

CDV-Series Chip Resistor Divider, High Voltage

Sizes: 2512, 4020

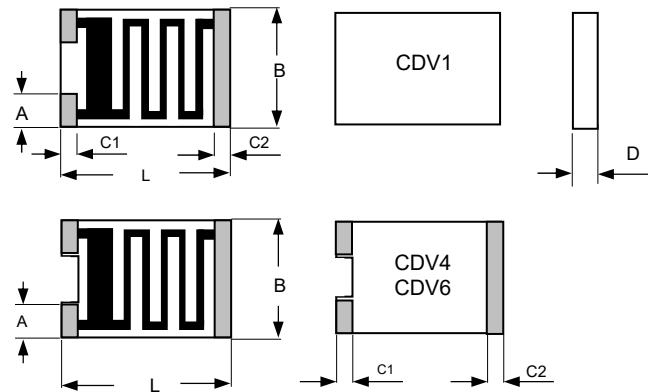
Features:

- Chip resistor divider with 2 resistors in thick film technology
- Resistance values up to 1 Giga-Ohm
- Divider ratios up to 1000:1 with precision down to 0.25%
- Customer specific resistance value combination
- High working voltage up to 4000 V
- Low relative temperature coefficients TCR (down to 15 ppm/K)
- Suitable for high vacuum applications – no organics
- Non-magnetic types: CDV1, CDV4
- Different termination types available



Dimensions:

Size	2512 (metric 6332)	4020 (metric 10050)
L (mm)	6.30 +0.15/-0.05	10.20 +0.15/-0.05
B (mm)	3.50 +0.2/-0.05	5.10 +0.2/-0.05
D (mm)	0.60 +0.15/-0.05	0.60 +0.15/-0.05
A (mm)	1.0 ±0.2	1.0 ±0.2
C1 / C2 (mm)	0.6 ±0.2	0.6 ±0.2



Versions:

Type	Termination	Assembly
CDV1	AgPd 1-side, no wrap-around (Silver Palladium thick film)	flip-chip / face-down; soldering or conductive epoxy (e4)
CDV4	PtAg 3-side, with wrap-around (Platinum Silver thick film)	face-up-assembly; soldering or conductive epoxy (e4)
CDV6	NiSn 3-side, with wrap-around (gal. Tin with Nickel barrier layer)	face-up-assembly; soldering only (MOQ 1000 pcs.) (e3)

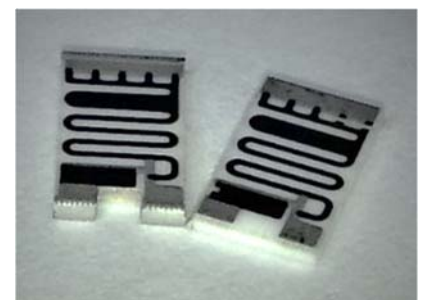
Inquiry / Ordering Data:

Type – Size - Total resistance value - Tolerance absolute - Temp.coeff. TCR - Divider ratio - Tolerance ratio

Example: CDV1 2512 10M±10% TCR100 400:1±5%
CDV4 4020 100M±5% TCR100 875:1±2%

Packaging:

Bulk in plastic bags – minimum quantity 100 pieces per value
Embossed carrier tape acc. to IEC 60286-3
– minimum quantity 500 pieces per value
Reel diameter 180 mm or 330 mm



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Technical data – depending on size:

(R1 > R2)

Size	Spec.	2512	4020
Power rating P ₇₀ (mW) - (P ₁₅₅ = 0 mW)	R1 + R2	1000	2000
Max. working voltage (V) ¹⁾	R1 + R2	2000	4000
Highest value	R1	1 G	1 G
Lowest value	R2	10 R	10 R
Resistance ratio min.	R1: R2	50:1	50 : 1
Resistance ratio max.	R1: R2	500 :1	1000 : 1

Ranges / Tolerances / Temperature coefficient TCR ²⁾			
500R – 1M	R1	0,5/.../10% TCR 50/100	0,5/.../10% TCR 50/100
1M – 10M	R1	1/2/5/10% TCR 50/100	1/2/5/10% TCR 50/100
10M – 100M	R1	0,5/.../20% TCR 25/50/100	0,25/.../10% TCR 25/50/100
>100M – 500M	R1	1/5/10/20% TCR 25/50/100	0,5/.../20% TCR 25/50/100
>500M – 1G	R1	1/5/10/20% TCR 100/250	1/5/10/20% TCR 25/50/100

¹⁾ Custom specific parts: the maximum working voltage depends on resistance value and ratio, the maximum working voltage is not for all resistor combinations available!
Continuous operating voltage (U₋, U_{eff}): $V \leq \sqrt{P \cdot R}$ or max. working voltage (the lower value)

²⁾ Temperature coefficient TCR: in ppm/K; +25°C...+125°C;
TCR values lower than standard TCR (highest value): +25°C...+85°C

Lower values of tolerance or TCR on request and agreement only; Extreme values are not realizable together in all cases

Technical data – general:

Operating temperature range	-55°C ... +155°C
Climatic category acc. to EN 60068-1	55/155/56
Solderability acc. to EN 60068-2-58 (lead-free and lead-containing) ³⁾	250°C, 3s
Max. soldering temperature acc. to EN 60068-2-58	260°C, 10s
Moisture Sensitivity Level acc. to J-STD-020	MSL 1 (unlimited)

Long term stability	< 10 MΩ	10 MΩ – 1 GΩ	
Storage 125°C/1000h	< 1%	< 1%	
Load Life 70°C/1000h	< 0.5%	< 0.5%	
Maximum Voltage /1000h	< 0.5%	< 0.5%	
Short term overload (2,5x, 5s)	< 0.25%	-	

³⁾ Up to 6 months after shipment (air, 30°C/60%rH) or up to 12 months at storage in Nitrogen or in evacuated dry packs.
Other data according to EN 140401-802 (CECC 40401-802).