

**Brief Description of the chip**

This chip is a high performance positive voltage regulator designed for use in applications requiring very low dropout voltage at up to 3 Amps. Since it has superior dropout characteristics compared to regular LDOs, it can be used to supply 2.5V on motherboards or 2.8V on peripheral cards from the 3.3V supply thus allowing heat sink size reduction or elimination. Additionally, the five pin versions of this chip have an enable pin, to further reduce power dissipation while shut down. This chip provides excellent regulation over variations in line, load and temperature. This chip is has a three terminal fixed output voltage version and five terminal fixed or adjustable output voltage version with enable. This chip has an optional auto-discharging function.

**Product highlights**

- 350mV dropout @ 3A
- Adjustable output from 0.8V
- Fixed & Adjustable Output Voltage
- Over current and over temperature protection
- 10uA quiescent current in shutdown
- Low reverse leakage (output to input)
- Full industrial temperature range
- Chip Metal Option: Auto Discharging Function
- Chip Size: 2.1mm x 2.5 mm
- 0.35 micron 2 P 3 M BCDMOS process

**Pin Description**

	<b><i>Symbol</i></b>	<b><i>Description</i></b>
1	VIN	Input voltage. For regulation at full load, the input to this pin must be between $(V_0 + 0.7V)$ and 6V Min VIN = 2.2V.
2	EN	Enable Input. Pulling this pin below 0.4V turns the regulator off, reducing the quiescent current to a fraction of its operating value. Connect to VIN if not being used.
3	GND	Ground
4	ADJ	This pin, when grounded, sets the output voltage to that set by the internal feedback resistors. $(0.8 \times (R1 + R2)) / R2$
5	OUT	Output Voltage

## Chip Specifications

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### General Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
<b>VIN</b>						
Supply Voltage Range	VIN		2.2	-	6.0	V
Quiescent Current	IQ	VIN = 3.3V	-	0.75	1.75	mA
		VIN = 6.0V, VEN = 0V	-	10	35	uA
<b>ADJ</b>						
Reference Voltage	VREF	VIN = 2.2V, VADJ = VOUT, I0 = 10mA	0.792	0.8	0.808	V
			0.784		0.816	
Adjust Pin Current	IADJ	VADJ = VREF		10	200	nA
Adjust Pin Threshold	Vm(ADJ)		0.10	0.2	0.40	V
<b>EN</b>						
Enable Pin Current	IEN	VEN = 0V, VIN = 3.3V	-	1.5	10	uA
Enable Pin Threshold	VIH	VIN = 3.3V	1.8			V
	VIL				0.4	
<b>Over Temperature Protection(TSD) &amp; Auto Discharging</b>						
High Trip level	TSD		160	175	190	°C
Hysteresis	TSDHYS		18	20	22	°c
Auto Discharging Resistor	RAD	Chip's metal Option	270	300	330	Ohm.
<b>Vo</b>						
Output Voltage (Internal Fixed Voltage)	Vo	VIN = Vo + 0.7V, Io = 10mA	-1%	Vo	1%	V
			-2%		2%	
Line Regulation	REG LINE	VIN = (Vo + 0.25V) to 6.0V, I0 = 10mA	-	0.03 5	0.3	%
Load Regulation	REGLOAD	IO=10mAto3A	-	0.2	0.4	%
	VDROP	Io = 10mA	-	1	5	mV
-			-	10		
-			75	100		
-			-	150		
Dropout Voltage		Io = 1.5A	-	200	300	

			-	-	<b>400</b>	
		$I_o = 3A$	-	350	450	
			-	-	<b>600</b>	
Min. Load Current <sup>TM</sup>	$I_o$	$V_{IN} = V_o + 0.7V$	-	1	<b>10</b>	uA
Current Limit	$I_{MAX}$		3.5	5	<b>6.5</b>	A

### Application :

- **Battery Powered systems**
- **Mother Boards and notebook computers**
- **Peripheral cards**
- **Network cards**
- **Set top boxes**
- **Medical equipment**

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