

Strap PTC Devices for Battery Protection

Description

MicroPoly Strap PTC Devices are the preferred over-current protection method for NiCd, NiMH, Li-ion, and Polymer Li-ion battery applications. Many material platforms and device form factors give engineers more design flexibility:

- Rated hold current: 0.7~14.1A
- Maximum operating voltage: 6~30V
- Typical activation temperature and initial resistance:

	MP Series	MV Series	ML Series
Activation temperature	125°C	85°C	120°C
Initial resistance	Low	Lower	Lowest

Features

RoHS compliant and lead-free

Halogen-free

Agency recognition: UL

Applications

NiCd rechargeable battery

NiMH rechargeable battery

Li-ion battery

Polymer Li-ion battery

Electrical Characteristics

Part number	I_H	I_T	V_{max}	I_{max}	T_{trip}		$P_{d\ typ}$	R_{min}	R_{1max}
	(A)	(A)	(V)	(A)	Current (A)	Time (S)	(W)	(Ω)	(Ω)
ML Series									
ML120	1.2	3.0	6	50	6.0	5.0	1.0	0.012	0.060
ML170	1.7	4.2	6	50	8.0	5.0	1.0	0.010	0.032
ML190	1.9	4.9	6	50	8.0	5.0	1.0	0.009	0.024
ML210	2.1	5.6	6	50	8.0	5.0	1.0	0.007	0.022
ML260	2.6	7.0	6	50	8.0	5.0	1.0	0.004	0.020
ML300	3.0	8.8	6	50	15.0	2.0	1.3	0.004	0.018
ML350	3.5	9.0	6	50	17.5	2.0	1.3	0.004	0.016
ML420	4.2	12.0	6	50	20.0	2.0	1.3	0.003	0.016
ML500	5.0	15.0	6	50	20.0	2.0	1.3	0.003	0.015
MV Series									
LV170	1.7	4.1	12	100	8.5	5.0	1.4	0.018	0.064
LV175	1.75	4.2	12	100	8.75	5.0	1.4	0.017	0.062
LV230	2.3	5.0	12	100	10.0	5.0	1.4	0.012	0.036

MP Series									
MP070	0.7	1.45	24	100	3.5	5.0	0.7	0.100	0.340
MP100	1.0	2.5	24	100	5.0	7.0	0.9	0.070	0.260
MP120	1.2	2.7	24	100	6.0	5.0	0.8	0.085	0.220
MP170	1.7	3.4	24	100	8.5	5.0	0.8	0.044	0.114
MP175	1.8	3.8	24	100	8.8	5.0	0.9	0.050	0.120
MP180	1.8	3.8	24	100	9.0	2.9	1.0	0.040	0.120
MP190	1.9	4.2	24	100	10.0	3.0	1.9	0.030	0.100
MP200	2.0	4.4	30	100	10.0	4.0	1.6	0.030	0.100
MP260	2.6	5.2	24	100	13.0	5.0	1.3	0.025	0.076
MP300	3.0	6.3	24	100	15.0	4.0	1.7	0.015	0.055
MP340	3.4	6.8	24	100	17.0	5.0	1.6	0.016	0.050
MP350	3.5	6.3	30	100	20.0	3.0	1.9	0.017	0.050
MP380	3.8	8.3	24	100	19.0	5.0	1.2	0.013	0.037
MP420	4.2	7.6	30	100	20.0	6.0	2.2	0.012	0.040
MP450	4.5	8.9	24	100	22.5	5.0	1.4	0.011	0.028
MP550	5.5	10.5	24	100	27.5	5.0	2.0	0.009	0.022
MP600	6.0	11.7	24	100	30.0	5.0	1.7	0.007	0.019
MP730	7.3	14.1	24	100	30.0	5.0	1.9	0.006	0.015
MP880	8.8	16	24	100	44.0	5.0	2.0	0.007	0.015
MP900	9.0	16.7	24	100	45.0	5.0	3.0	0.006	0.014

Dimensions(mm)

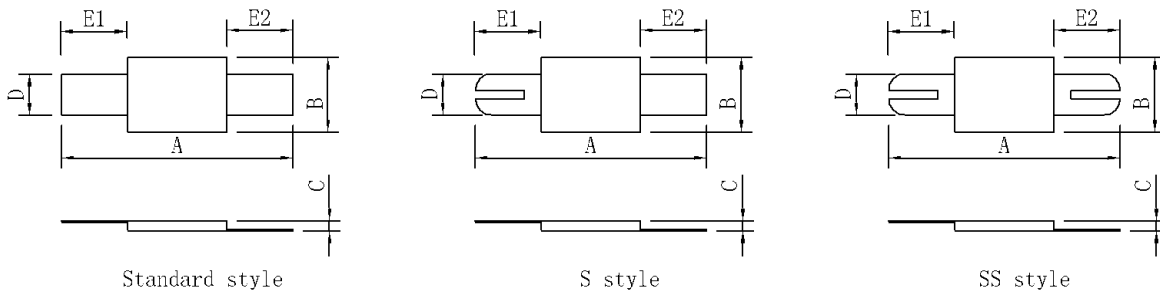


Fig 1

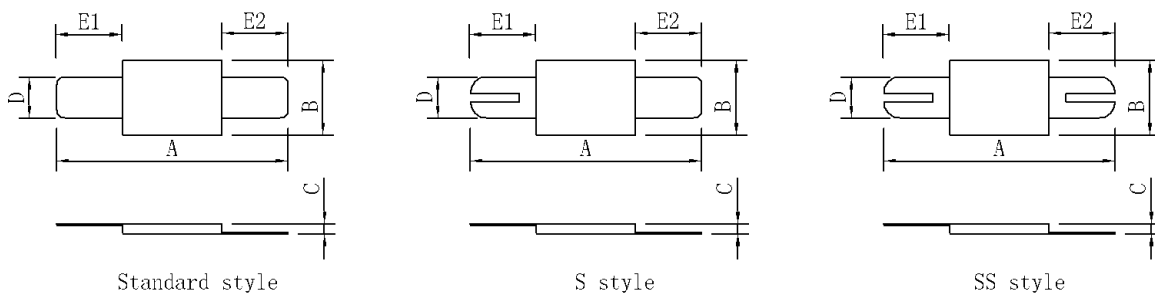


Fig 2

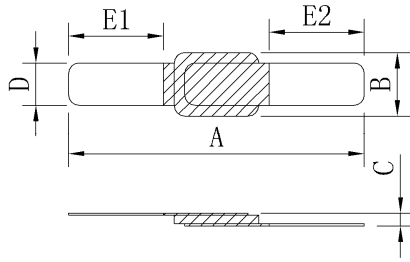


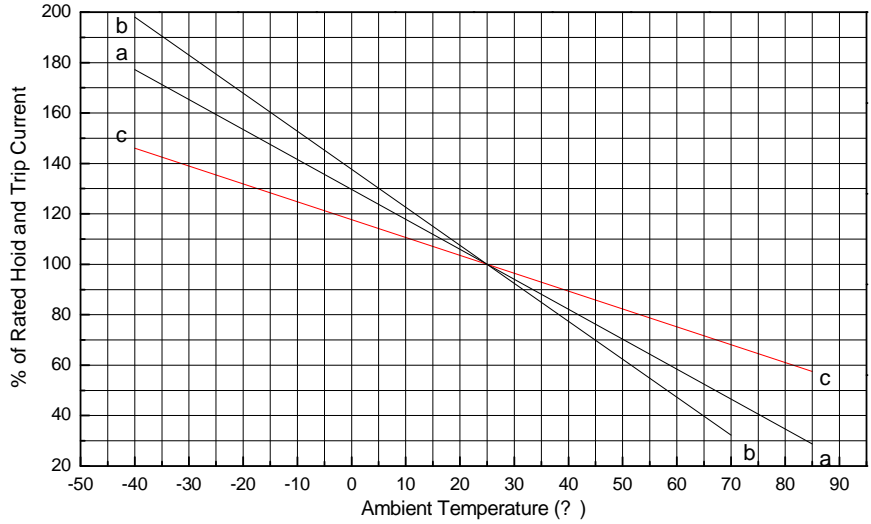
Fig 3

Part Number	A		B		C	D		E1		E2		Fig
	Min.	Max.	Min.	Max.	Typ.	Min.	Max.	Min.	Max.	Min.	Max.	Nom.
ML Series												
ML120	11.0	13.0	2.46	2.76	1.0	1.9	2.1	3.0	4.0	3.0	4.0	3
ML170	11.0	13.0	2.46	2.76	1.0	1.9	2.1	3.0	4.0	3.0	4.0	3
ML190	12.0	14.0	2.96	3.26	1.0	2.2	2.4	3.0	4.0	3.0	4.0	3
ML210	12.0	14.0	2.96	3.26	1.0	2.2	2.4	3.0	4.0	3.0	4.0	3
ML260	12.0	14.0	2.96	3.26	1.0	2.2	2.4	3.0	4.0	3.0	4.0	3
ML300	12.0	14.0	2.96	3.26	1.0	2.4	2.6	3.0	4.0	3.0	4.0	3
ML350	12.0	14.0	2.96	3.26	1.0	2.4	2.6	3.0	4.0	3.0	4.0	3
ML420	14.0	16.0	3.46	3.76	1.0	2.4	2.6	3.0	4.0	3.0	4.0	3
ML500	14.0	16.0	3.46	3.76	1.0	2.4	2.6	3.0	4.0	3.0	4.0	3
MV Series												
LV170	20.8	23.2	3.5	3.9	1.0	2.4	2.6	4.5	6.5	4.5	6.5	2
LV175	23.0	24.5	2.9	3.3	1.0	2.4	2.6	4.7	7.2	3.8	5.4	2
LV230	20.9	23.1	4.9	5.3	1.0	3.9	4.1	4.1	5.8	4.1	5.8	2
MP Series												
MP070	19.9	22.1	4.9	5.2	1.0	3.9	4.1	5.5	7.5	5.5	7.5	1
MP100	20.9	23.1	4.9	5.2	1.0	3.9	4.1	4.1	5.5	4.1	5.5	1
MP120	19.9	22.1	4.9	5.2	1.0	3.9	4.1	5.5	7.5	5.5	7.5	1
MP170	19.0	21.0	3.8	4.0	1.0	2.9	3.1	5.3	6.5	5.3	6.5	1
MP175	20.9	23.1	4.9	5.2	1.0	3.9	4.1	4.1	5.5	4.1	5.5	1
MP180	24.0	26.0	4.9	5.2	1.0	3.9	4.1	4.1	5.5	4.1	5.5	1
MP190	21.3	23.4	10.2	11.0	1.0	4.8	5.4	5.0	7.6	5.0	7.6	1
MP200	21.3	23.4	10.2	11.0	1.0	4.8	5.4	5.0	7.6	5.0	7.6	1
MP260	20.9	23.1	4.9	5.5	1.0	3.9	4.1	4.1	5.5	4.1	5.5	1
MP300	28.4	31.8	13.0	13.5	1.0	6.0	6.6	6.3	8.9	6.3	8.9	1
MP340	24.0	26.0	14.8	15.9	1.0	5.9	6.1	4.0	5.0	4.0	5.0	1
MP350	28.4	31.8	13.0	13.5	1.0	6.0	6.6	6.3	8.9	6.3	8.9	1
MP380	24.0	26.0	6.9	7.5	1.0	4.9	5.1	4.1	5.5	4.1	5.5	1
MP420	30.6	32.4	12.9	13.6	1.0	6.0	6.7	5.0	7.5	5.0	7.5	1
MP450	24.0	26.0	9.9	10.5	1.0	5.9	6.1	5.3	6.7	5.3	6.7	1
MP550	35.0	37.0	6.9	7.5	1.0	4.9	5.1	5.3	6.7	5.3	6.7	1
MP600	24.0	26.0	13.9	14.5	1.0	5.9	6.1	4.1	5.5	4.1	5.5	1
MP730	27.1	29.1	13.9	14.5	1.0	5.9	6.1	4.1	5.5	4.1	5.5	1

MP880	62.8	65.2	7.9	8.5	1.0	5.9	6.1	10.0	12.0	10.0	12.0	1
MP900	45.4	47.6	7.9	8.5	1.0	5.9	6.1	4.6	6.2	4.6	6.2	1

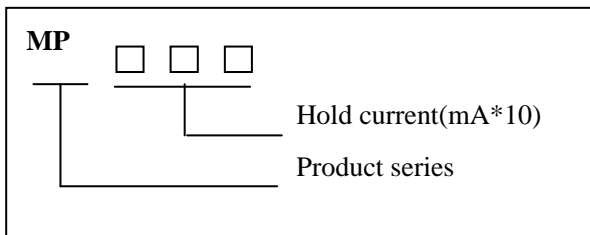
Thermal Derating Chart-I_H(% of Rated Hold Current at Ambient Temperature)

a- ML Series
b- MV Series
c- MP Series

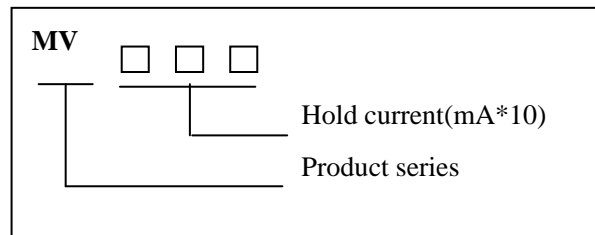


Series	Maximum ambient operating temperatures(°C)									
	-40	-20	0	25	40	50	60	70	85	
ML	177.2	153.4	129.7	100.0	82.2	70.3	58.4	46.6	28.8	
MV	198.0	167.8	137.7	100.0	77.4	62.3	47.2	32.2	--	
MP	146.0	131.8	117.7	100.0	89.4	82.3	75.2	68.2	57.5	

Marking



MP Series



MV Series

Packaging

Bulk, 500/1000pcs per bag