



ACE35012RT

Ultra-Small, Low-Input Voltage, Low R_{ON} Load Switch

Description

ACE35012RT device is low R_{ON} MOSEFT controlled by external logic pin, allowing optimization of battery life, and portable device autonomy. It includes a P-channel MOSFET that operates over an input voltage range of 1.2V to 5.5V. An on/off input (ON) controls the switch that can interface with low voltage control signals. A 130 Ω on chip load resistor is added for out-put quick discharge when the switch is turned off. ACE35012RT is packaged in CSP-4 with 0.4mm pitch. It is characterized for operation over the free-air temperature range of -40°C to 85°C.

Features

- Low-Input Voltage: 1.2V to 5.5V
- Ultra-Low ON-State Resistance:
 - $R_{ON}=48m\Omega$ at $V_{IN}=5.0V$
 - $R_{ON}=53m\Omega$ at $V_{IN}=4.2V$
 - $R_{ON}=56m\Omega$ at $V_{IN}=3.6V$
 - $R_{ON}=67m\Omega$ at $V_{IN}=2.5V$
 - $R_{ON}=87m\Omega$ at $V_{IN}=1.8V$
 - $R_{ON}=160m\Omega$ at $V_{IN}=1.2V$
- DC Current Up to 1.5A
- Ultra-Low Quiescent Current: 80nA at 1.8V
- Ultra-Low Shutdown Current: 7.5nA at 1.8V
- Low Control Input Thresholds Enable Use of 1.2V/1.8V/3.6V/4.2V/5.0V Logic
- Controlled Slew Rate to Avoid Inrush Current
- Reverse Current Protection
- Package: CSP-4 (0.4mm pitch)

Application

- GPS Devices
- RF Modules
- Peripheral Ports
- Cellular Phones
- Digital Cameras
- Portable Instrumentation



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Absolute Maximum Ratings (T_A = 25°C unless otherwise specified.)

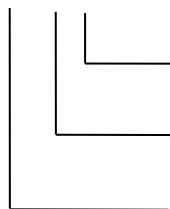
Item	Symbol	Min	Max	Unit
Input Voltage	V _{IN}	-0.3	6	V
Output Voltage	V _{OUT}		V _{IN} + 0.3	V
Input Voltage	V _{ON}	-0.3	6	V
Power Dissipation at T _A =25°C	P _D		0.48	W
Maximum Continuous Switch Current	I _{MAX}		2	A
Operating Free Air Temperature Range	T _A	-40	85	°C
Maximum Lead Temperature (10s Soldering Time)	T _{LEAD}		300	°C
Storage Temperature	T _{STG}	-45	145	°C
Thermal Resistance	θ _{JA}		190	°C/W
HBM: All Pins	ESD	±4000		V
CDM		±1000		V
Latch Up		±200		mA

Recommended Operating Conditions

Item	Symbol	Min	Max	Unit
Input Voltage Range	V _{IN}	1.2	5.5	V
Output Voltage Range	V _{OUT}	V _{IN}		V
Input Capacitor	C _{IN}		1	μF

Ordering Information

ACE35012RT XXX + H



Halogen - free

Pb - free

CP4: CSP-4



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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.