

LM2575

Buck Regulator, Switching, Adjustable Output Voltage, 1.0 A

Product Overview

For complete documentation, see the data sheet.

The LM2575 series of 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 1.0 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.

This 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 LM2575 are offered by several different inductor manufacturers.

Since the LM2575 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 LM2575 regulator is so low, that no heatsink is required or its size could be reduced dramatically.

The LM2575 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 0C to 125C). 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% Maximum Over Line and Load Conditions
- Guaranteed 1.0 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

- Simple and High-Efficiency Step-Down (Buck) Regulators
- Efficient Pre-Regulator for Linear Regulators
- On-Card Switching Regulators
- Positive to Negative Converters (Buck-Boost)
- Negative Step-Up Converters

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
LM2575D2T-12R4G	1.21	 	Active	Step-Down	Voltage Mode	7	40	12	1	85	52	D ² PAK-5
LM2575D2T-15R4G	1.29	 	Active	Step-Down	Voltage Mode	7	40	15	1	85	52	D ² PAK-5
LM2575D2T-3.3R4G	0.9636	 	Active	Step-Down	Voltage Mode	7	40	3.3	1	85	52	D ² PAK-5
LM2575D2T-5G	1.1166	 	Active	Step-Down	Voltage Mode	7	40	5	1	85	52	D ² PAK-5
LM2575D2T-5R4G	1.21	 	Active	Step-Down	Voltage Mode	7	40	5	1	85	52	D ² PAK-5
LM2575D2T-ADJG	0.985	 	Active	Step-Down	Voltage Mode	7	40	1.23	1	85	52	D ² PAK-5
LM2575D2T-ADJR4G	1.21	 	Active	Step-Down	Voltage Mode	7	40	1.23 to 37	1	85	52	D ² PAK-5
LM2575T-12G	1.1733	 	Active	Step-Down	Voltage Mode	7	40	12	1	85	52	TO-220-5
LM2575T-15G	1.15	 	Active	Step-Down	Voltage Mode	7	40	15	1	85	52	TO-220-5
LM2575T-3.3G	1.15	 	Active	Step-Down	Voltage Mode	7	40	3.3	1	85	52	TO-220-5
LM2575T-5G	1.1733	 	Active	Step-Down	Voltage Mode	7	40	5	1	85	52	TO-220-5
LM2575T-ADJG	1.1733	 	Active	Step-Down	Voltage Mode	7	40	1.23	1	85	52	TO-220-5
LM2575TV-012G	1.15	 	Active	Step-Down	Voltage Mode	7	40	12	1	85	52	TO-220-5
LM2575TV-3.3G	1.15	 	Active	Step-Down	Voltage Mode	7	40	3.3	1	85	52	TO-220-5
LM2575TV-5G	0.9226	 	Active	Step-Down	Voltage Mode	7	40	5	1	85	52	TO-220-5
LM2575TV-ADJG	1.1733	 	Active	Step-Down	Voltage Mode	7	40	1.23	1	85	52	TO-220-5