10kV; 3W
I/O PROPORTIONAL, COMPACT
HIGH VOLTAGE POWER SUPPLIES

 FEATURES
− I/O Proportional
− Low Noise, High Reliability
− Chassis Mountable Metal Case
− Detachable Input Connector
− Compact and Light Weight

 APPLICATIONS
− Electrostatic Chuck
− PMT, MCP, Radiation Counter
− Electron Beam / Ion Beam
− Semiconductor Equipment
− MASS Spectrometry
− Electron Microscopes

The HM43 Series is a family of I/O proportional, modular 3W high voltage power supplies used in a wide variety of applications including electrostatic chuck, PMT, MCP and radiation counters. It is suitable for applications where a compact chassis mountable high voltage power supply with less stringent regulation requirements is needed.

The output voltage is linear proportional to the input voltage, starting at less than 2V input.

<table>
<thead>
<tr>
<th>Output Voltage</th>
<th>Output Current</th>
<th>Model</th>
<th>Minimum Load</th>
<th>Ripple</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8 – 10kV</td>
<td>0.25mA</td>
<td>HM43-10P-15</td>
<td>40MΩ</td>
<td>&lt; 5Vpp</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HM43-10N-15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All models are RoHS compliant. Other output voltages available on request.

 SPECIFICATIONS
Input Voltage (+Vin): +2V to +15Vdc
Turn-On Voltage: < 2.0Vdc
Input Current: 300mA typ. at rated load
Load Regulation: 8% typ. for a 50% to 100% load change
Protection: Arc, momentary output short circuit
Temperature Range: Operating: -10°C to +60°C
                  Storage: -20°C to +75°C
Dimensions (LxWxH): 110.0 x 50.0 x 31.0mm³
                   L incl. mounting tabs: 126.0mm
Input Terminal: 3 pin connector; mating connector: JST VHR-3N or equivalent;
                crimp contacts for AWG22-18: JST SVH-21T-P1.1
                for AWG20-16: JST SVH-41T-P1.1
                Assembled mating connector available on request
Output Cable: HV flying lead, unshielded, l=500mm
              Other lengths or assembled output connectors on request
Operating Conditions: All voltages are referenced to GND.
Specifications are at full rated output, rated load, 25°C, after a 1h warm up unless otherwise specified.
**CONNECTION DIAGRAM**

Input / Programming Voltage

1. +VIN
2. GND

**PIN FUNCTION DESCRIPTIONS**

<table>
<thead>
<tr>
<th>Pin No.</th>
<th>Designation</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+VIN</td>
<td>Input Supply Voltage</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>Ground / Case</td>
</tr>
<tr>
<td>3</td>
<td>NC</td>
<td>not connected</td>
</tr>
</tbody>
</table>

- Pin 2 is connected to the case.
- HV Return has to be connected to the case or pin 2.

**DIMENSIONS**

Top view
- All dimensions are in mm; drawings not to scale.
- All values and dimensions without given tolerances are nominal.
- Total length does not include mating connector.

**CONTROL CHARACTERISTICS**

Input Voltage

Output Voltage

- No Load
- Minimum Load

**Disclaimer**

The information given in this data sheet is technical data, not assured product characteristics. It has been carefully checked and is believed to be accurate; however, no responsibility is assumed for inaccuracies. The user has to ensure by adequate tests that the product is suitable for his application regarding safety and technical aspects.

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**Safety Advice**

Design, installation and inspection of machinery and devices carrying high voltage require accordingly trained and qualified personnel. Appropriate safety rules and directives must be complied with.

Improper handling of high voltage can mean severe injuries or death and may cause serious collateral damage!