ACE3U01344RT

ON-Resistance Load Switch with Controlled Turn-on

Description

The ACE3U01344RT contains a MOSFET that can deliver up to 4A current from 1.0V to 5.5V source. The ACE3U01344RT is a small size, 8mΩ ON-resistance load switch with controlled turn-on. An Enable Logic input turns on or off the device. Internally controlled slew rate limits the inrush current on capacitive loads. It has an integrated 230Ω output discharge resistor to eliminate residual voltage on the output rail.

Features

- Integrated Single-Channel Load Switch
- Ultra-Low 8mΩ On-Resistance
- Output Discharge Resistor: 230Ω
- Continuous Output Current: 4A
- 1.0V to 5.5V input Voltage
- @3.6Vin, 35uA Quiescent Current
- @5.5Vin, 50nA Shutdown Current
- Controlled Slew Rate to Avoid Inrush Currents
- Logic Enable Input
- Ultra-Low Junction-to-Ambient Thermal Resistance
- Available in Small CSP-6 Package

Application

- GPS Devices
- Mobile Phones
- Tablets
- Digital Cameras
- Portable Devices

Absolute Maximum Ratings

Parameter	Min	Max	Units
DC Supply Voltage, VIN	-0.3	6.5	V
Voltage on other pins, VOUT, EN	-0.3	VIN + 0.3	V
Storage Temperature Range	-40	150	°C
Junction Temperature	-40	150	°C
Electrostatic Discharge (HBM)	-5000	5000	V
Electrostatic Discharge (CDM)	-1000	1000	V

Note: Operation of the device outside of these parameters may cause permanent damage.

Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Units
Input Voltage	VIN	1.0		5.5	V
Output Voltage	VOUT	0		VIN	V
High-level Input Voltage	VIH	1.2		5.5	V
Low-level Input Voltage	VIL	0		0.4	V
Input Capacitor	CIN		1		µF
Ambient Temperature	TA	-40		85	°C
Junction Temperature	TJ	-40		125	°C

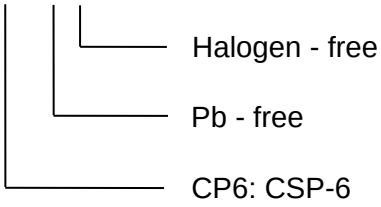
Thermal Information

Parameter	Symbol	Typ	Units
Junction-to-Ambient Thermal Resistance	θJA	25.69	°C/W
Junction-to-Case Thermal Resistance	θJC	14.58	°C/W

Note: Junction to ambient thermal resistance is a function of board layout and ambient air flow condition. This data is based on four layers PCB (30mm x 30mm; 70µm Cu top signal layer) in still air box in accordance with JEDEC standard JESD51 on natural convection.

Ordering Information

ACE3U01344RT XXX + 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.