



1.2V/1.32V 400mA Low Dropout Fixed-Mode Regulator

Features

- Maximum dropout at full load current of 1.5V
- Fast transient response
- Output current limiting
- Built-in thermal shutdown
- Needs Only 1uF Capacitor for stability
- Good noise rejection
- Three Terminal Fixed 1.2V/1.32V
- Low ESR Ceramic Capacitor for output stability
- Packages : SOT23
- RoHS-compliant, halogen-free

Description

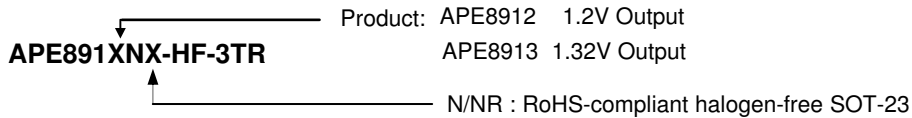
APE891X-3 is a low dropout fixed-mode regulator with a minimum output current capability of 0.4A. The product is specifically designed to provide well-regulated supplies for low voltage IC applications such as high speed bus termination and low current 1.2V/1.32V logic supplies.

APE891X is guaranteed to have lower than 1.5V dropout at full load current making it ideal to provide well-regulated outputs of 1.2V/1.32V with 2.4V to 6V input supply.

Applications

- PC peripheral
- Communication
- LCD Modules

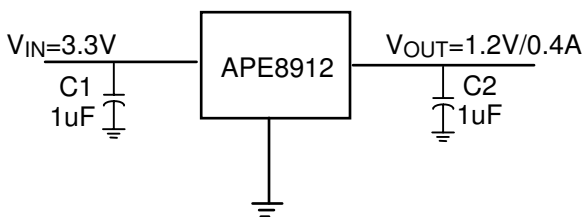
Ordering Information



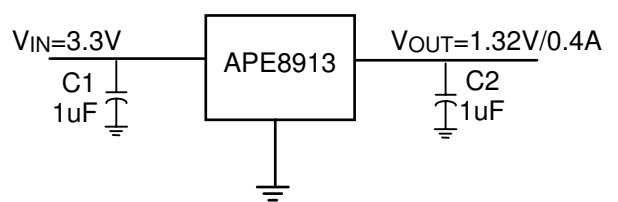
Packing:

TR : Products are shipped on tape and reel: 3000pcs/reel for SOT-23.
 The device is rated MSL3 for moisture sensitivity, and the reel is packed in a moisture-barrier bag.

Typical Application



1.2V fixed output



1.32V fixed output



Absolute Maximum Ratings (at $T_A=25^\circ\text{C}$)

Input Voltage (V_{IN}) ----- -0.3 to 6V
 Power Dissipation ----- Internally limited

Lead Temperature (Soldering, 10 sec.) T_{LEAD} ----- 260°C
 Storage Temperature Range ----- -65°C to +150°C
 Maximum Junction Temperature ----- 150°C

Recommended Operating Conditions

Input Voltage (V_{IN}) ----- 2.8 to 5.5V
 Operating Junction Temperature Range (T_J) ----- 0°C to +150°C

Electrical Specifications

$T_A=25^\circ\text{C}$, unless otherwise specified.

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT	
Output Voltage	$I_{OUT} = 10\text{mA}$, $T_J = 25^\circ\text{C}$, $V_{OUT}+1.2\text{V} < V_{IN} < 6\text{V}$	APE8912	1.176	1.2	1.224	V
		APE8913	1.294	1.320	1.346	V
Line Regulation	$I_O=10\text{mA}$, $V_{OUT}+1.5\text{V} < V_{IN} < 6\text{V}$, $T_J=25^\circ\text{C}$			0.2	%	
Load Regulation	$V_{IN}=3.3\text{V}$, $V_{adj}=10\text{mA} < I_O < 0.4\text{A}$, $T_J=25^\circ\text{C}$ (Note 1,2)			1	%	
Dropout Voltage ($V_{IN}-V_{OUT}$)	$I_{OUT} = 0.4\text{A}$, $\Delta V_{OUT}=1\%V_{OUT}$		1.1	1.5	V	
Current Limit	$V_{IN} = 3.3\text{V}$		0.4	1.1	A	
Minimum Load Current	$0^\circ\text{C} \leq T_J \leq 125^\circ\text{C}$		3	5	mA	
Thermal Regulation	$T_A=25^\circ\text{C}$, 30ms pulse		0.008	0.04	%/W	
Ripple Rejection	$f=120\text{Hz}$, $C_{OUT}=25\mu\text{F}$ Tantalum, $I_{OUT}=1\text{A}$, $V_{IN}=V_{OUT}+3\text{V}$		60	70	dB	
Temperature Stability	$I_O=10\text{mA}$		0.5		%	
R_{thJA} , thermal resistance, junction-to-ambient (no heat sink; no air flow)	SOT23		250		$^\circ\text{C}/\text{W}$	
R_{thJC} , thermal resistance, junction-to-case	SOT23 : Control Circuitry/Power Transistor		100		$^\circ\text{C}/\text{W}$	

Note1: See thermal regulation specifications for changes in output voltage due to heating effects. Line and load regulation are measured at a constant junction temperature by low duty cycle pulse testing. Load regulation is measured at the output lead = 1/18" from the package.

Note2: Line and load regulation are guaranteed up to the maximum power dissipation of 5W. Power dissipation is determined by the difference between input and output differential and the output current. Guaranteed maximum power dissipation will not be available over the full input/output range.

Note3: Quiescent current is defined as the minimum output current required in maintaining regulation. At 6V input/output differential the device is guaranteed to regulate if the output current is greater than 10mA.

THIS PRODUCT IS SENSITIVE TO ELECTROSTATIC DISCHARGE, PLEASE HANDLE WITH CAUTION.

USE OF THIS PRODUCT AS A CRITICAL COMPONENT IN LIFE SUPPORT OR OTHER SIMILAR SYSTEMS IS NOT AUTHORIZED.

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