ACE45571P

Single Li-ion Battery Linear Charger

Description

The ACE45571P is a complete constant current/ constant voltage linear charger for single Lithium-Ion battery with high input voltage rating and large current. The largest input voltage is up to 28V and charge current is up to 1A. The input over voltage protection threshold is 6.8V and input minimum working voltage is a typical value of 4.2V, which can meet the requirement of voltage-adjustment to reduce charging power consumption and improve overall efficiency. Due to the use of an internal PMOS architecture and anti-reverse charging circuit, there is no need for external isolation diodes. Thermal management can automatically adjust the charging current and limit the chip temperature in high-power applications or high ambient temperature conditions. We provide seven voltage versions for customers to choose: 4.0V/4.1V/4.15V/4.2V/4.35V/4.4V/4.45V. The charging current can be externally set through a resistor. ACE45571P also has protection functions such as input undervoltage protection, battery reverse connection protection, BAT overvoltage protection, etc. It has two status pins for charging indicator CHG and full charge indicator FULL.

Features

- Input voltage range: 4.2V~28V
- Input Over Voltage Protection: 6.8V (Typ.)
- Maximum BAT withstand voltage up to 20V
- Battery reverse connection and overvoltage protection
- Programmable Charge Current up to 1A
- 1% Charge Voltage Accuracy
- Thermal regulation function
- Charging status and fault status indication
- 1/10C Termination Charge Current and automatically recharge
- Trickle charge threshold: 2.9V (Typ., Float Voltage: 4.2V)
- Available ESOP-8, DFN3x3-8L, DFN3x2-10 Packages

Applications

- Mobile phone、PDA、GPS
- Digital camera, electronic dictionary
- Portable devices、Various charg
- Standby power supply/ portable power source

Absolute Maximum Ratings (Note)

Symbol	Items		Value	Unit
V_{CC}	Input voltage		-0.3 to 28	V
V_{BAT}	BAT voltage		-5 to 20	V
V_{PIN1}	CHG/ FULL voltage		-0.3 to 28	V
V_{PIN2}	PROG /CEb voltage		-0.3 to 7	V
I_{BAT}	BAT Pin current		1200	mA
P_D	MaximumPower Dissipation	ESOP-8	2	W
		DFN3x3-8L	1.5	W
		DFN3x2-10	1.25	W
$R_{\theta JA}$	Junction to Ambient Thermal Resistance	ESOP-8	60	°C/W
		DFN3x3-8L	67	°C/W
		DFN3x2-10	80	°C/W
T_J	Junction Temperature		-40 to 150	°C
T_A	Ambient Temperature		-40 to 85	°C
T_{STG}	Storage Temperature		-55 to 150	°C
T_{SOLDER}	Package Lead Soldering Temperature		260°C, 10s	

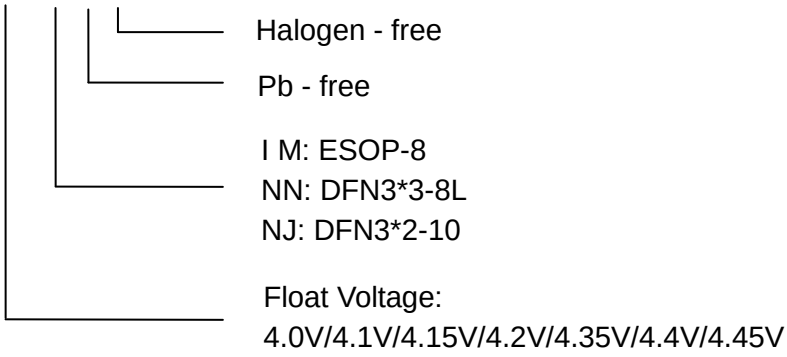
Note: Stresses beyond those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

Recommended Operating Condition

Symbol	Items	Min	Max	Unit
V_{CC}	Input Voltage Range	4.2	25	V
I_{BAT}	Charge Current Range	100	1000	mA
R_{PROG}	CC mode charge current programming resistor	1	10	KΩ

Ordering Information

ACE45571P XX XX + H



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 sued 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 shoes 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.