ACE71855N

6A Synchronous Boost with Output Disconnect

Description

The ACE71855N is a high efficiency synchronous Boost regulator that converts down to 1.8V input and up to 5.5V output voltage. It adopts NMOS for the main switch and PMOS for the synchronous switch. It can disconnect the output from input during the shutdown mode.

Features

- 1.8V Minimum Input Voltage
- Adjustable Output Voltage from 2.5V to 5.5V
- 6A Peak Current Limit
- Input Under Voltage Lockout
- Load Disconnect during Shutdown
- Output Over Voltage Protection
- Input Battery Voltage Monitor
- Low $R_{DS(ON)}$ (Main Switch/Synchronous Switch) at 5.0V Output: 20/40mΩ
- Automatic Output Discharge at Shutdown:
  ACE71855ND: Auto Output Discharge Function
  ACE71855N: No Output Discharge Function
- Compact Package: QFN2*2-10

Applications

- All Single-cell Li or Dual-cell Battery Operated Products as PDAs, and Other Portable Equipment.

Absolute Maximum Ratings (Note1)

Parameter		Value
EN		V_{OUT}+0.3V
Other Pins		6V
Power Dissipation, P_D@T_A=25°C		2.5W
Package Thermal Resistance (Note 2)	θ_{JA}	50°C/W
	θ_{JC}	10°C/W
Junction Temperature Range		150°C
Lead Temperature (Soldering, 10sec.)		260°C
Storage Temperature Range		-65°C to 150°C

Note:

1. Stresses beyond the “Absolute Maximum Ratings” may cause permanent damage to the device. These are stress ratings only. Functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specification is not implied. Exposure to absolute maximum rating conditions may affect device reliability.
2. θ_{JA} is measured in the natural convection at T_A = 25°C on a four-layer ACE evaluation board.

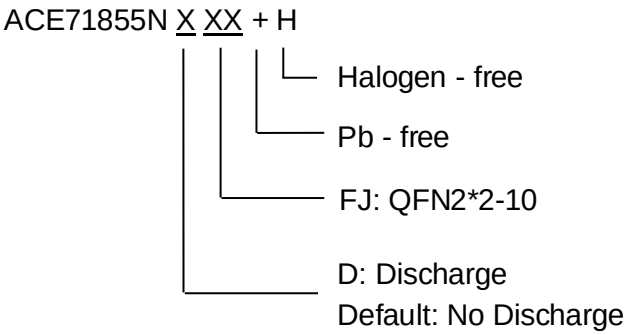
Recommended Operating Conditions (Note 1)

Parameter	Value
IN	1.8 ~ 5.25V
PVOUT, SVOUT	2.5 ~ 5.5V
EN	0 ~ V_{OUT}+0.3V
All other pins	0 ~ 5.5V
Junction Temperature Range	-40°C to 125°C
Ambient Temperature Range	-40°C to 85°C

Note:

1. The device is not guaranteed to function outside its operating conditions.

Ordering Information



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.