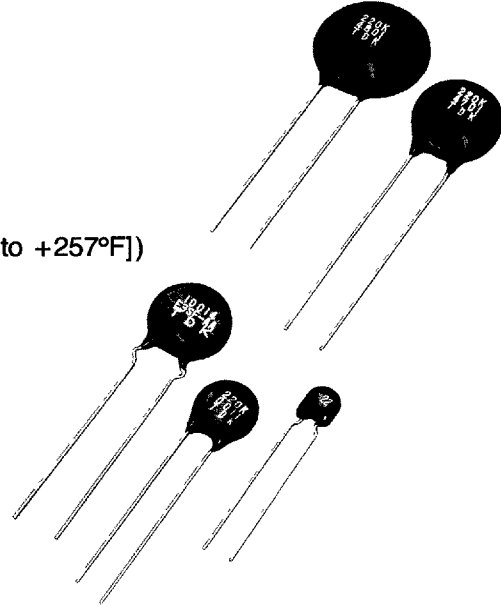
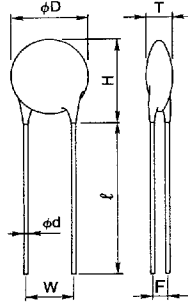


# Varistors

## DISC VARISTORS (ZINC OXIDE)

TDK disc varistors are sintered semiconductive ceramic elements mainly composed of zinc oxide. These varistors possess a high non-linear coefficient, excellent surge absorption potential, and high energy resistant.

**AVR-A SERIES** (Operating temperature range:  $-40$  to  $+125^{\circ}\text{C}$  [ $-40$  to  $+257^{\circ}\text{F}$ ])



### AVR-A05D TYPE

Dimensions in mm [inches]

Part No.	D max.	T max.	W $\pm 1$ [.039]	H max.	F $\pm 1$ [.039]	d $\pm 0.1$ [.004]	l min.
AVR-A05D220K	7.5 [.295]	5.8 [.228]	5 [.197]	10.5 [.413]	1.5 [.059]	0.6 [.024]	25 [.984]
AVR-A05D270K	7.5 [.295]	5.8 [.228]	5 [.197]	10.5 [.413]	1.6 [.063]	0.6 [.024]	25 [.984]
AVR-A05D330K	7.5 [.295]	6 [.236]	5 [.197]	10.5 [.413]	1.9 [.075]	0.6 [.024]	25 [.984]
AVR-A05D390K	7.5 [.295]	6.3 [.248]	5 [.197]	10.5 [.413]	2.1 [.083]	0.6 [.024]	25 [.984]
AVR-A05D470K	7.5 [.295]	6.6 [.260]	5 [.197]	10.5 [.413]	2.5 [.098]	0.6 [.024]	25 [.984]

### ELECTRICAL CHARACTERISTICS

Part No.	Varistor voltage $V_{0.1\text{mA}}$ (V)	Maximum circuit voltage (Vdc)	Maximum voltage $V_{1\text{A}}$ (V)	Applied voltage (Vdc) 5 minutes	Energy (J) 20ms	Lifetime energy (J) $2\text{ms}/10^4$ cycles
AVR-A05D220K	22 [20 to 24]	16	48	24	2.5	0.6
AVR-A05D270K	27 [24 to 30]	19	60	29	2.5	0.6
AVR-A05D330K	33 [30 to 36]	24	73	36	2.5	0.6
AVR-A05D390K	39 [35 to 43]	28	86	42	2.5	0.6
AVR-A05D470K	47 [42 to 52]	34	104	50	2.5	0.6

### AVR-A07D TYPE

Dimensions in mm [inches]

Part No.	D max.	T max.	W $\pm 1$ [.039]	H max.	F $\pm 1$ [.039]	d $\pm 0.1$ [.004]	l min.
AVR-A07D220K	9.5 [.374]	5.8 [.228]	5 [.197]	12.5 [.492]	1.8 [.071]	0.6 [.024]	25 [.984]
AVR-A07D270K	9.5 [.374]	5.8 [.228]	5 [.197]	12.5 [.492]	1.8 [.071]	0.6 [.024]	25 [.984]
AVR-A07D330K	9.5 [.374]	6 [.236]	5 [.197]	12.5 [.492]	2.1 [.083]	0.6 [.024]	25 [.984]
AVR-A07D390K	9.5 [.374]	6.3 [.248]	5 [.197]	12.5 [.492]	2.4 [.094]	0.6 [.024]	25 [.984]
AVR-A07D470K	9.5 [.374]	6.6 [.260]	5 [.197]	12.5 [.492]	2.7 [.106]	0.6 [.024]	25 [.984]

### ELECTRICAL CHARACTERISTICS

Part No.	Varistor voltage $V_{1\text{mA}}$ (V)	Maximum circuit voltage (Vdc)	Maximum voltage $V_{2.5\text{A}}$ (V)	Applied voltage (Vdc) 5 minutes	Energy (J) 20ms	Lifetime energy (J) $2\text{ms}/10^4$ cycles
AVR-A07D220K	22 [20 to 24]	16	45	24	5	1.2
AVR-A07D270K	27 [24 to 30]	19	53	29	5	1.2
AVR-A07D330K	33 [30 to 36]	24	65	36	5	1.2
AVR-A07D390K	39 [35 to 43]	28	77	42	5	1.2
AVR-A07D470K	47 [42 to 52]	34	93	50	5	1.2

# Varistors

## AVR-A10D TYPE

Dimensions in mm [inches]

Part No.	D max.	T max.	W ±1 [.039]	H max.	F ±1 [.039]	d ±0.1 [.004]	ℓ min.
AVR-A10D220K	13.5 [.531]	5.8 [.228]	7.5 [.295]	17 [.669]	1.8 [.071]	0.8 [.031]	25 [.984]
AVR-A10D270K	13.5 [.531]	5.8 [.228]	7.5 [.295]	17 [.669]	1.8 [.071]	0.8 [.031]	25 [.984]
AVR-A10D330K	13.5 [.531]	6 [.236]	7.5 [.295]	17 [.669]	2.1 [.083]	0.8 [.031]	25 [.984]
AVR-A10D390K	13.5 [.531]	6.3 [.248]	7.5 [.295]	17 [.669]	2.4 [.094]	0.8 [.031]	25 [.984]
AVR-A10D470K	13.5 [.531]	6.6 [.260]	7.5 [.295]	17 [.669]	2.7 [.106]	0.8 [.031]	25 [.984]

## ELECTRICAL CHARACTERISTICS

Part No.	Varistor voltage V <sub>1mA</sub> (V)	Maximum circuit voltage (Vdc)	Maximum voltage V <sub>5A</sub> (V)	Applied voltage (Vdc) 5 minutes	Energy (J) 20ms	Lifetime energy (J) 2ms/10 <sup>4</sup> cycles
AVR-A10D220K	22 [20 to 24]	16	45	24	10	2.5
AVR-A10D270K	27 [24 to 30]	19	53	29	10	2.5
AVR-A10D330K	33 [30 to 36]	24	65	36	10	2.5
AVR-A10D390K	39 [35 to 43]	28	77	42	10	2.5
AVR-A10D470K	47 [42 to 52]	34	93	50	10	2.5

## AVR-A14D TYPE

Dimensions in mm [inches]

Part No.	D max.	T max.	W ±1 [.039]	H max.	F ±1 [.039]	d ±0.1 [.004]	ℓ min.
AVR-A14D220K	17.5 [.689]	5.8 [.228]	7.5 [.295]	20.5 [.807]	1.8 [.071]	0.8 [.031]	25 [.984]
AVR-A14D270K	17.5 [.689]	5.8 [.228]	7.5 [.295]	20.5 [.807]	1.8 [.071]	0.8 [.031]	25 [.984]
AVR-A14D330K	17.5 [.689]	6 [.236]	7.5 [.295]	20.5 [.807]	2.1 [.083]	0.8 [.031]	25 [.984]
AVR-A14D390K	17.5 [.689]	6.3 [.248]	7.5 [.295]	20.5 [.807]	2.4 [.094]	0.8 [.031]	25 [.984]
AVR-A14D470K	17.5 [.689]	6.6 [.260]	7.5 [.295]	20.5 [.807]	2.7 [.106]	0.8 [.031]	25 [.984]

## ELECTRICAL CHARACTERISTICS

Part No.	Varistor voltage V <sub>1mA</sub> (V)	Maximum circuit voltage (Vdc)	Maximum voltage V <sub>10A</sub> (V)	Applied voltage (Vdc) 5 minutes	Energy (J) 20ms	Lifetime energy (J) 2ms/10 <sup>4</sup> cycles
AVR-A14D220K	22 [20 to 24]	16	45	24	20	5
AVR-A14D270K	27 [24 to 30]	19	53	29	20	5
AVR-A14D330K	33 [30 to 36]	24	65	36	20	5
AVR-A14D390K	39 [35 to 43]	28	77	42	20	5
AVR-A14D470K	47 [42 to 52]	34	93	50	20	5

## AVR-A20D TYPE

Dimensions in mm [inches]

Part No.	D max.	T max.	W ±1 [.039]	H max.	F ±1 [.039]	d ±1 [.004]	ℓ min.
AVR-A20D220K	24 [.945]	5.8 [.228]	10 [.394]	28 [1.102]	1.8 [.071]	1 [.039]	20 [.787]
AVR-A20D270K	24 [.945]	5.8 [.228]	10 [.394]	28 [1.102]	1.8 [.071]	1 [.039]	20 [.787]
AVR-A20D330K	24 [.945]	6 [.236]	10 [.394]	28 [1.102]	2.1 [.083]	1 [.039]	20 [.787]
AVR-A20D390K	24 [.945]	6.3 [.248]	10 [.394]	28 [1.102]	2.4 [.094]	1 [.039]	20 [.787]
AVR-A20D470K	24 [.945]	6.6 [.260]	10 [.394]	28 [1.102]	2.7 [.106]	1 [.039]	20 [.787]

## ELECTRICAL CHARACTERISTICS

Part No.	Varistor voltage V <sub>1mA</sub> (V)	Maximum circuit voltage (Vdc)	Maximum voltage V <sub>20A</sub> (V)	Applied voltage (Vdc) 5 minutes	Energy (J) 20ms	Lifetime energy (J) 2ms/10 <sup>4</sup> cycles
AVR-A20D220K	22 [20 to 24]	16	45	24	40	10
AVR-A20D270K	27 [24 to 30]	19	53	29	40	10
AVR-A20D330K	33 [30 to 36]	24	65	36	40	10
AVR-A20D390K	39 [35 to 43]	28	77	42	40	10
AVR-A20D470K	47 [42 to 52]	34	93	50	40	10