



New Product Announcement

AP9101C

Li+ Battery Protection IC For Single Cell Pack

AP9101C is a protection solution developed for lithium-ion and lithium-polymer rechargeable batteries with a high-precision voltage detection circuit.

Its functions protect batteries by detecting: overcharge voltage, overdischarge voltage, overcharge current, overdischarge current and other abnormalities and turning off the external MOSFET switch.

AP9101C has a built-in fixed time circuit (external capacitors are unnecessary), the protection circuitry can be comprised with fewer external components.

AP9101C is available in industry standard SOT23-5 and SOT23-6 packages.



The Diodes' Advantage

AP9101C is a High Performance Protection IC for 1-Cell Lithium Battery Packs

- **High Voltage CMOS Process, up to 30V (between terminals)**
Withstands extreme transients/surge voltage from adapters
- **Low Quiescent Current (3 μ A normal; 0.1 μ A in power down)**
Minimizes discharge of battery ensuring longer battery operation
- **High Accuracy Voltage Detection**
Accurately and reliably detects overcharge voltage/current, overdischarge voltage/current, or load short circuit conditions
- **Built-in Delay Time (+25°C), Accuracy $\pm$ 20%**
Saves external components, lower BOM cost
- **Selectable Power-down Mode(or auto-wake-up mode), 0V Battery Charge Mode, and Overcharge Protection Mode**
Rich design flexibility

Application

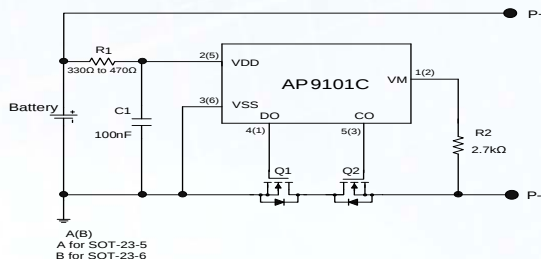
- Li+ rechargeable battery pack



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Typical Application Schematic



Product Portfolio

Voltage Combination

Part Number	Overcharge		Overdischarge		Discharge	Load Short Detection Voltage V_{SHORT}	Charge Overcurrent Detection Voltage V_{COC}	Overvoltage	
	Detection Voltage V_{CU}	Release Voltage V_{CL}	Detection Voltage V_{DL}	Release Voltage V_{DU}	Overcurrent Detection Voltage V_{DOC}			Charger Detection Voltage V_{OVCHG}	Charger Release Voltage V_{OVCHGR}
AP9101Cxxx-AATRG1	4.375V	4.175V	2.500V	2.900V	0.150V	0.700V	-0.150V	8.0V	7.3V
AP9101Cxxx-ABTRG1	4.425V	4.225V	2.500V	2.900V	0.150V	0.700V	-0.150V	8.0V	7.3V
AP9101Cxxx-ACTRG1	4.375V	4.175V	2.500V	2.900V	0.095V	0.700V	-0.095V	8.0V	7.3V
AP9101Cxxx-ADTRG1	4.375V	4.175V	2.500V	2.900V	0.120V	0.700V	-0.120V	8.0V	7.3V
AP9101Cxxx-AETRG1	4.200V	4.100V	2.500V	3.000V	0.300V	0.550V	-0.100V	8.0V	7.3V
AP9101Cxxx-AFTRG1	4.375V	4.175V	2.500V	2.900V	0.180V	0.700V	-0.180V	8.0V	7.3V
AP9101Cxxx-AGTRG1	4.375V	4.175V	2.500V	2.900V	0.075V	0.700V	-0.075V	8.0V	7.3V
AP9101Cxxx-AHTRG1	4.425V	4.225V	2.500V	2.900V	0.075V	0.700V	-0.075V	8.0V	7.3V
AP9101Cxxx-AITRG1	4.500V	4.300V	2.400V	2.800V	0.150V	0.700V	-0.075V	8.0V	7.3V
AP9101Cxxx-AJTRG1	4.375V	4.175V	2.400V	2.800V	0.125V	0.700V	-0.125V	8.0V	7.3V
AP9101Cxxx-AKTRG1	4.250V	4.050V	2.400V	3.000V	0.150V	0.700V	-0.150V	8.0V	7.3V
AP9101Cxxx-ALTRG1	4.275V	4.175V	2.300V	2.400V	0.180V	0.700V	-0.180V	8.0V	7.3V
AP9101Cxxx-AMTRG1	4.375V	4.175V	2.300V	2.400V	0.180V	0.700V	-0.180V	8.0V	7.3V
AP9101Cxxx-ANTRG1	4.225V	4.025V	3.200V	3.400V	0.060V	0.450V	-0.060V	8.0V	7.3V
AP9101Cxxx-AOTRG1	4.425V	4.225V	2.500V	2.900V	0.064V	0.228V	-0.073V	8.0V	7.3V

Delay time Combination

Delay Time Option	Overcharge Detection Delay time (t_{CU})	Overdischarge Detection Delay Time (t_{DL})	Overdischarge Current Detection Delay Time (t_{DOC})	Overcharge Current Detection Delay Time (t_{COC})	Load Short Circuiting Detection Delay Time (t_{SHORT})
1	1,000ms	115ms	10ms	10ms	320μs

Note: Current voltage versions are built by delay time option1.

If any other voltage versions or delay time combinations are needed, please contact local sale's office.

Ordering Information

