made for experts

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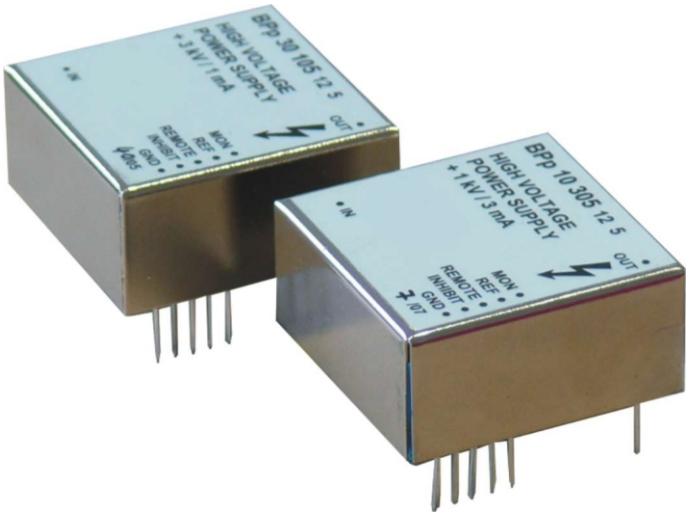
BPS

High Voltage PCB Modules

Description

The BPS are a range of high voltage modules that can be soldered and mounted on PCB's. Built into potted metal boxes the BPS series have a very low ripple and noise characteristics. By utilising patented resonance mode techniques a low EMI is achieved. These DC/DC converters provide between 300V and 4kV at 1W, 3W or 4W. The maximum output current varies between 0.5mA and 10mA depending on the model chosen. The output voltage can be set by external potentiometer or via analogue control voltage. On request your chosen modules can be built with an integrated potentiometer. If adjustability of the output is not required then a fixed voltage level can be specified on order. A signal is available to monitor the output along with an inhibit function enabling the output from the HV module to be switched OFF/ON . An internal 5V reference is also provided. The output polarity is factory fixed and is specified on order.



- Patented resonance mode technique
- Positive or negative polarity
- High voltages up to 4kV
- Stable output voltage
- Low ripple & noise
- Very low EMI

Technical Data

Output voltage	Up to 4kV
Output current	Up to 10mA
Stability (ΔV_{IN})	$< 1 \times 10^{-3} \times V_{OMAX}$
Stability (ΔR_{LOAD})	$< 2 \times 10^{-3} \times V_{OMAX}$
Ripple & noise	$<(2 \times 10^{-5} \times V_{OMAX} + 30mV)_{P-P}$
Temperature coefficient	$< 1 \times 10^{-4}/K$
Switching Frequency	50 to 60 Khz
Voltage Adjustment	± 1%
Polarity	Factory preset to either positive or negative
INHIBIT	TTL High
Case	Metal box soldered with PCB
Dimensions (1W and 3W Units)	40 x 40 x 18mm (W x D x H)
Dimensions (4W units)	40 x 50 x 21mm (W x D x H)
Supply voltage V_{IN}	5 ± 10% VDC or 11.5 - 15.5VDC
Protection	Overload and short circuit

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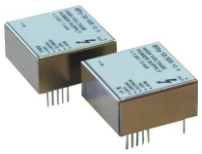

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Selection Table

Part Number	Maximum Power	Input Voltage	Output Voltage	Output Current
BPx 05 205 5	1 W	5Vdc ± 10%	0.5 kV	2 mA
BPx 10 105 5	1 W	5Vdc ± 10%	1 kV	1 mA
BPx 15 604 5	1 W	5Vdc ± 10%	1.5 kV	0.6 mA
BPx 20 504 5	1 W	5Vdc ± 10%	2 kV	0.5 mA
BPx 03 106 12	3 W	11.5 - 15.5Vdc	0.3 kV	10 mA
BPx 05 605 12	3 W	11.5 - 15.5Vdc	0.5 kV	6 mA
BPx 10 305 12	3 W	11.5 - 15.5Vdc	1 kV	3 mA
BPx 15 205 12	3 W	11.5 - 15.5Vdc	1.5 kV	2 mA
BPx 20 155 12	3 W	11.5 - 15.5Vdc	2 kV	1.5 mA
BPx 25 125 12	3 W	11.5 - 15.5Vdc	2.5 kV	1.2 mA
BPx 30 105 12	3 W	11.5 - 15.5Vdc	3 kV	1 mA
BPx 10 405 12	4 W	12Vdc ± 5%	1 kV	4 mA
BPx 20 205 12	4 W	12Vdc ± 5%	2 kV	2 mA
BPx 30 135 12	4 W	12Vdc ± 5%	3 kV	1.3 mA
BPx 40 105 12	4 W	12Vdc ± 5%	4 kV	1 mA

Replace x with N for negative or P for positive output polarity

Options Table

Code	Description
/P	Positive output polarity (Factory fixed)
/N	Negative output polarity (Factory fixed)
/R	Built in potentiometer for output (3W model only)
/S	Factory fixed output voltage (3W model only)

Control Principle

The following sketch shows the control and monitoring pins that are provided for the BPS module. A typical connection example is illustrated.