

Selection Guide (3000pcs/Reel)

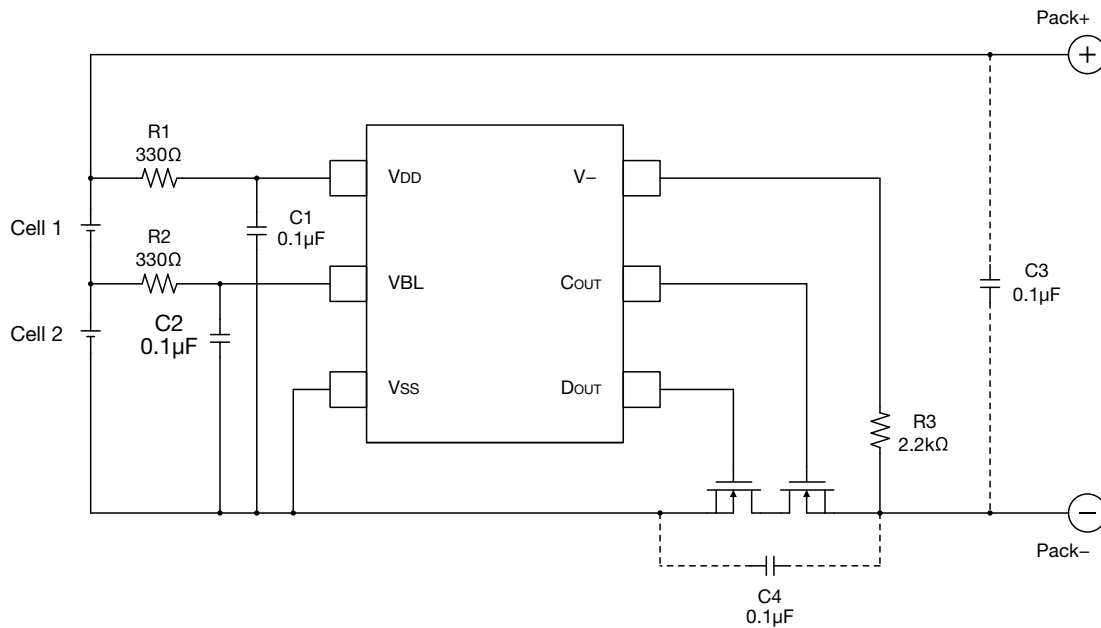
Product name	Package	Detection / Release voltage							OV battery charge function	Delay time combination *
		Overcharge detection voltage [V]	Overcharge release voltage [V]	Overdischarge detection voltage [V]	Overcurrent detection voltage on discharging 1 [V]	Overcurrent detection voltage on discharging 2 [V]	Overcurrent detection voltage on harging [V]	Short detection voltage [V]		
		Vdet1H Vdet1L	Vrel1H Vrel1L	Vdet2H Vdet2L	Vdet3-1	Vdet3-2	Vdet4	Vshort		
MM3220B01NRH	SOT-26A	4.300	4.100	2.000	0.220	-	-	0.90	Permission	3
MM3220C01NRH	SOT-26A	4.300	4.100	2.000	0.085	0.450	-	0.90	Permission	4
MM3220C02NRH	SOT-26A	4.300	4.100	2.000	0.100	0.200	-	0.90	Permission	5
MM3220C03NRH	SOT-26A	4.300	4.100	2.000	0.100	0.200	-	0.90	Permission	6
MM3220D01NRH	SOT-26A	4.250	4.100	3.000	0.200	-	-	0.90	Permission	7
MM3220F01NRH	SOT-26A	4.225	4.075	2.550	0.200	-	-	0.90	Permission	7
MM3220G01NRH	SOT-26A	4.290	4.050	3.000	0.200	-	-0.200	1.10	Permission	2
MM3220H01NRH	SOT-26A	4.225	4.075	3.000	0.200	-	-0.200	1.10	Permission	7
MM3220H02NRH	SOT-26A	4.300	4.150	2.400	0.200	-	-0.200	1.10	Prohibition	7
MM3220H03NRH	SOT-26A	4.250	4.100	3.200	0.200	-	-0.200	1.10	Permission	7
MM3220J01NRH	SOT-26A	4.275	4.275	2.500	0.085	-	-0.060	0.30	Prohibition	8
MM3220Z01NRH	SOT-26A	4.300	4.100	2.000	0.100	0.180	-	0.90	Permission	9

* Delay time combination

		1	2	3	4	5	6	7	8	9
Overcharge detection delay time	tVdet1	1.0s	1.0s	1.0s	1.15s	1.0s	1.0s	1.15s	0.25s	1.0s
Overdischarge detection delay time	tVdet2	128ms	128ms	12ms	10.8ms	12ms	12ms	144ms	20ms	12ms
Overcurrent detection delay time on discharging 1	tVdet3-1	12ms	12ms	12ms	10.8ms	48ms	256ms	9ms	6ms	256ms
Overcurrent detection delay time on discharging 2	tVdet3-2	4ms	-	-	0.5ms	4ms	2.5ms	-	-	2.5ms
Short detection delay time	tshort	400µs	300µs	400µs	400µs	400µs	400µs	300µs	400µs	400µs

Please inquire to us, if you request a rank other than the above.

Application Circuit



R1 , C1 , R2 , C2 stabilize a supply voltage ripple. However, R1 is enlarged, the detection voltage shifts by voltage when current consumption flows into R1. Please decide it after confirming the characteristic. Moreover, adjust the value of C1 , C2 to 0.01μF or more to do the stability operation, please.

R1 and R3 resistors are current limit resistance if a charger is connected reversibly or a high-voltage charger that exceeds the absolute maximum rating is connected. R1 and R3 may cause a power consumption will be over rating of power dissipation, therefore the `R1+R3` should be more than 1kΩ. Moreover, if R3 is too enlarged, the charger connection release cannot be occasionally done after the overdischarge is detected, so adjust the value of R3 to 10kΩ or less, please.

In the state of overdischarge, The current flows through overdischarge pull-up resistance built into between VDD terminal and V- terminal when the charger is connected. As a result, current that flows into VDD terminal increases. When current increases, the voltage is generated in R1. And hysteresis might be caused. Please use it after confirming the characteristic.

C3 and C4 capacitors have effect that the system stability about voltage ripple or imported noise. After check characteristics, decide that these capacitors should be inserted or not, where should be inserted, and capacitance value, please.