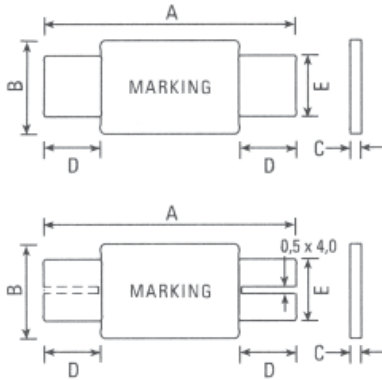


# VTD



Dimensions (mm)



S: one slot  
SS: two slots

## Strap Type, 16 V

### Standard

UL 1434 1<sup>st</sup> Edition  
CSA C22.2 No. 0 CSA TIL No. CA-3A

### Approvals

cULus Recognition  
TÜV

### Features

The new VTD product series feature a slim, low profile and low resistance design. These devices are ideal to be installed directly onto the latest generation batteries including cylindrical and prismatic cells. The VTD product offers protection against both overcurrent and overtemperature fault conditions.

## Specifications

### Packaging

A small pack  
D standard

### Materials

Insulating material: Polyester Tape  
Terminals: Nickel

**Max. Device Surface Temperature in Tripped State**  
110 °C

### Operating / Storage Temperature

-40 °C to +85 °C (consider derating)

### Humidity Ageing

+60 °C, 95 % R.H., 1000 hours, ± 10 % typical resistance change

### Vibration

MIL-STD-883C, Condition A, no change

### Thermal Shock

MIL-STD-202F, Method 107G  
+85 °C to -40 °C 10 times ±5 % typical resistance change

### Marking

"P", Part Code, identification, lot number



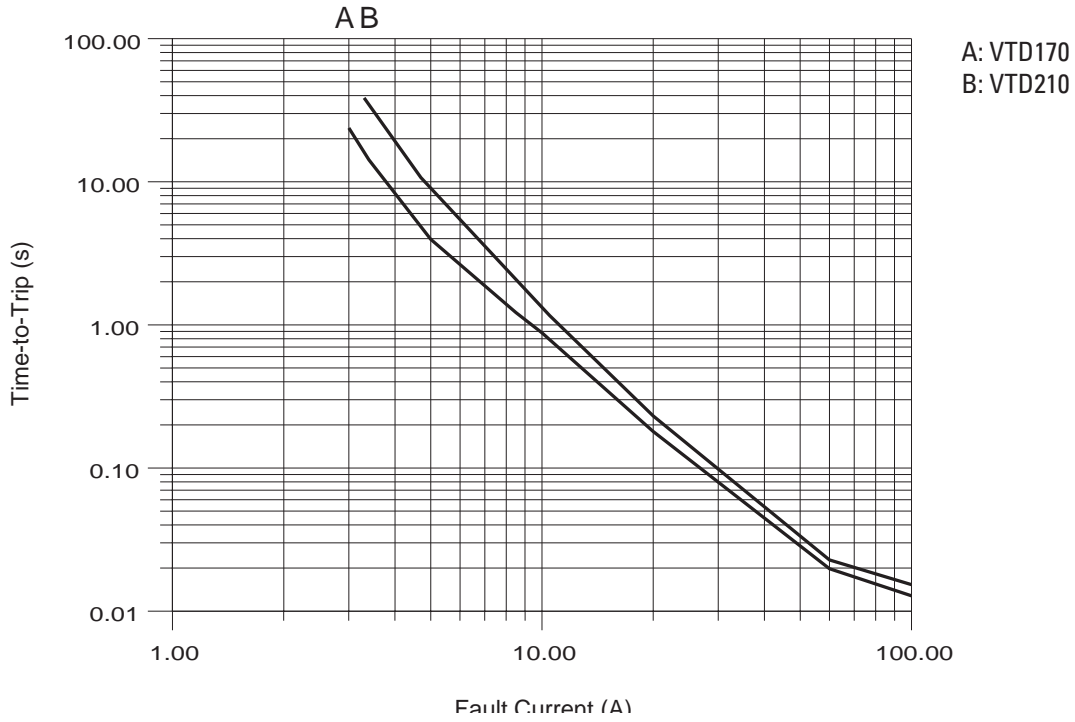
Dimensions (mm)													
Model	Fig	A		B		C		D	E		F	packaging quantity	
		Min	Max	Min	Max	Min	Max		Min	Max		Min	Max
VTD170	1	15.4	17.5	7.0	7.4	0.5	0.8	4.0	3.9	4.1		500	10,000
VTD170XS	2	20.9	22.9	4.9	5.3	0.5	0.8	4.0	3.9	4.1		500	10,000
VTD175	1	20.9	22.2	3.5	3.8	0.5	0.7	4.0	2.9	3.1		500	10,000
VTD175S	2	20.9	22.2	3.5	3.8	0.5	0.7	4.0	2.9	3.1		500	10,000
VTD175L	1	26.0	28.0	3.5	3.8	0.5	0.8	6.5	2.9	3.1		500	10,000
VTD175XL	4	25.5	28.2	3.5	3.9	0.5	0.8	8.7	2.4	2.6	5.7	500	10,000
VTD200	1	20.9	23.1	3.8	4.3	0.6	0.7	4.0	2.9	3.1		500	10,000
VTD200S	2	20.9	23.1	3.8	4.3	0.6	0.7	4.0	2.9	3.1		500	10,000
VTD210	1	20.9	23.1	4.9	5.3	0.6	0.8	4.1	3.9	4.1		500	10,000
VTD210S	2	20.9	23.1	4.9	5.3	0.6	0.8	4.1	3.9	4.1		500	10,000
VTD210SS	3	20.9	23.1	4.9	5.3	0.6	0.8	4.1	3.9	4.1		500	10,000
VTD210L	1	24.0	26.0	4.9	5.3	0.6	0.8	5.0	3.9	4.1		500	10,000
VTD210LS	2	24.0	26.0	4.9	5.3	0.6	0.8	5.0	3.9	4.1		500	10,000
VTD240	1	24.2	26.2	4.9	5.3	0.6	0.8	5.0	3.9	4.1		500	10,000

Permissible continuous operating current is ≤ 100 % at ambient temperature of 20 °C (68 °F).											
Model	I <sub>hold</sub> (A)	I <sub>trip</sub> (A)	V <sub>max. dc</sub> (V)	I <sub>max.</sub> (A)	max. time to trip (s @ A)	P <sub>d max.</sub> (W)	Resistance			Approvals	
							R <sub>min.</sub> (Ω)	R <sub>max.</sub> (Ω)	R <sub>I max.</sub> (Ω)	cULus	TÜV
VTD170	1.70	3.40	15	100	3.0 @ 8.5	1.40	0.030	0.052	0.105	•	•
VTD170XS	1.70	3.40	15	100	3.0 @ 8.5	1.40	0.030	0.052	0.105	•	•
VTD175	1.75	3.80	15	100	3.0 @ 8.5	1.40	0.025	0.045	0.045	•	•
VTD175S	1.75	3.80	15	100	3.0 @ 9.0	1.40	0.025	0.045	0.090	•	•
VTD175L	1.75	3.80	15	100	3.0 @ 9.0	1.40	0.025	0.045	0.090	•	•
VTD175XL	1.75	3.80	15	100	5.0 @ 8.75	1.40	0.029	0.051	0.102	•	•
VTD200	2.00	4.50	15	100	4.0 @ 10.0	1.50	0.021	0.039	0.080	•	•
VTD200	2.00	4.50	15	100	4.0 @ 10.0	1.50	0.021	0.039	0.080	•	•
VTD210	2.10	4.70	15	100	5.0 @ 10.0	1.50	0.018	0.030	0.060	•	•
VTD210S	2.10	4.70	15	100	5.0 @ 10.0	1.50	0.018	0.030	0.060	•	•
VTD210SS	2.10	4.70	15	100	5.0 @ 10.0	1.50	0.018	0.030	0.060	•	•
VTD210L	2.10	4.70	15	100	5.0 @ 10.0	1.50	0.018	0.030	0.060	•	•
VTD210LS	2.10	4.70	15	100	5.0 @ 10.0	1.50	0.018	0.030	0.060	•	•
VTD240	2.40	5.40	15	100	4.0 @ 12.0	1.50	0.015	0.026	0.052	•	•

NOTE:  
 I<sub>hold</sub> = Hold current: maximum current device will pass without tripping in 20 °C still air.  
 I<sub>trip</sub> = Trip current: minimum current at which the device will trip in 20 °C still air.  
 V<sub>max.</sub> = Maximum voltage device can withstand without damage at rated current (I<sub>max.</sub>)  
 I<sub>max.</sub> = Maximum fault current device can withstand without damage at rated voltage (V<sub>max.</sub>)  
 P<sub>d</sub> = Power dissipated from device when in the tripped state at 20 °C still air.  
 R<sub>min.</sub> = Minimum resistance of device in initial (un-soldered) state.  
 R<sub>I max.</sub> = Maximum resistance of device at 20 °C measured one hour after tripping for 20 s.  
**Caution: Operation beyond the specified rating may result in damage and possible arcing and flame. Specifications are subject to change without notice**

Order Information	Qty.	Order-Number	Model	Packaging

## VTD



Further Time-Current-Curves on request

## Thermal Derating Chart

Model	Ambient Operation Temperature - $I_{hold}$ (A)								
	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C
VTD170	3.20	2.70	2.20	1.70	1.30	1.00	0.80	0.50	0.10
VTD170XS	3.20	2.70	2.20	1.70	1.30	1.00	0.80	0.50	0.10
VTD175	3.20	2.70	2.20	1.75	1.30	1.00	0.80	0.50	0.10
VTD175S	3.20	2.70	2.20	1.75	1.30	1.00	0.80	0.50	0.10
VTD175L	3.20	2.70	2.20	1.75	1.30	1.00	0.80	0.50	0.10
VTD175XL	3.20	2.70	2.20	1.75	1.30	1.00	0.80	0.50	0.10
VTD200	3.70	3.20	2.60	2.00	1.50	1.20	0.90	0.50	0.10
VTD200S	3.70	3.20	2.60	2.00	1.50	1.20	0.90	0.50	0.10
VTD210	4.10	3.50	2.90	2.10	1.60	1.30	1.00	0.70	0.10
VTD210S	4.10	3.50	2.90	2.10	1.60	1.30	1.00	0.70	0.10
VTD210SS	4.10	3.50	2.90	2.10	1.60	1.30	1.00	0.70	0.10
VTD210L	4.10	3.50	2.90	2.10	1.60	1.30	1.00	0.70	0.10
VTD210LS	4.10	3.50	2.90	2.10	1.60	1.30	1.00	0.70	0.10
VTD240	4.40	3.70	3.10	2.40	1.80	1.50	1.20	0.90	0.10