



ACE4051Z

36V/500mA Fully Integrated Linear Charger

Description

ACE4051Z is a single cell, fully integrated constant current (CC)/constant voltage (CV) Li-ion battery charger. Its compact package with minimum external components requirement makes the ACE4051Z ideal for portable applications. No external sense resistor or blocking diode is necessary for the ACE4051Z. Build-in thermal feedback mechanism regulates the charge current to control the die temperature during high power operation or at elevated ambient temperature.

The ACE4051Z has a pre-charge function for trickle charging deeply discharged batteries. The fast charge current can be programmed by an external resistor. CV regulation mode is automatically enabled once the battery's charging curve reaches the constant voltage portion. The output current then decays and is finally terminated once the charge current drops to 1/10th of the programmed value. The ACE4051Z keeps monitoring the battery voltage and enables a new charge cycle once the voltage drops by 140mV below the CV value. ACE4051Z is in a tiny SOT-23-6 package.

Features

- 36V standoff input voltage at VIN pin
- 4.2V/4.35V/4.4V/4.45V charge termination voltage selection for different parts
- Charge current programmable, up to 500mA
- Patented termination scheme ensures small current termination consistency
- Build-in thermal feedback
- No-Battery detecting supported
- LDO-Like in No-Battery mode supported light load drivability e.g. MCU loaded

Application

- E-cigarette
- Bluetooth applications
- Li-ion battery powered devices



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Absolute Maximum Rating

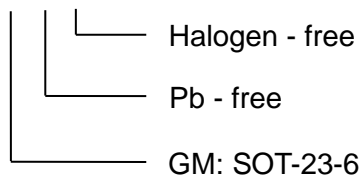
Parameter		Value
VIN Voltage		-0.3V to 36V
BAT Voltage		-0.3V to 9V
ALL other pin Voltage		-0.3V to 6V
Operating Temperature Range		-40°C to 85°C
Storage Temperature Range		-55°C to 150°C
Thermal Resistance	θ_{JA}	190°C /W
	θ_{JC}	50°C /W
Lead Temperature (Soldering 10sec)		260°C
ESD HBM (Human Body Mode)		2KV
ESD CDM (Charge Device Mode)		1KV

Note:

Exceeding these limits may damage the device. Exposure to absolute maximum rating conditions for long periods may affect device reliability.

Ordering information

ACE4051Z XX + H





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Notes

ACE does not assume any responsibility for use as critical components in life support devices or systems without the express written approval of the president and general counsel of ACE Technology Co., LTD. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.