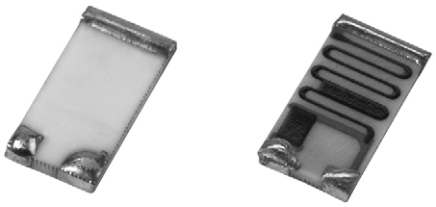
Thick Film Chip Dividers, High Voltage



FEATURES

- High voltage up to 3000 V
- Typical resistance ratios of 250:1, 500:1, etc.; maximum resistance ratio of 800:1
- 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 or solder coated non-magnetic 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 non-magnetic terminations available
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free Available

RoHS* Available

HALOGEN FREE

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.

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	CASE SIZE	POWER RATING $P_{70\,°C}$ W	MAXIMUM WORKING VOLTAGE (1) V	RESISTANCE RANGE (2) Ω	TOLERANCE (3) ± %	TEMPERATURE COEFFICIENT (4) (-55 °C to +155 °C) ± ppm/°C	TCR TRACKING ± ppm/°C
CDHV 2512	2512	1	3000	20M to 20G	1, 2, 5, 10, 20	100	50 (typical)

Notes

(1) Continuous working voltage shall be $\sqrt{P \times R}$ or maximum working voltage, whichever is less.

(2) Resistance values below 1 GΩ are calibrated at 100 V_{DC}, and values of 1 GΩ and above are calibrated at 1000 V_{DC}. 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

RESISTANCE (Ω)	RATIO (TYPICAL)	VCR (ppm/V)	TCR (ppm/°C) -55 °C to +155 °C
20M	250:1	10	100
150M	300:1	10	150
800M	500:1	10	200

Note

- Contact factory for other ratios.

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: CDHVAF20M0J2500GFB (preferred part number format)

C	D	H	V	A	F	2	0	M	0	J	2	5	0	0	G	F	B

GLOBAL MODEL	TERM STYLE	TERM MATERIAL	RESISTANCE VALUE (R1)	TOLERANCE	RATIO R1/R2	RATIO TOLERANCE	SOLDER TERMINATION	PACKAGING
CDHV = CDHV2512	**A** = 3-sided **B** = top only	**F** = nickel barrier **G** = non-magnetic **A** = palladium silver **B** = platinum gold **C** = gold **D** = platinum silver **E** = platinum palladium gold	M = MΩ G = GΩ **20M0** = 20 MΩ **800M** = 800 MΩ **1G00** = 1 GΩ	**F** = ± 1 % **G** = ± 2 % **J** = ± 5 % **K** = ± 10 % **M** = ± 20 %	3 digit significant figure, followed by a multiplier **0500** = 50:1 **2500** = 250:1 **3000** = 300:1 **5000** = 500:1	**G** = ± 2 % **H** = ± 3 % **J** = ± 5 %	**E** = Sn100 **F** = Sn95/Ag5, HSD **N** = no solder **S** = Sn62 / Pb36 / Ag2, HSD **T** = Sn90 / Pb10	**B** = bulk **F** = T / R (full reel) **1** = T / R (1000 pcs) **5** = T / R (500 pcs) **T** = T / R (250 pcs min.) **W** = waffle tray

Historical Part Numbering: CDHV2512AF2005J2500Ge2 (will continue to be accepted)

CDHV2512	A	F	2005	J	2500	G	e2
HISTORICAL MODEL	TERM STYLE	TERM MATERIAL	RESISTANCE VALUE (R1)	TOLERANCE	RATIO R1/R2	RATIO TOLERANCE	SOLDER TERMINATION

Note

- For additional information on packaging, refer to the “Surface Mount Resistor Packaging” document (www.vishay.com/doc?31543).

MATERIAL SPECIFICATIONS

Resistive element	Ruthenium oxide
Encapsulation	Glass
Substrate	96 % alumina
Termination	Solder-coated nickel barrier or solder coated non-magnetic terminations standard. Gold, palladium silver, platinum gold, platinum silver, platinum palladium gold terminations available.
Solder finish	Pure tin or tin / lead solder alloys standard. Tin / silver or tin / lead / silver solder alloys available.

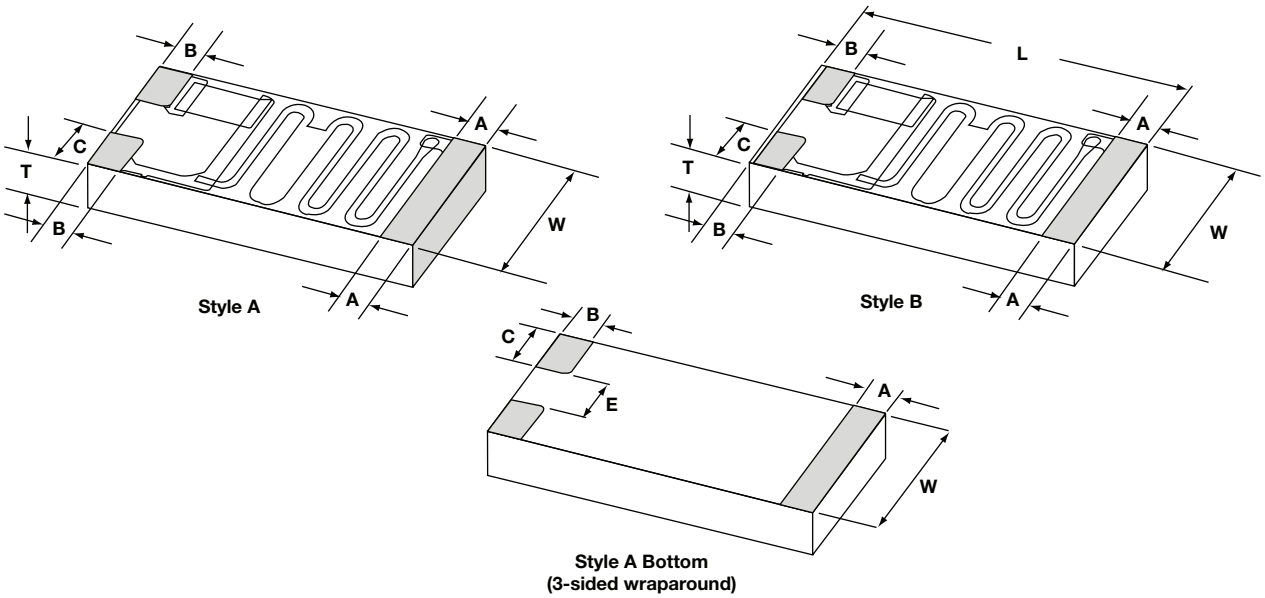
ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-55 °C to +155 °C
Life	Less than 0.5 % change when tested at full rated power

Note

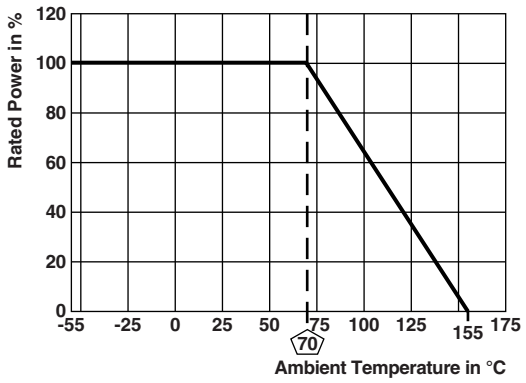
- Reference only: not for all values specified. Consult factory for your size and value.

DIMENSIONS in inches (millimeters)



TERMINATION	LENGTH (L) ± 0.006 (0.152)	WIDTH (W) ± 0.006 (0.152)	THICKNESS (T) ± 0.005 (0.127)	A ± 0.005	B ± 0.005	C ± 0.005	E ± 0.005
Style A (3-sided wraparound)	0.250	0.126	0.025	0.025	0.025	0.040	0.046
Style B (top only)	0.240	0.126	0.025	0.025	0.025	0.040	-

DERATING CURVE



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 (standard); F or S (optional) (1)
		Top only (flip chip)	BF	
Solderable	Non-magnetic	3-sided (wraparound)	AG	E or T (standard); F or S (optional) (1)
		Top only (flip chip)	BG	
Epoxy bondable / solderable	Platinum palladium gold	Top only (flip chip)	BE	N (standard); F or S (optional) (2)
Wire bondable / epoxy bondable	Gold	Top only (flip chip)	BC	N
Epoxy bondable	Palladium silver (3)	Top only (flip chip)	BA	N
	Platinum gold		BB	
	Platinum silver		BD	

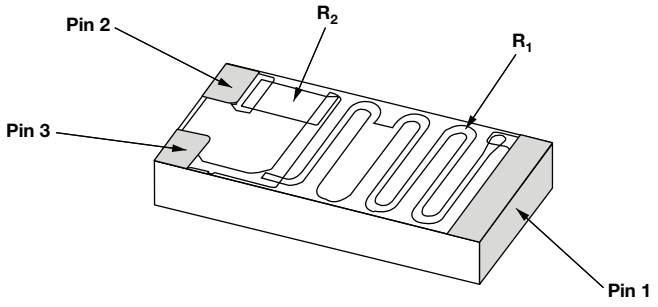
Notes

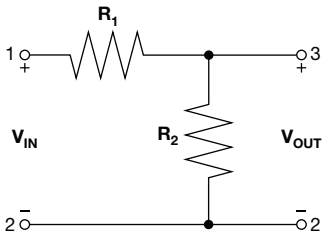
(1) Standard solder plating for the nickel barrier and non-magnetic parts is solder terminations E or T. Hot solder dipped terminations F or S are also available.

(2) Use solder termination N for applications requiring epoxy bondable mounting, and solder terminations F or S for applications requiring solderable mounting.

(3) While not recommended, palladium silver terminations could be used for solderable applications when using a solder alloy containing silver. If the solder paste being used to solder the palladium silver terminated parts to the boards does not have a silver-based composition, then the silver in the terminations could begin to leach when it is exposed to liquidus non-silver-based solders, causing the potential for solderability and/or solder joint issues.

SCHEMATIC





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