

Product Overview

LM2576: Buck Regulator, Switching, 3.0 A, 15 V

For complete documentation, see the data sheet.

The LM2576 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 3.0 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. 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 LM2576 are offered by several different inductor manufacturers. Since the LM2576 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 is so low that no heatsink is required or its size could be reduced dramatically. A standard series of inductors optimized for use with the LM2576 are available from several different manufacturers. This feature greatly simplifies the design of switch-mode power supplies. The LM2576 features include a guaranteed $\pm 4\%$ tolerance on output voltage within specified input voltages and output load conditions, and $\pm 10\%$ on the oscillator frequency ($\pm 2\%$ over 0C to 125C). External shutdown is included, featuring 80 μ A (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, 1.23 to 37 V $\pm 4\%$ Maximum Over Line and Load Conditions
 - Guaranteed 3.0 A Output Current
 - Wide Input Voltage Range
 - 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 High-Efficiency Step-Down (Buck) Regulator
- Efficient Pre-Regulator for Linear Regulators
- On-Card Switching Regulators
- Positive to Negative Converter (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
LM2576D2T-005G	1.168	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	5	3	85	52	D ² PAK-5
LM2576D2T-15G	1.2466	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	15	3	85	52	D ² PAK-5
LM2576D2T-ADJG	1.2466	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	1.23 to 37	3	85	52	D ² PAK-5
LM2576D2T-ADJR4G	1.2466	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	1.23 to 37	3	85	52	D ² PAK-5
LM2576D2TR4-012G	1.9333	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	12	3	85	52	D ² PAK-5
LM2576D2TR4-3.3G	1.9333	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	3.3	3	85	52	D ² PAK-5
LM2576D2TR4-5G	1.2466	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	5	3	85	52	D ² PAK-5
LM2576T-005G	1.1784	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	5	3	85	52	TO-220-5
LM2576T-012G	0.9777	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	12	3	85	52	TO-220-5
LM2576T-15G		Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	15	3	85	52	TO-220-5
LM2576T-3.3G	1.8666	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	3.3	3	85	52	TO-220-5
LM2576T-ADJG	1.21	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	1.23 to 37	3	85	52	TO-220-5
LM2576TV-012G	0.9262	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	12	3	85	52	TO-220-5
LM2576TV-015G		Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	15	3	85	52	TO-220-5
LM2576TV-3.3G		Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	3.3	3	85	52	TO-220-5
LM2576TV-5G	0.9262	Pb-free Halide free non AEC-Q and PPAP	Active	Step-Down	Voltage Mode	7	40	5	3	85	52	TO-220-5

LM2576TV-ADJG	1.21	Pb-free Halide free non AEC-Q and PPAP	Active	Step- Down	Voltage Mode	7	40	1.23 to 37	3	85	52	TO-220- 5
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