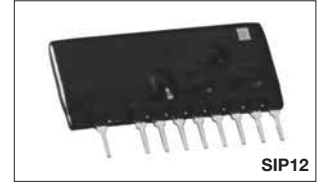


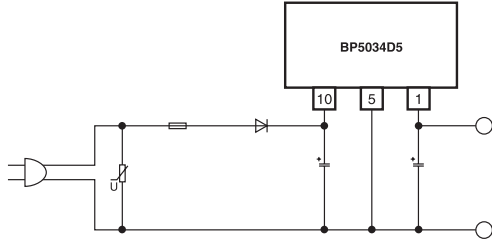
AC/DC Converters

- **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**

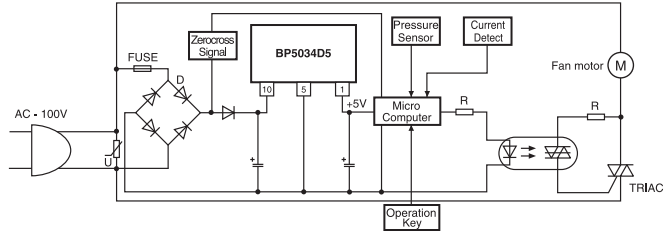


Typical Applications

Typical Operating Circuit



Typical Supply for Vacuum Cleaner



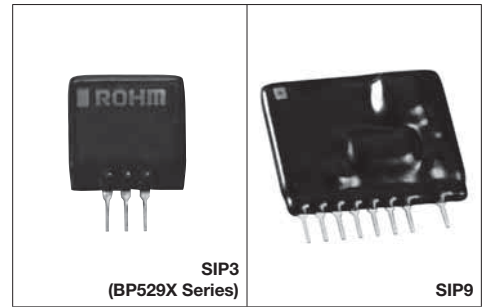
Non-isolated AC/DC Converters						
Part No.	Input Voltage (V)	Output Voltage (V)	Output Current (mA)	Dimensions (mm)	Package*	
BP5038A1	113 to 170 (AC conversion 80 to 120VAC)	+5	30	18.0×16.8×9.1	SIP6	
BP5063-5			200	28.2×17.9×9.1	SIP10	
BP5033-12		+12	100	28.2×15.5×10.5	SIP10	
BP5037B12			200	28.2×16.8×9.0	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	226 to 358 (AC conversion 160 to 253VAC)	+24	50	28.2×15.7×10.0	SIP10	
BP5048		+12	300	34.5×19.1×9.2	SIP12	
BP5047B15		+15	150	32.5×19.1×10.1	SIP10	
BP5048-15			200	34.5×19.1×9.2	SIP12	
BP5047A24			150	34.5×19.1×9.2	SIP12	
BP5048-24		+24	200	34.5×19.1×9.2	SIP12	
BP5045A5			-5	200	28.2×17.9×10.1	SIP10
BP5045A		-113 to -390 (AC conversion 80 to 276VAC)	-12	200	28.2×17.9×10.1	SIP10
BP5053-12				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
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

*Original power supply module package used.

DC/DC Converters

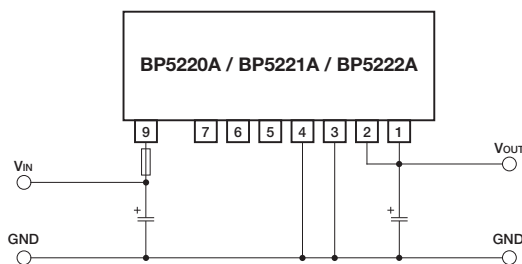
- **High efficiency**
High energy conversion factor (85 to 93%) contributes to compact, power-saving supplies.
- **Few external parts**
Because the external part is only two condensers, it can compose a powersupply circuit easily.
- **Internal output switch**
Enables full use of power saving feature.
- **Wider input voltage range**
Can operate with unregulated mains. (BP5220A/5221A: 8 to 38V)
- **Universal**
Wide applicability (i.e. output switches, protection circuits)
- **Small footprint**
SIP package requires less mounting space. (Board footprint: 65mm²)



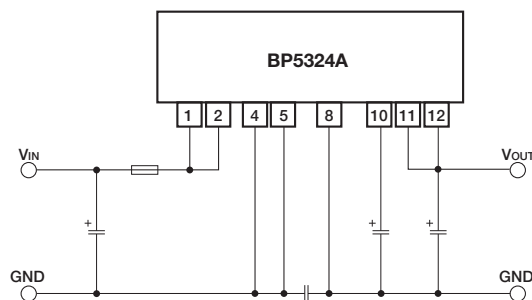
*Because there is a product which doesn't have some of these features and characteristic, too, confirm details with each specification.

Typical Applications (Basic)

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



Isolated DC/DC Converters



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*
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

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

* 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*
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.