ACE51258CH

Very High Voltage Linear Regulator

Description

The ACE51258CH series are a group of Very High voltage regulators that offers the benefits of a thermally- enhanced package, and is able to withstand continuous DC or transient input voltages of up to 105V. Quiescent current of only 3μA makes these devices ideal for powering the battery-powered, always-on systems that require very little idle-state power dissipation to a longer service life. There is a shutdown mode by pulling the EN pin low. The shutdown current in this mode goes down to only 100nA (typical). The ACE51258CH series of linear regulators are stable with the ceramic output capacitor over its wide input range from 3V to 105V and the entire range of output load current (0mA to 80mA).

Features

- Wide Operating Input Voltage Range: 3V to 100V
- Dropout Voltage: 0.5V @ 50mA / VOUT 5V
- Support Fixed Output Voltage: 1.8V, 3.3V, 5V, 9V, 12V
- 80mA Output Current
- 100nA Disable Current
- 3μA Ground Current at no Load
- ±1% Output Accuracy
- Current Limit Protection
- Over-Temperature Protection
- Adjustable Output Voltage Available by Specific Application
- Stable with Ceramic or Tantalum Capacitor
- Package: SOT-23-5 & SOT-89-3 & ESOP-8 & EMSOP-8

Application

- Wireless Communication Equipment
- Car Navigation Systems
- Industrial Controls
- Low Power Microcontrollers
- Laptop, Palmtops and PDAs
- Portable, Battery Powered Equipment
- Meters
- Home Automation
- Weighting Scales

Absolute Maximum Ratings (Note 1)

Parameter			Value
VIN, EN to GND			-0.3V to 105V
SNS to GND	VSNS = 12V		-0.3V to 18V
	VSNS = 9.0V		
	VSNS = 1.8V		-0.3V to 6V
	VSNS =3.3V		
	VSNS = 5.0V		
VOUT to GND	VSNS = 12V		-0.3V to 18V
	VSNS = 9.0V		
	VSNS = 1.8V		-0.3V to 6V
	VSNS =3.3V		
	VSNS = 5.0V		
VOUT to VIN			-105V to 0.3V
Package Thermal Resistance (Note 2)	θ_{JA}	SOT-23-5	200°C/W
		SOT-89-3	120°C/W
		ESOP-8	55°C/W
		EMSOP-8	65°C/W
Lead Temperature (Soldering, 10 second)			260°C
Junction Temperature			150°C
Storage Temperature Range			-60°C to 150°C
ESD Susceptibility	Human Body Mode		2KV
	Machine Mode		200V

Recommended Operation Condition

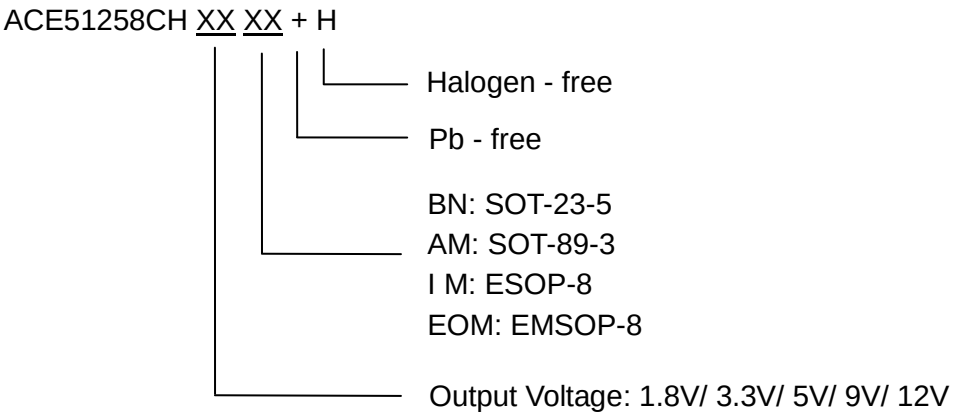
Parameter	Value
Input Voltage VIN	3.0V to 100V
Junction Temperature Range	-40°C to 125°C
Ambient Temperature Range	-40°C to 85°C

Note:

1. Stresses beyond those listed “Absolute Maximum Ratings” may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions may affect device reliability.

2. θ_{JA} is measured at T_A = 25°C on a ACE EVB board.

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.