



New Product Announcement

AL17052

700V Buck Converter with Fast Startup for Smart Industrial Controls and Home Appliances

The AL17052 is a universal high-voltage non-isolated buck/step-down converter with an integrated 700V MOSFET.

The device features ultra-low standby operational power of 10mW, with a high 60% efficiency at 50mA output current, and 50% at 10mA light loading.

The AL17052 offers ultra-fast startup to enhance system response times. It operates with a relatively small 330µH inductor for 50mA output current applications, allowing reduced inductor size and cost.

The device has full protection features to enhance system safety and reliability. These include overtemperature protection, VCC undervoltage lock function, overcurrent protection, and overload protection.

The AL17052 is available in the SOT25 package.



The DIODES Advantage

The AL17052 provides a high-efficiency, non-isolated buck conversion solution for IoT and smart devices.

- **Ultra-Low <10mW Standby Power**
Saves power in standby mode
- **Fast <10ms Startup Time**
Wakes system faster and responds more quickly from standby
- **Integrated 700V MOSFET Power Switch**
Supports universal mains input voltages and minimizes external components
- **Reduced Inductor Value and Form Factor**
Provides a smaller PCB footprint and saves cost
- **High Efficiency**
Meets ENERGY STAR® requirements across full-load and light-load

Applications

Auxiliary power and BLE rail generation in:

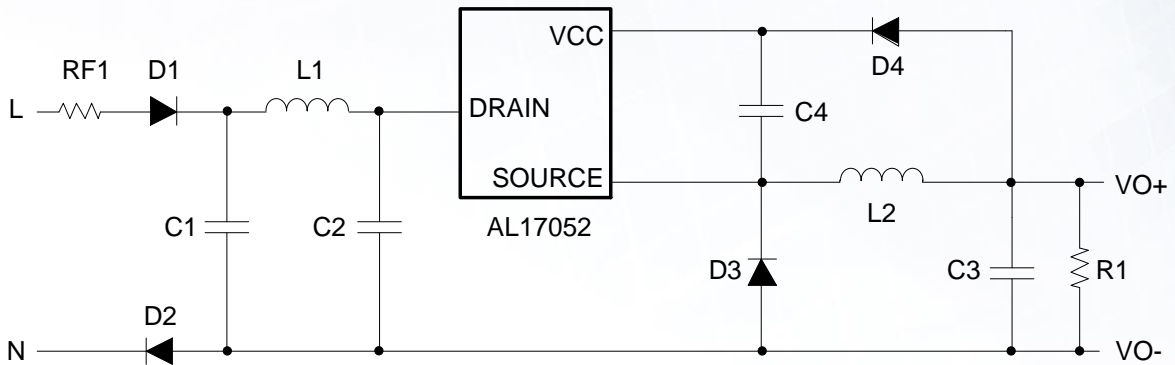
- Home appliances
- Industrial controls
- IoT applications
- Low-standby power applications

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Typical Application



Product Portfolio

Part Number	Min. Input Voltage	Max. Input Voltage	Internal MOS BV	Output Voltage	Buck Inductance	Startup Time@50mA	Max. Output Current	Reference Voltage Accuracy	Switching Frequency	Standby Power	Efficiency	Ambient Temperature Range	Package
	V _{AC}	V _{AC}	V	V	μH	ms	mA	±%	kHz	mW	%	°C	
AL17052	85	300	700	5	330	10	50	2.5	110	10	65	-40 to +105	SOT25
AL17051	85	300	700	3.3/5	1	25	50	2.5	50	10	60	-40 to +105	SOT25
AL17050	85	265	500	Set by External Resistor	1	25	50	4	30	50	60	-40 to +105	SOT25

Ordering Information

Orderable Part Number	Compliance (Only Automotive Supports PPAPs)	Package	Moisture Sensitivity	Packing	
				Quantity	Carrier
AL17052V5W5-7	Standard	SOT25	MSL-1	3,000	7" Tape & Reel