Thick Film Chip Dividers, Medium Voltage

FEATURES

• Voltage up to 1415 V
• Maximum resistance ratio of 700:1
• Flow solderable
• Tape and reel packaging available
• Termination style: 3-sided wraparound termination or single termination flip chip available
• Suitable for solderable, epoxy bondable, or wire bondable applications
• Termination material: solder-coated nickel barrier terminations standard; gold, palladium silver, platinum gold, platinum silver, or platinum palladium gold terminations available
• Multiple styles, termination materials, and configurations, allow wide design flexibility
• Epoxy bondable or wire bondable terminations available
• Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Note
• This datasheet provides information about parts that are RoHS-compliant and / or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details

ADDITIONAL RESOURCES

3D Models
Footprints

Note
• Contact factory for other ratios

Standard Electrical Specifications

<table>
<thead>
<tr>
<th>GLOBAL MODEL</th>
<th>CASE SIZE</th>
<th>POWER RATING</th>
<th>MAXIMUM WORKING VOLTAGE</th>
<th>RESISTANCE RANGE</th>
<th>TOLERANCE</th>
<th>TEMPERATURE COEFFICIENT</th>
<th>TCR TRACKING</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDMV 2512</td>
<td>2512</td>
<td>1</td>
<td>1415</td>
<td>10K to 75M</td>
<td>±%</td>
<td>± ppm/°C</td>
<td>± ppm/°C</td>
</tr>
</tbody>
</table>

Notes
(1) Continuous working voltage shall be V x R or maximum working voltage, whichever is less
(2) Resistance values are calibrated at 100 VDC. Calibration at other voltages available upon request
(3) Contact factory for tighter tolerances
(4) Reference only: not for all values specified. Consult factory for your value

Voltage and Temperature Coefficients of Resistance Chart Typical

<table>
<thead>
<tr>
<th>RESISTANCE (Ω)</th>
<th>RATIO (MAXIMUM)</th>
<th>VCR (ppm/V)</th>
<th>TCR (ppm/°C) -55 °C to +155 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>10K to 100K</td>
<td>200:1</td>
<td>10</td>
<td>150</td>
</tr>
<tr>
<td>&gt; 100K to 1M</td>
<td>400:1</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>&gt; 1M</td>
<td>700:1</td>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>

Note
• Contact factory for other ratios

Global Part Numbering

New Global Part Numbering: CDMVAF20KJ01000GB (preferred part number format)

GLOBAL MODEL = CDMV
TERM STYLE = A = 3-sided
B = top only
TERM MATERIAL = F = nickel barrier
A = palladium silver
B = platinum gold
C = gold
D = platinum silver
E = platinum palladium gold
RESISTANCE VALUE (R1) = K = kΩ
M = MΩ
20K = 20 kΩ
800K = 800 kΩ
1M00 = 1 MΩ
TOLERANCE = D = ± 0.5 %
E = ± 1 %
F = ± 1 %
G = ± 2 %
J = ± 5 %
K = ± 10 %
RATIO = (R1 + R2) / R2
3 digit significant figure, followed by a multiplier
0500 = 50:1
1000 = 100:1
2000 = 200:1
RATIO TOLERANCE = D = ± 0.5 %
F = ± 1 %
G = ± 2 %
H = ± 3 %
J = ± 5 %
SOLDER TERMINATION = E = Sn100
N = no solder
T = Sn90 / Pb10
PACKAGING = B = bulk
F = T / R (full reel)
1 = T / R (1000 pcs)
S = T / R (500 pcs)
T = T / R (250 pcs min.)
W = waffle tray

Note
• For additional information on packaging, refer to the “Surface Mount Resistor Packaging” document (www.vishay.com/doc?731543)
<table>
<thead>
<tr>
<th>MATERIAL SPECIFICATIONS</th>
<th>ENVIRONMENTAL SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resistive element: Ruthenium oxide</td>
<td>Operating temperature: -55 °C to +155 °C</td>
</tr>
<tr>
<td>Encapsulation: Epoxy</td>
<td>Life: Less than 0.5 % change when tested at full rated power</td>
</tr>
<tr>
<td>Substrate: 96 % alumina</td>
<td></td>
</tr>
<tr>
<td>Termination: Solder-coated nickel barrier terminations standard. Gold, palladium silver, platinum gold, platinum silver, platinum palladium gold terminations available.</td>
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- **Operating temperature**: -55 °C to +155 °C
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**Note**

- Reference only: not for all values specified. Consult factory for your size and value

**DIMENSIONS** in inches (millimeters)

<table>
<thead>
<tr>
<th>TERMINATION</th>
<th>LENGTH (L) ± 0.006 (0.152)</th>
<th>WIDTH (W) ± 0.006 (0.152)</th>
<th>THICKNESS (T) ± 0.005 (0.127)</th>
<th>A ± 0.005</th>
<th>B ± 0.005</th>
<th>C ± 0.005</th>
<th>E ± 0.005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Style A (3-sided wraparound)</td>
<td>0.250</td>
<td>0.126</td>
<td>0.025</td>
<td>0.025</td>
<td>0.025</td>
<td>0.040</td>
<td>0.046</td>
</tr>
<tr>
<td>Style B (top only)</td>
<td>0.240</td>
<td>0.126</td>
<td>0.025</td>
<td>0.025</td>
<td>0.025</td>
<td>0.040</td>
<td>-</td>
</tr>
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**DIMENSIONS**

- **TERMINATION LENGTH (L)**: ± 0.006 (0.152)
- **TERMINATION WIDTH (W)**: ± 0.006 (0.152)
- **TERMINATION THICKNESS (T)**: ± 0.005 (0.127)
- **A**: ± 0.005
- **B**: ± 0.005
- **C**: ± 0.005
- **E**: ± 0.005

[Diagram showing dimensions]
DERATING CURVE

![Derating Curve Graph]

**Note**
- Reference only: not for all values specified. Consult factory for your specific value.

### TYPE | TERMINATION MATERIAL | TERMINATION STYLE | TERMINATION STYLE / MATERIAL CODE | SOLDER TERMINATION CODE
--- | --- | --- | --- | ---
Solderable | Nickel barrier | 3-sided (wraparound) | AF | E or T
| | | Top only (flip chip) | BF | |
Epoxy bondable / solderable | Platinum palladium gold | Top only (flip chip) | BE | N
Wire bondable / epoxy bondable | Gold | Top only (flip chip) | BC | N
Epoxy bondable | Palladium silver | Top only (flip chip) | BA | |
| | Platinum gold | | BB | |
| | Platinum silver | | BD | |

### SCHEMATIC

![Schematic Diagram]
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