



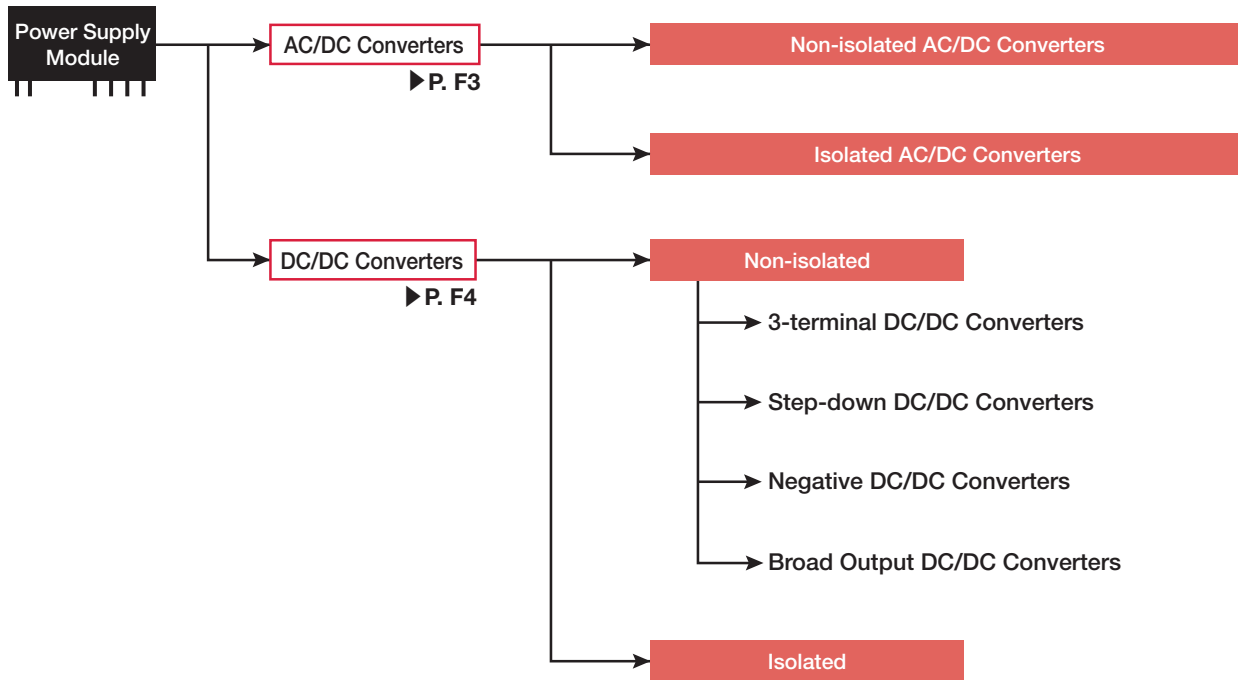
*Modules*

# Power Supply Modules

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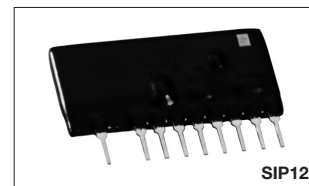
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# Power Supply Module Selection Guide



# AC/DC Converters

- **No transformer(Non-isolation)**  
Few external components required, simplifying the DC power supply.
- **Reduces the size and weight of the power supply unit(Non-isolation type)**  
Footprint and weight reduced to 1/4th and 1/30th the value, respectively, compared to transformer-equipped power supplies.
- **Wider input voltage range**
- **For industrial equipment, lighting fixtures, and home electronics**



## Non-isolated AC/DC Converters

Part No.	Input Voltage(V)	Output Voltage(V)	Output Current(mA)	Dimensions(mm)	Package*	
BP5038A1	113 to 170(AC conversion 80 to 120VAC)	+5	30	18.0×16.8×9.1	SIP6	
BP5063-5			200	28.2×17.9×9.1	SIP10	
BP5033-12		+12	100	28.2×15.5×10.5	SIP10	
BP5037B12			200	28.2×16.8×9.0	SIP10	
BP5039B12			300	35.0×18.0×9.1	SIP12	
BP5067-12			350	34.5×20.0×9.9	SIP12	
BP5037B15		+15	170	28.2×16.8×9.0	SIP10	
BP5039-15			200	35.0×19.5×9.1	SIP12	
BP5067-15			300	35.0×22.0×9.2	SIP12	
BP5039A		113 to 195(AC conversion 80 to 138VAC)	+24	200	35.0×19.5×9.1	SIP12
BP5034D5	+5		100	28.2×15.7×10.0	SIP10	
BP5034D12	+12		100	28.2×15.7×10.0	SIP10	
BP5034D15	+15		80	28.2×15.7×10.0	SIP10	
BP5034D24	+24	50	28.2×15.7×10.0	SIP10		
BP5035A5	-113 to -170(AC conversion 80 to 120VAC)	-5	200	28.2×17.9×9.1	SIP10	
BP5062A5			500	34.5×21.5×10.9	SIP12	
BP5065C		-12	90	26.1×15.2×7.2	SIP9	
BP5061			300	35.0×19.1×9.1	SIP12	
BP5062A			500	34.5×21.5×9.9	SIP12	
BP5068A			800	34.5×21.5×11.3	SIP12	
BP5068-15		-15	800	35.0×22.0×11.5	SIP12	
BP5068A24		-24	600	34.5×21.5×11.3	SIP12	
BP5041A5		226 to 358(AC conversion 160 to 253VAC)	+5	100	32.5×19.3×11.5	SIP10
BP5041A			+12	100	32.5×19.3×11.5	SIP10
BP5048	300			34.5×19.1×9.2	SIP12	
BP5041B15	80			32.5×19.3×11.5	SIP10	
BP5047B15	240 to 430(AC conversion 170 to 304VAC)		150	32.5×19.1×10.1	SIP10	
BP5048-15	180 to 390(AC conversion 127 to 276VAC)		+15	200	34.5×19.1×9.2	SIP12
BP5726-15	120 to 239(AC conversion 85 to 170VAC)			427	22.5×27.1×7.8	SIP7
	240 to 390(AC conversion 176 to 276VAC)		800			
BP5047A24	240 to 358(AC conversion 176 to 253VAC)		+24	150	34.5×19.1×9.2	SIP12
BP5048-24	249 to 358(AC conversion 176 to 253VAC)			200	34.5×19.1×9.2	SIP12
BP5045A5	-113 to -390(AC conversion 80 to 276VAC)	-5	200	28.2×17.9×10.1	SIP10	
BP5045A			200	28.2×17.9×10.1	SIP10	
BP5053-12		-240 to -420(AC conversion 170 to 300VAC)	-12	200	28.2×17.9×10.1	SIP10
BP5055-12		-240 to -420(AC conversion 170 to 300VAC)		250	28.2×21.5×9.9	SIP10
	-420 to -600(AC conversion 300 to 425VAC)	130				

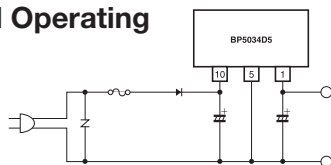
## Isolated AC/DC Converters

Part No.	Input Voltage(V)	Output Voltage(V)	Output Current(mA)	Dimensions(mm)	Package*
BP5710-1	120 to 162(AC conversion 85 to 115VAC)	+12	350	35.0×24.0×14.9	SIP11
BP5716	113 to 170(AC conversion 80 to 120VAC)	+12	1,000	24.0×25.5×10.1	SIP8
BP5718A12	113 to 195(AC conversion 80 to 138VAC)	+12	1,000	32.5×21.5×9.3	SIP11
BP5722A12	217 to 405(AC conversion 154 to 286VAC)	+12	1,000	32.5×21.5×9.3	SIP11
BP5720-5	113 to 374(AC conversion 80 to 264VAC)	+5.0	500	35.5×20.5×10.0	SIP12
Part No.	Input Voltage(V)	Output Electric Power(W)	Switching Method	Dimensions(mm)	Package*
BP5725	119 to 405(AC conversion 85 to 286VAC)	6	PWM(light load compatible)	22.5×24.0×7.8	SIP7
BP5729	120 to 372(AC conversion 85 to 264VAC)	12/24	quasi-resonance	37.4×24.3×9.3	SIP12
BP5728	113 to 405(AC conversion 80 to 286VAC)	6/12	PWM(light load compatible)	18.8×19.5×9.9	SIP6
BP5717	113 to 195(AC conversion 80 to 138VAC)	18	quasi-resonance	37.4×24.3×9.3	SIP12

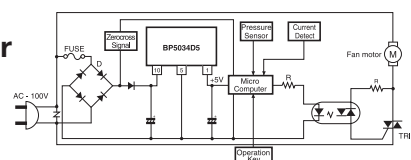
\* Original power supply module package used

### Typical Applications

#### Typical Operating Circuit

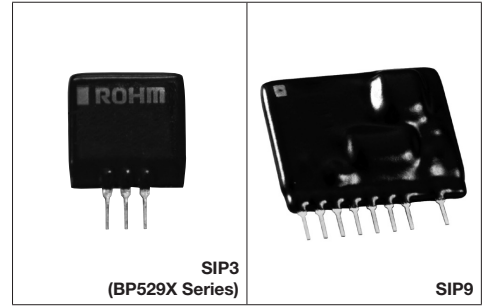


#### Typical Supply for Vacuum Cleaner



# DC/DC Converters

- **High efficiency**  
High energy conversion factor(85 to 93%)contributes to compact, power-saving supplies.
- **Few external parts**  
Because the external part is only two condensers, it can compose a powersupply circuit easily.
- **Internal output switch**  
Enables full use of power saving feature.
- **Wider input voltage range**  
Can operate with unregulated mains.(BP5220A/5221A : 8 to 38V)
- **Universal**  
Wide applicability(i.e. output switches, protection circuits, output voltage regulators)
- **Small footprint**  
SIP package requires less mounting space.(Board footprint: 65mm<sup>2</sup>)



\*Because there is a product which doesn't have some of these features and characteristic, too, confirm details with each specification.

## 3-terminal DC/DC Converters(Non-isolated)

Part No.	Input Voltage(V)	Output Voltage(V)	Output Current (mA)	Output Voltage Accuracy(%)	Dimensions(mm)	Package*
BP5293-33	7 to 26	+3.3	1,000	±3.0	17.0×17.8×7.2	SIP3
BP5293-50	7 to 26	+5.0	1,000	±2.0	17.0×17.8×7.2	SIP3
BP5293-12	17 to 26	+12.0	1,000	±5.0	17.0×17.8×7.2	SIP3

\* Non need external parts.(Incorporates input and output Capacitor and Inductor) • Pin compatible with Three-terminal LDO.

## Step-down DC/DC Converters(Non-isolated)

Part No.	Input Voltage(V)	Output Voltage(V)	Output Current(mA)	Dimensions(mm)	Package*
BP5224-33	7 to 18	+3.3	300	17.8×18.1×9.7	SIP6
BP5223	8 to 18	+5	150	17.0×16.8×10.4	SIP5
BP5220A	8 to 38	+5	1,000	28.0×19.5×12.0	SIP9
BP5221A	8 to 38	+5	500	28.0×19.5×12.0	SIP9
BP5222A	15 to 38	+12	500	28.0×19.5×12.0	SIP9
BP5226-18	20 to 46	+18	500	34.0×17.4×8.1	SIP12

## Negative DC/DC Converters(Non-isolated)

Part No.	Input Voltage(V)	Output Voltage(V)	Output Current(mA)	Dimensions(mm)	Package*
BP5122	8 to 20	-12	100	26.7×19.5×12.7	SIP9

## Broad Output DC/DC Converters(Non-isolated)

Part No.	Input Voltage(V)	Output Voltage(V)	Output Current(mA)	Output(ch)	Dimensions(mm)	Package*
BP5811	19 to 21	0 to 19	300	1	27.7×16.0×7.6	SIP9

\* The output voltage can be controlled with the PWM signal or the DC signal. This product is best to control a motor and so on.

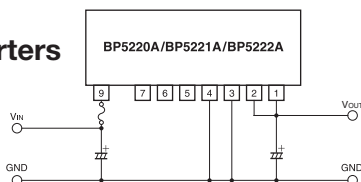
## Isolated DC/DC Converters

Part No.	Input Voltage(V)	Output Voltage(V)	Output Current(mA)	Isolation Voltage(V)	Dimensions(mm)	Package*
BP5512A	4.5 to 6.5	+5	200	AC2300	28.2×21.4×17.2	SIP7
BP5324A	4.5 to 5.5	+12	250	AC500	38.5×27.0×13.6	SIP12
BP5510-24	10.8 to 13.2	+24	200	AC500	32.6×24.2×13.6	SIP11

\* Original power supply module package used

## Typical Applications(Basic)

### Step-down DC/DC Converters (Non-isolated)



### Isolated DC/DC Converters

