQFP-48 |