



# New Product Announcement

## AP7361EA

### 1A Low Dropout Regulator and Tight Tolerance for Medium Power Applications

The DIODES™ AP7361EA is the company's latest ultra-low dropout, 1A linear regulator and is offered in a variety of thermally enhanced packages.

Its low dropout voltage, low 60 $\mu$ A quiescent current, and 6V maximum input voltage range make the AP7361EA suitable for low-to-medium power applications operating from 5V and 3V rails, including battery-powered devices.

The device features a fast 150 $\mu$ s turn-on time, and overcurrent protection with short-circuit foldback and thermal-shutdown functions which protect the IC from damage during fault conditions. An enable pin may also be used to mitigate power consumption.

The AP7361EA is available in the TO252, SOT223, SO-8EP, and U-DFN3030-8 (Type E) packages. The SOT89-5 package is expected to be available in 3Q22.



#### The DIODES™ Advantage

- **Ultra-Low (340mV) Dropout Voltage ( $V_{out} = 3.3V$ ,  $I_{out} = 1A$ )**  
Maximizes usable supply voltage range—especially in battery-powered applications
- **1.0% Output Accuracy at 25°C, 1.5% Over -40 to +85°C**  
Maintains accuracy under all conditions
- **Low  $I_q$ : 60 $\mu$ A**  
Suitable for battery applications and meets energy-saving standards
- **Wide Input Voltage: 2.2V to 6V**  
Supports standard rails and core-core LDO point-of-load (POL) applications
- **Both Fixed and Adjustable Output Voltage Options**  
Fixed versions: 1.0V, 1.2V, 1.5V, 1.8V, 2.5V, 3.3V  
Adjustable with 0.8V  $V_{ref}$ , allowing outputs from 0.8V to 5V
- **High PSRR (75dB @ 1kHz)**  
Suitable for audio, video, and RF sub-systems

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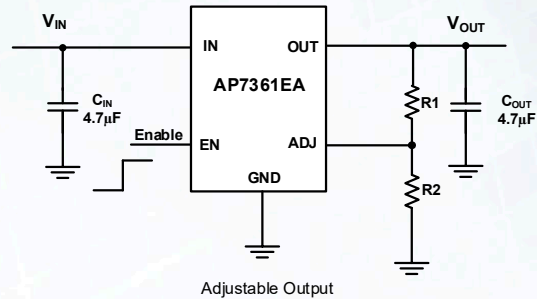
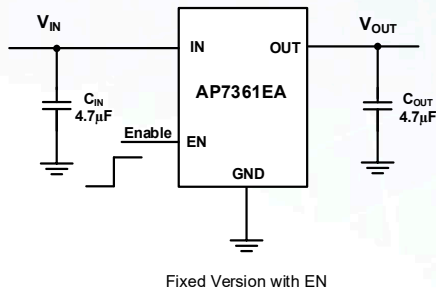
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#### Applications

- LCD TVs, monitors
- Set-top-boxes
- Home appliance equipment
- Notebook computers
- Industrial POL devices

## Typical Application Circuits



Enable (EN) is active HIGH, defined as  $> 1.0V$  and disabled when  $EN < 0.3V$

ADJ is related to an internal 0.8V reference voltage resulting in  $V_{out} = 0.8 \cdot (1 + (R1/R2))$  with  $R2 < 80k\Omega$

## Product Portfolio

Part Number	$V_{IN}$ (Note 1)	$V_{OUT}$ (V)	$I_{OUT}$ (mA)	$V_{DROP}$ (Note 2) @ 1 A (mV)	$I_Q$ ( $\mu A$ )	Output Accuracy (%)	Enable	PG	Package
	(V)								
<a href="#">AP7361EA</a> (Note 3)	2.2 to 6	1.0, 1.2, 1.5, 1.8, 2.5, 3.3, Adjustable	1000	340	60	1	Yes	No	TO252, SOT223, U-DFN3030-8 (Type E), SO-8EP, SOT89-5
<a href="#">AP7361E</a>	2.2 to 6	1.0, 1.2, 1.5, 1.8, 2.5, 2.8, 3.3, Adjustable	1000	340	60	1	Yes	Yes	U-DFN3030-8 (Type E)

- Notes:
1. Minimum input voltage depends on output voltage
  2. Dropout voltage depends on output voltage
  3. AP7361EA is the recommended replacement for the AP7361C/AP2114

## Ordering Information

Orderable Part Number (Note 4)	Voltage Options (V)	Package Code	Package	Moisture Sensitivity	Reel Size (in)	Quantity
AP7361EA-vvDR-13	3.3	DR	TO252	MSL-1	13	2500
AP7361EA-vvE-13	1.0, 1.2, 1.8, 2.5, 3.3	E	SOT223	MSL-1	13	2500
AP7361EA-vvER-13	1.0, 1.2, 1.5, 1.8, 2.5, 3.3	ER	SOT223R	MSL-1	13	2500
AP7361EA-vvFGE-7	1.0, 1.8, 3.3, Adjustable	FGE	U-DFN3030-8 (Type E)	MSL-1	7	3000
AP7361EA-vvSP-13	1.5, 1.8, 2.5, 3.3	SP	SO-8EP	MSL-1	13	2500
AP7361EA-vvSPR-13	1.0, 1.2, 3.3, Adjustable	SPR	SO-8EPR	MSL-1	13	2500
AP7361EA-vvY5-13*	1.2, 1.8, 2.5, 3.3, Adjustable	Y5	SOT89-5	MSL-1	13	2500

- Note:
4. vv = Voltage Option
- \* SOT89-5 expected 3Q2022