ELECTRONIC TEST & POWER SYSTEMS

HTP-BPS

HIGH VOLTAGE PCB MODULES

POSITIVE PROBLEM SOLVING

The HTP-BPS are a range of HV modules that can be soldered and mounted on PCBs. Built into potted metal boxes the HTP-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 6kV 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.

- Patented Resonance Mode Technique
- Positive or Negative Polarity
- High Voltages up to 6kV
- Stable Output Voltage
- Low Ripple & Noise
- Very Low EMI

FURTHER DETAILS

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.

TECHNICAL DATA

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Output Voltage	Up to 6kV
Output Current	Up to 10mA
Stability [ΔV_{IN}]	1/3W units: $<1 \times 10^{-3} \times V^{NOM}$ 4W units: $<2 \times 10^{-4} \times V^{NOM}$
Stability [ΔR_{LOAD}]	1/3W units: $< 2 \times 10^{-3} \times V^{NOM}$ 4W units: $<5 \times 10^{-4} \times V^{NOM}$
Ripple & Noise [V_{NOM} <= 2kV]	$<[2 \times 10^{-5} \times V^{NOM} + 10mV]_{P-P}$ Typical, $<[2 \times 10^{-5} \times V^{NOM} + 20mV]_{P-P}$ Max
Ripple & Noise [V_{NOM} = 3kV]	$<[2 \times 10^{-5} \times V^{NOM} + 15mV]_{P-P}$ Typical, $<[2 \times 10^{-5} \times V^{NOM} + 30mV]_{P-P}$ Max
Ripple & Noise [V_{NOM} = 4kV]	$<[2 \times 10^{-5} \times V^{NOM} + 20mV]_{P-P}$ Typical, $<[2 \times 10^{-5} \times V^{NOM} + 40mV]_{P-P}$ Max
Temperature Coefficient	$< 1 \times 10^{-4}$/K Δ
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 × 40 × 18mm [W × D × H]
Dimensions [4W Units]	40 × 50 × 17mm [W × D × H]
Supply Voltage V_{IN}	5 ± 10% VDC or 11.5 - 15.5VDC
Protection	Overload and short circuit

SELECTION TABLE

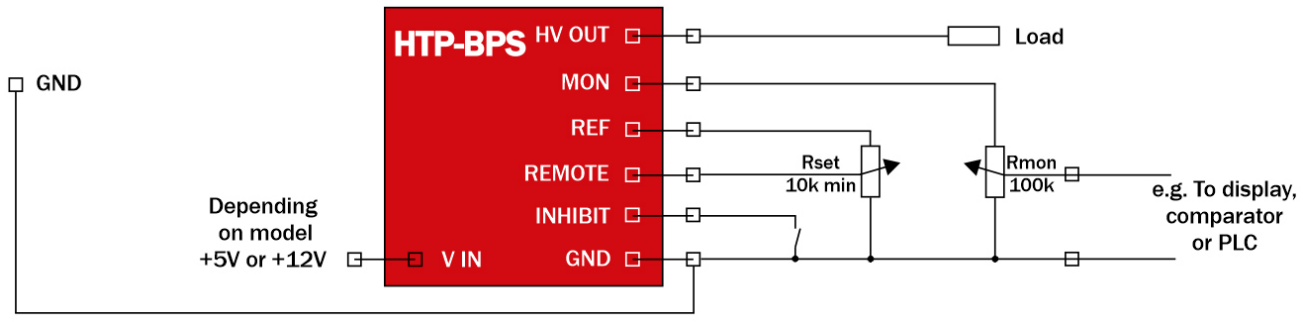
Part Number	Maximum Power	Input Voltage	Output Voltage	Output Current
HTP-BPx 05 205 5	1W	5Vdc ± 10%	0.5kV	2mA
HTP-BPx 10 105 5	1W	5Vdc ± 10%	1kV	1mA
HTP-BPx 15 604 5	1W	5Vdc ± 10%	1.5kV	0.6mA
HTP-BPx 20 504 5	1W	5Vdc ± 10%	2kV	0.5mA
HTP-BPx 03 106 12	3W	11.5 - 15.5Vdc	0.3kV	10mA
HTP-BPx 05 605 12	3W	11.5 - 15.5Vdc	0.5kV	6mA
HTP-BPx 10 305 12	3W	11.5 - 15.5Vdc	1kV	3mA
HTP-BPx 15 205 12	3W	11.5 - 15.5Vdc	1.5kV	2mA
HTP-BPx 20 155 12	3W	11.5 - 15.5Vdc	2kV	1.5mA
HTP-BPx 25 125 12	3W	11.5 - 15.5Vdc	2.5kV	1.2mA
HTP-BPx 30 105 12	3W	11.5 - 15.5Vdc	3kV	1mA
HTP-BPx 05 805 12	4W	12Vdc ± 5%	0.5kV	8mA
HTP-BPx 10 405 12	4W	12Vdc ± 5%	1kV	4mA
HTP-BPx 20 205 12	4W	12Vdc ± 5%	2kV	2mA
HTP-BPx 30 135 12	4W	12Vdc ± 5%	3kV	1.3mA
HTP-BPx 40 105 12	4W	12Vdc ± 5%	4kV	1mA
HTP-BPx 60 504 12	4W	12Vdc ± 5%	6kV	0.5mA

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

SELECTION TABLE

CODE	DESCRIPTION
/P	Positive output polarity (factory fixed)
/N	Negative output polarity (factory fixed)
/R	Built in potentiometer for output
/S	Factory fixed output voltage

CONTROL PRINCIPLE



Every effort is made to ensure that the information provided within this technical summary is accurate. However, ETPS Ltd must reserve the right to make changes to the published specifications without prior notice. Where certain operating parameters are critical for your application we advise that they be confirmed at the time of order. ETPS Ltd specialises in modifying its proven platforms to suit your needs. Please contact our office if your requirement is non-standard. Please note that your actual unit may differ from those shown.

“WE ARE POSITIVE PEOPLE”

ETPS engineer electronic power supply and testing systems. Our problem solving skills provide the spark of innovation to some of the world’s leading technology brands.

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