High Voltage Ceramic Capacitor Multiplier Sets
With Leads, Class 2 Ceramic

FEATURES
- High voltage ratings
- Compact design
- Small sizes
- Many customized solutions available
- Voltage multipliers
- Completely assembled cascades with stacks and diodes

APPLICATIONS
- Electrostatic paint spraying
  The major applications are x-ray equipment for:
  - Medical diagnosis
  - Dentistry x-ray application
  - Industrial x-ray for material control
  - Airport security x-ray scanner

CAPACITANCE RANGE
120 pF to 1.4 nF per single disc

CERAMIC DIELECTRIC
R4000 (Y5U)

RATED VOLTAGE
- 8.0 kV<sub>DC</sub> per single disc
- 10 kV<sub>DC</sub> per single disc

DESCRIPTION
Voltage multipliers are AC/DC power conversion devices, comprised of diodes and capacitor stacks, that produce a high potential DC voltage from a lower voltage AC source. Multipliers consist of multiple stacks of up to 14 stages. Each stage is comprised of one diode and one capacitor. A high-frequency generator supplies the input AC voltage via a ferrite transformer. Output DC voltage up to 100 kV or higher can be produced, depending on the number of stages.

The most common type of voltage multiplier is the half-wave multiplier, also called the Villard cascade.

Another multiplier is the full-wave, also called the Delon circuit.

Vishay has the product lines to offer customized voltage multiplier sets:
- Build up to 14 stages or more
- Circuits are completely assembled and soldered with HV diodes / resistors and screwed connections

Please contact us. Our design team will work with you to find an individually solution.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceramic Class</td>
<td>2</td>
</tr>
<tr>
<td>Ceramic Dielectric</td>
<td>R4000 (Y5U)</td>
</tr>
<tr>
<td>Type</td>
<td>RHK...</td>
</tr>
<tr>
<td>Voltage (V&lt;sub&gt;DC&lt;/sub&gt;)</td>
<td>8000, 10 000</td>
</tr>
<tr>
<td>Min. Capacitance (pF)</td>
<td>120</td>
</tr>
<tr>
<td>Max. Capacitance (pF)</td>
<td>1400</td>
</tr>
<tr>
<td>Mounting</td>
<td>Leaded</td>
</tr>
</tbody>
</table>
EXAMPLE WITH DIFFERENT SIZES OF DISCS

EXAMPLE WITH RESISTORS

Note
• For singlestacks see overview: www.vishay.com/capacitors/ceramic/voltage-multipliers/

RELATED DOCUMENTS
| General Information | www.vishay.com/doc?22090 |
Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay’s knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer’s technical experts. Product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.