

LM2574

Buck Regulator, Switching, Adjustable Output Voltage, 0.5 A

Product Overview

For complete documentation, see the data sheet.

The LM2574 Buck Switching Regulators are monolithic integrated circuits ideally suited for easy and convenient design of a step-down switching regulator (buck converter). All circuits of this series are capable of driving a 0.5 A load with excellent line and load regulation. These devices are available in fixed output voltages of 3.3 V, 5.0 V, 12 V, 15 V, and an adjustable output version.

The Buck Switching Regulator is designed to minimize the number of external components to simplify the power supply design. Standard series of inductors optimized for use with the LM2574 are offered by several different inductor manufacturers.

Since the LM2574 converter is a switch-mode power supply, its efficiency is significantly higher in comparison with popular three-terminal linear regulators, especially with higher input voltages. In many cases, the power dissipated by the LM2574 regulator is so low, that no heatsink is required or its size could be reduced dramatically.

The LM2574 features include a guaranteed 4% tolerance on output voltage within specified input voltages and output load conditions, and +/-10% on the oscillator frequency (+/-2% over 0°C to 125°C). External shutdown is included, featuring 80 uA typical standby current. The output switch includes cycle-by-cycle current limiting, as well as thermal shutdown for full protection under fault conditions.

Features

- 3.3 V, 5.0 V, 12 V, 15 V, and Adjustable Output Versions
- Adjustable Version Output Voltage Range of 1.23 V to 37 V +/-4%
- Guaranteed 0.5 A Output Current
- Wide Input Voltage Range: 4.75 V to 40 V
- Requires Only 4 External Components
- 52 kHz Fixed Frequency Internal Oscillator
- TTL Shutdown Capability, Low Power Standby Mode
- High Efficiency
- Uses Readily Available Standard Inductors
- Thermal Shutdown and Current Limit Protection

For more features, see the data sheet













Applications

- Efficient Pre-Regulator for Linear Regulators
- On-Card Switching Regulators
- Power Supply for Battery Chargers
- Simple and High-Efficiency Step-Down (Buck) Regulators

End Products

- Automotive NCV Version Available

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Topology	Control Mode	V _{CC} Min (V)	V _{CC} Max (V)	V _O Typ (V)	I _O Typ (A)	Efficiency (%)	f _{SW} Typ (kHz)	Package Type
LM2574DW-ADJR2G	1.0452	 	Active	Step-Down	Voltage Mode	7	40	1.23	0.5	85	52	SOIC-16W
LM2574N-12G	1.0493	 	Active	Step-Down	Voltage Mode	7	40	12	0.5	85	52	PDIP-8
LM2574N-5G	0.9166	 	Active	Step-Down	Voltage Mode	7	40	5	0.5	85	52	PDIP-8
LM2574N-ADJG	0.9166	 	Active	Step-Down	Voltage Mode	7	40	1.23	0.5	85	52	PDIP-8
NCV2574DW-ADJR2G	1.2933	   	Active	Step-Down	Voltage Mode	7	40	1.23	0.5	85	52	SOIC-16W