New Product Announcement

AP7372

Low 8μV_{RMS}, High-PSRR 20V 200mA LDO Reduces Noise and Ripple on Power Rails in Noise-Sensitive Applications

The AP7372 low dropout regulator, with its very low 8μV_{RMS} noise and large high-frequency power supply rejection-ratio (PSRR), is ideal for power supplies in noise-sensitive signal chain blocks like precision ADC/DAC, VCO, medical devices, and instrumentation.

This high-V_{IN} LDO operates from 2.7V to 20V, enabling operation in many standard power rail systems. It delivers 200mA output current with fixed output voltage options of 1.8V, 2.5V, 3.3V and 5.0V, and is also available in an adjustable version with a nominal 1.2V output.

The AP7372's fixed-output voltages can be adjusted above the nominal value using an external feedback divider. The device supports an adjustable output from $V_{OUT(NOM)}$ to V_{IN} (minus the dropout voltage, VDO).

It also has excellent line and load transient response with a small 2.2μF ceramic output capacitor, and it supports adjustable soft-start using a small capacitor on the SS pin.

The AP7372 is available in the tiny U-WLB1012-6 (Type A1); occupying only 1mm by 1.2mm and enabling it to be used in high-power-density applications across a -40ºC to +125ºC ambient temperature range.

The DIODES Advantage

The AP7372, with its very low 8μV_{RMS} noise and large PSRR, is ideal for noise-sensitive applications.

- **Low Noise: 8μVrms**
  Ensures minimal additive noise in power supplies for precision ADC, DAC, VCO, medical devices, and instrumentation
- **High PSRR (90dB@10kHz, 70dB@100kHz, 52dB@1MHz)**
  Rejects input ripples and noise across a wide frequency range, improving signal-to-noise ratios
- **Wide 2.7V to 20V Input Voltage Range:**
  Supports Li-Ion, 3.3V, 5V, and 12V power rails
- **Four-Fixed Output Voltages with ±0.8% Output Accuracy Which Can Be Adjusted**
  Maintains high output voltage accuracy with the versatility to adjust the output voltage if necessary
- **Easily Adjustable Soft-Start Time by External Capacitor**
  Allows optimization of start-up time to system needs

Applications

Low noise point-of-load regulation for:

- ADC and DAC circuits
- Precision signal conditioning
- VCO VTUNE controls
- Communications and infrastructures
- Medical and healthcare equipment
- Industrial equipment
- Instrumentation

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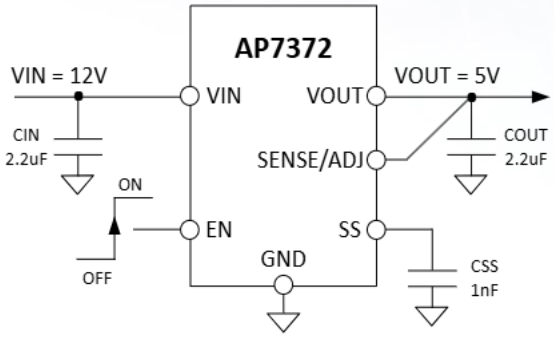
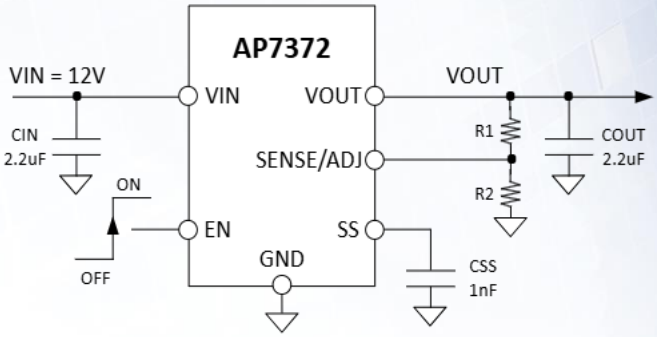
Typical Application



AP7372-50 with Fixed 5V Output Voltage



AP7372-xx with Adjustable Output by R1 and R2

Extremely Low Noise LDO Portfolio

Part Number	V_{IN}	Adj. V_{OUT}	Fixed V_{OUT}	I_{OUT}	VDROP @ Full Load	Noise	PSRR (@10kHz)	Enable	Package
	V	V	V	mA	mV	μV_{RMS}	dB		
AP7372	**2.7 to 20**	**Yes (1.2)**	**1.8, 2.5, 3.3, 5.0**	**200**	**120**	**8**	**90**	**Yes**	**U-WLB1012-6 (Type A1)**
AP7353D	2.0 to 5.5	No	1.8, 2.5, 2.8, 2.85, 2.9, 3.0, 3.1, 3.2, 3.3, 3.6, 4.5, 4.7, 5.0	250	74	10	70	Yes	X1-WLB0707-4, X2-DFN1010-4

Ordering Information

Orderable Part Number	Output Voltage	Compliance (Only Automotive Supports PPAP)	Package	Moisture Sensitivity	Packing	
					Quantity	Carrier
AP7372-12CBA6-7	1.2V Adj.	Standard	U-WLB1012-6 (Type A1) (1.0mm x 1.2mm) (CBA6)	MSL-1	3,000	7" Tape & Reel
AP7372-18CBA6-7	1.8V					
AP7372-25CBA6-7	2.5V					
AP7372-33CBA6-7	3.3V					
AP7372-50CBA6-7	5.0V					