

This product line is designed for battery pack applications. Several material platforms are available to help meet the specific protection needs of different cell chemistries (e.g. Li-ion, NiMH, and NiCd). A variety of space efficient form factors allows the designer to minimize pack size.

Figure 1

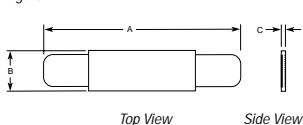


Figure 2

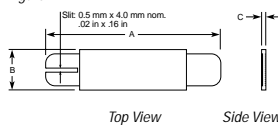
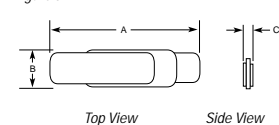


Figure 3



VLR: 85°C Typical Activation

Part number	I _H * (A)	V max. (Vdc)	I max. (A)	R max. initial (Ω)	Agency recognition	Dimensions (millimeters/inches)			Fig.
						A (max.)	B (max.)	C (max.)	
VLR170	1.7	12	100	0.032	UL, TÜV, CSA	23.2 (0.913)	3.9 (0.153)	0.8 (0.032)	1
VLR170U	1.7	12	100	0.032	UL, TÜV, CSA	23.2 (0.913)	3.7 (0.146)	0.7 (0.028)	3
VLR175	1.75	12	100	0.031	UL, TÜV, CSA	24.5 (0.965)	3.3 (0.130)	0.8 (0.032)	1
VLR175L	1.75	12	100	0.031	UL, TÜV, CSA	31.7 (1.248)	3.3 (0.130)	0.8 (0.032)	1
VLR230	2.3	12	100	0.018	UL, TÜV, CSA	23.1 (0.909)	5.3 (0.208)	0.8 (0.032)	1
VLR230S	2.3	12	100	0.018	UL, TÜV, CSA	23.1 (0.909)	5.3 (0.208)	0.8 (0.032)	2
VLR230SU	2.3	12	100	0.018	UL, TÜV, CSA	23.1 (0.909)	5.1 (0.201)	0.7 (0.028)	2
VLR230U	2.3	12	100	0.018	UL, TÜV, CSA	23.1 (0.909)	5.1 (0.201)	0.7 (0.028)	3

*Hold current @ 25°C.

VLP: 90°C Typical Activation

Figure 4

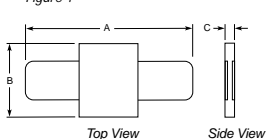
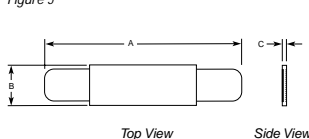


Figure 5



Part number	I _H (A)	V max. (Vdc)	I max. (A)	R max. initial (Ω)	Agency recognition	Dimensions (millimeters/inches)			Fig.
						A (max.)	B (max.)	C (max.)	
VLP210	2.1	16	60	0.030	UL, TÜV, CSA	17.5 (0.689)	7.3 (0.287)	0.8 (0.032)	4
VLP220	2.2	16	60	0.029	UL, TÜV, CSA	23.3 (0.917)	3.9 (0.154)	0.8 (0.032)	5
VLP270	2.7	16	60	0.018	UL, TÜV, CSA	23.1 (0.909)	5.3 (0.208)	0.8 (0.032)	5

VTP: 90°C Typical Activation

The conductive polymer composite in the VTP battery overcurrent protection devices helps provide increased safety with extended battery run time. These devices reach a high-resistance state at lower temperatures in NiMH and rechargeable lithium temperature-sensitive chemistries.

Figure 6

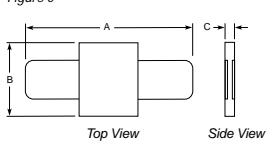


Figure 7

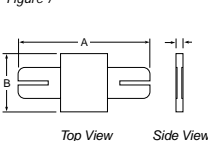


Figure 8

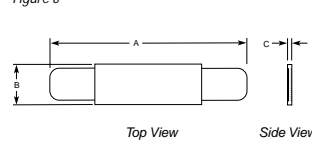


Figure 9

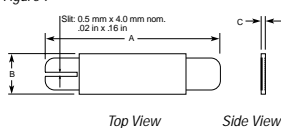


Figure 10

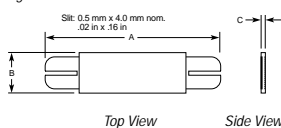
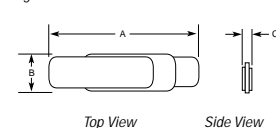


Figure 11

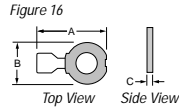
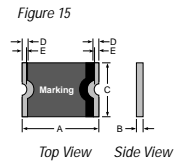
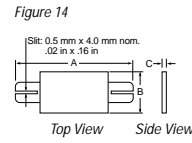
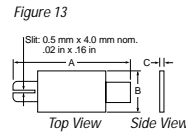
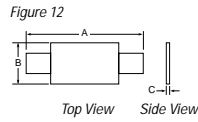


Part number	I _H * (A)	V max. (Vdc)	I max. (A)	R max. initial (Ω)	Agency recognition	Dimensions (millimeters/inches)			Fig.
						A (max.)	B (max.)	C (max.)	
VTP110	1.1	16	100	0.070	UL, TÜV, CSA	25.6 (1.007)	2.9 (0.114)	0.7 (0.028)	11
VTP170	1.7	16	100	0.052	UL, TÜV, CSA	17.5 (0.689)	7.4 (0.292)	0.8 (0.03)	6
VTP170SS	1.7	16	100	0.052	UL, TÜV, CSA	17.5 (0.689)	7.4 (0.292)	0.8 (0.03)	7
VTP170X	1.7	16	100	0.052	UL, TÜV, CSA	22.9 (0.90)	5.3 (0.21)	0.8 (0.03)	8
VTP170XS	1.7	16	100	0.052	UL, TÜV, CSA	22.9 (0.90)	5.3 (0.21)	0.8 (0.03)	9
VTP175L	1.75	16	100	0.051	UL, TÜV, CSA	28.0 (1.10)	3.9 (0.15)	0.8 (0.03)	8
VTP175U	1.75	16	100	0.051	UL, TÜV, CSA	23.2 (0.91)	3.7 (0.15)	0.7 (0.03)	11
VTP200G	2.0	16	100	0.039	UL, TÜV, CSA	23.1 (0.91)	4.5 (0.18)	0.8 (0.03)	8
VTP200U	2.0	16	100	0.039	UL, TÜV, CSA	23.1 (0.91)	4.3 (0.17)	0.7 (0.03)	11
VTP210G	2.1	16	100	0.030	UL, TÜV, CSA	23.1 (0.91)	5.3 (0.21)	0.8 (0.03)	8
VTP210GU	2.1	16	100	0.030	UL, TÜV, CSA	23.2 (0.91)	5.1 (0.20)	0.8 (0.03)	11
VTP210L	2.1	16	100	0.030	UL, TÜV, CSA	26.0 (1.02)	5.3 (0.21)	0.8 (0.03)	8
VTP210S	2.1	16	100	0.030	UL, TÜV, CSA	23.1 (0.91)	5.3 (0.21)	0.8 (0.03)	9
VTP210SL	2.1	16	100	0.030	UL, TÜV, CSA	32.0 (1.26)	5.3 (0.21)	0.8 (0.03)	9
VTP210SL-19.2/5.8	2.1	16	100	0.030	UL, TÜV, CSA	37.0 (1.46)	5.3 (0.21)	0.8 (0.03)	9
VTP210SS	2.1	16	100	0.030	UL, TÜV, CSA	23.1 (0.91)	5.3 (0.21)	0.8 (0.03)	10
VTP210ULD	2.1	16	100	0.030	UL, TÜV, CSA	25.2 (1.00)	5.1 (0.20)	0.8 (0.03)	11
VTP240	2.4	16	100	0.026	UL, TÜV, CSA	26.2 (1.03)	5.3 (0.21)	0.8 (0.03)	8

*Hold current @ 25°C.

LTP, miniSMDE, TAC: 110°C Typical Activation

LTP and TAC devices help provide reliable, noncycling protection for rechargeable batteries. LTP devices also help provide additional protection at elevated temperatures. The TAC devices' unique cap design makes them easy to install directly on AAA size battery cells.



Part number	I _H (A)	V max. (Vdc)	I max. (A)	R max. initial (Ω)	Agency recognition	Dimensions (millimeters/inches)			Fig.
						A (max.)	B (max.)	C (max.)	
LTP									
LTP070	0.7	15	100	0.200	UL, TÜV, CSA	22.1 (0.87)	5.2 (0.20)	1.2 (0.048)	12
LTP070S	0.7	15	100	0.200	UL, TÜV, CSA	22.1 (0.87)	5.2 (0.20)	1.2 (0.048)	13
LTP100	1.0	24	100	0.130	UL, TÜV, CSA	23.1 (0.91)	5.2 (0.20)	1.0 (0.04)	12
LTP100S	1.0	24	100	0.130	UL, TÜV, CSA	23.1 (0.91)	5.2 (0.20)	1.0 (0.04)	13
LTP100SL	1.0	24	100	0.130	UL, TÜV, CSA	32.0 (1.26)	5.2 (0.20)	1.0 (0.04)	13
LTP100SS	1.0	24	100	0.130	UL, TÜV, CSA	23.1 (0.91)	5.2 (0.20)	1.0 (0.04)	14
LTP180	1.8	24	100	0.068	UL, TÜV, CSA	26.0 (1.02)	5.2 (0.20)	1.0 (0.04)	12
LTP180L	1.8	24	100	0.068	UL, TÜV, CSA	37.5 (1.48)	5.2 (0.20)	1.0 (0.04)	12
LTP180S	1.8	24	100	0.068	UL, TÜV, CSA	26.0 (1.02)	5.2 (0.20)	1.0 (0.04)	13
LTP190	1.9	24	100	0.057	UL, TÜV, CSA	23.4 (0.92)	11.0 (0.43)	1.1 (0.04)	12
LTP260	2.6	24	100	0.042	UL, TÜV, CSA	26.0 (1.02)	11.9 (0.47)	1.0 (0.04)	12
LTP300	3.0	24	100	0.031	UL, TÜV, CSA	31.8 (1.25)	13.5 (0.53)	1.1 (0.04)	12
LTP340	3.4	24	100	0.027	UL, TÜV, CSA	26.0 (1.02)	15.9 (0.63)	1.0 (0.04)	12
miniSMDE									
miniSMDE190	1.9	16	100	0.040	UL, TÜV, CSA	11.51 (0.453)	0.53 (0.021)	5.33 (0.21)	15
TAC									
TAC100-09	1.0	15	50	0.155	UL	17.5 (0.69)	10.5 (0.45)	0.9 (0.04)	16