



ACE758P

1.5V Voltage Mode Synchronous PWM Buck with Integrated Inductor

Description

The ACE758P provides high efficiency in a very small footprint. Featuring integrated inductor, the device delivers up to 1500mA of continuous output current. Total solution footprint can be as little as 40mm².

Output voltage is programmed via an external resistor divider providing a wide range of flexibility while maintaining a very small footprint.

Integration of the inductor reduces conducted and radiated noise providing excellent compatibility with sensitive RF and high speed data applications.

Features

- Integrated Inductor Technology
- Total Solution Footprint as Small as 40 mm²
- Solution Power Density up to 140mW/mm²
- 1500 mA Continuous Output Current
- High Efficiency, up to 94 %
- Low Ripple Voltage; 8 mV_{P-P} Typical
- Power OK Signal with 5 mA Sink Capability
- 2.4V to 5.5V Input Voltage Range
- Fast Transient Response
- 4 MHz Fixed Switching Frequency
- Low Dropout Operation: 100 % Duty Cycle
- Under Voltage Lockout, Over Current, Short Circuit, and Thermal Protection
- RoHS Compliant; MSL 3 260 °C Reflow

Application

- Wireless wide area networking data cards.
- Replacement of inefficient LDOs
- Noise Sensitive Applications such as RF, Audio and Video, and high speed IO
- Computing, Computer Peripherals, Storage, Networking, and Instrumentation
- USB, DSL, STB, DVR, DTV, and iPC



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Absolute Maximum Ratings

Parameter	Min	Max
Voltages on: PVIN, AVIN, VOUT	-0.3 V	6.5 V
Voltages on: ENABLE, POK	-0.3 V	V_{IN}
Voltage on: VFB	-0.3 V	2.7 V
ESD Rating (Human Body Model)	2 kV	
ESD Rating (Charge Device Model)	500 V	
Ambient Operating Range	-40 °C	85 °C
Storage Temperature Range	-65 °C	150 °C
Reflow Peak Body Temperature MSL3 (10 s)		260 °C



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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 Electronics 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.