

# AN8060, AN8060S

## Low Drop Type Negative Output ( $-4V$ ) Regulator with Reset Pin

### ■ Overview

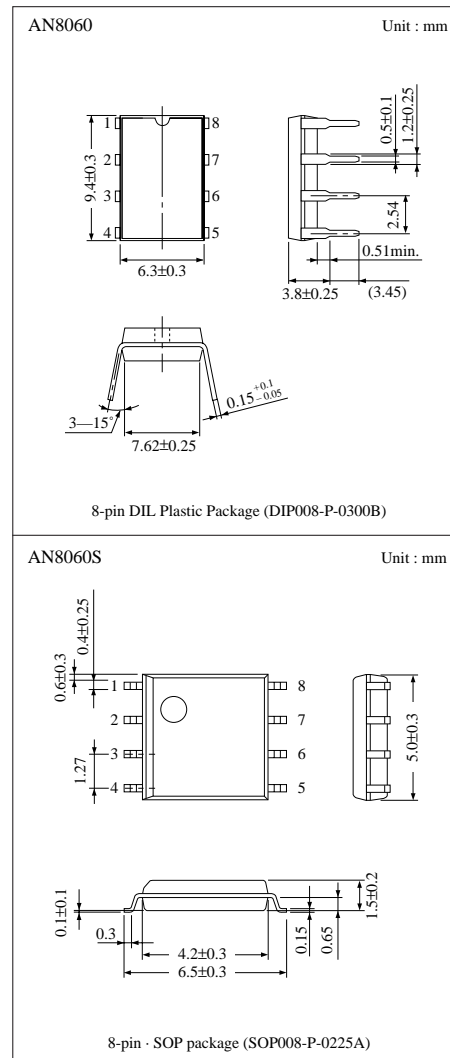
The AN8060 and the AN8060S are the low drop type regulators having the function of resetting output voltage. With a comparator to sense reduced voltage building it is suitable for batteries operation.

### ■ Features

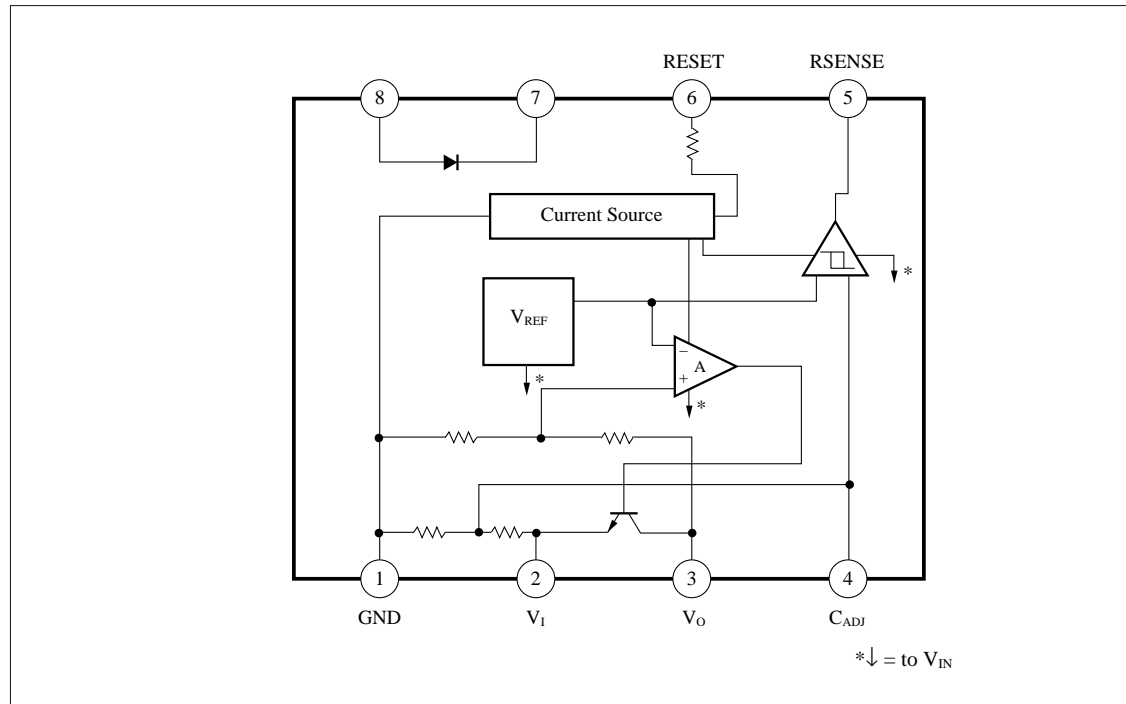
- With reset function : bias current at resetting  $-5\mu A$
- Small input-output voltage difference :  $I_O=30mA$ ,  $0.2V$
- Low Supply Voltage sensing comparator built-in

### ■ Pin Descriptions

Pin No.	Symbol	Pin name
1	GND	GND
2	$V_I$	Input voltage
3	$V_O$	Output voltage
4	$C_{ADJ}$	Low supply voltage sensing adj.
5	RSENSE	Low supply voltage sensing output
6	RESET	Reset pin
7	$D_{IC}$	Diode pin (Cathode)
8	$D_{IA}$	Diode pin (Anode)



## ■ Block Diagram



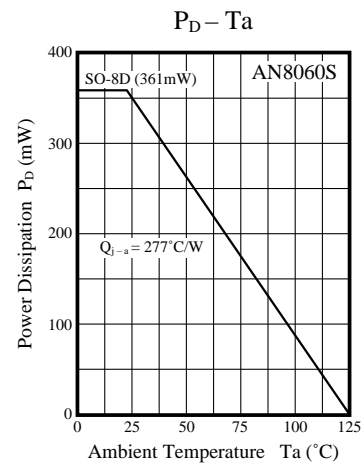
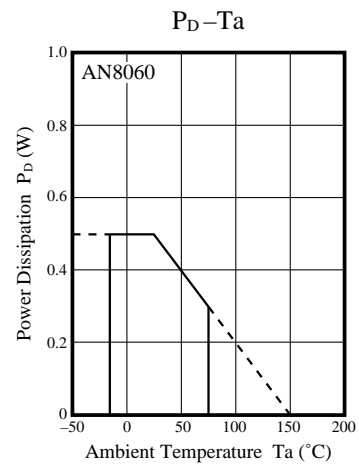
## ■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Supply voltage	$V_{CC}$	-12 to +0.3	V
Supply current	$I_{CC}$	—	mA
Power dissipation	$P_D$	AN8060	500
		AN8060S	361
Operating ambient temperature	$T_{opr}$	-20 to +75	°C
Storage temperature	$T_{sig}$	AN8060	-55 to +150
		AN8060S	-55 to +125

## ■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Bias current at reset	$I_{RB}$	$V_{RESET}=0V, V_I=-6V$	—	—	5	$\mu A$
Bias current at no load	$I_{UB}$	$V_I=-6V$	—	2.5	6	mA
Output voltage	$V_O$	$V_I=-6V, I_O=10mA$	-4.08	-3.92	-3.76	V
Output voltage tolerance	$V_T$	$V_I=-4.4$ to $-8V, I_O=1$ to $30mA$	-4.06	—	-3.66	V
Stable input voltage	$V_{IS}$	$V_I=-4.4$ to $-7.4V, I_O=10mA$	—	3.6	60	mV
Stable lock voltage	$V_{LS}$	$V_I=-6V, I_O=1$ to $30mA$	—	8	60	mV
Input/Output voltage difference	$V_{IOS}$	$V_I=-3.8V, I_O=30mA$	—	0.1	0.2	V
Reset pin input current (H)	$I_{RICH}$	$V_I=-6V, V_{RESET}=0V$	-1	—	—	$\mu A$
Reset pin input current (L)	$I_{RICL}$	$V_I=-6V, V_{RESET}=-6V$	-200	—	—	$\mu A$
Low supply voltage sending level	$V_{RDL}$	$I_O=10mA$	-4.55	-4.3	-4.05	V
Output voltage at reset	$V_{RO}$	$V_{RESET}=0V, V_I=-6V$	-0.1	—	—	V
Comparator output current	$I_{CO}$	$V_I=-4V, V_{RSENSE}=-3.6V$	1	—	—	mA

## ■ Characteristics Curve





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