

LDO
AS7130

Low Power Consumption LDO AS7130 Series

General Description

The AS7130 series are a group of positive voltage output, three –pin regulator, that provide a high current even when the input/output Voltage differential is small. Low power consumption and high accuracy is achieved through CMOS technology. They allow input voltages as high as 18V.

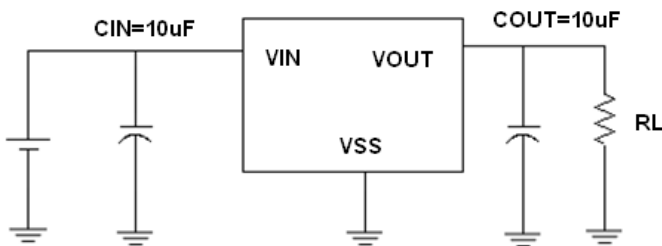
Features

- Output voltage: 3.0V
- Output voltage accuracy: $\pm 2\%$
- High input voltage (up to 18V)
- Ultra low quiescent current: 3.0uA(typ)
- Low dropout voltage :80mV@Iout=40mA
- Maximum output current: 250mA (within max.power dissipation)
- Low temperature coefficient
- Package: SOT23-3

Typical Application

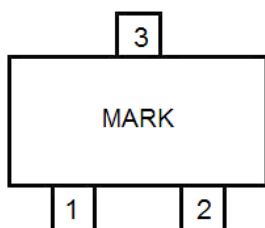
- Cameras, video recorders
- Voltage regulator for microprocessor
- Voltage regulator for LAN cards
- Wireless communication equipment
- Audio/Video equipment

Typical Application Circuit



Pin Configuration

SOT23-3



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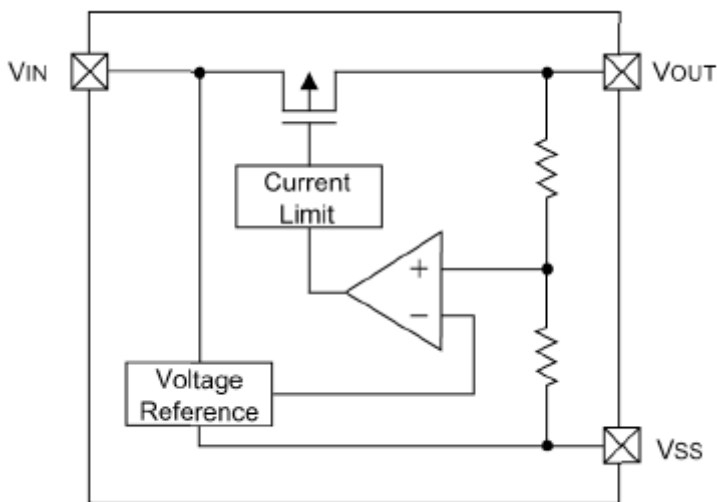
Pin Assignment

Pin Number	Pin Name	Functions
1	V_{SS}	Ground
2	V_{OUT}	Output
3	V_{IN}	Input

Absolute Maximum Ratings

Parameter	Symbol	Ratings	Units
Input Voltage	V_{IN}	18	V
Output Voltage	V_{OUT}	$V_{SS}-0.3 \sim V_{IN} +0.3$	V
Output Current	I_{OUT}	250	mA
Operating Temperature Range	T_{OPR}	$-40 \sim +85$	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	$-40 \sim +125$	$^{\circ}\text{C}$
Power Dissipation	P_D	300	mW

Block Diagram



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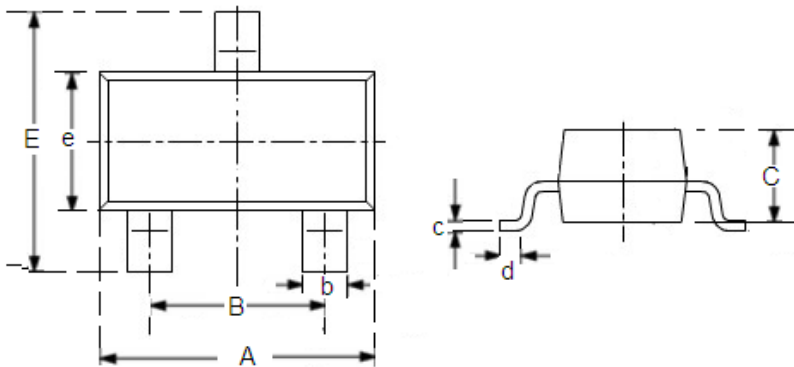
Electrical Characteristics

($V_{IN} = V_{OUT} + 1.0V$, $C_{IN} = C_L = 10\mu F$, $T_a = 25^\circ C$, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Output Voltage	V_{OUT}	$I_{OUT} = 40mA$, $V_{IN} = V_{OUT} + 1V$	2.94	3.00	3.06	V
Input Voltage	V_{IN}				18	V
Maximum Output Voltage	I_{OUT_max}	$V_{IN} = V_{OUT} + 1V$	250			mA
Load Regulation	ΔV_{OUT}	$V_{IN} = V_{OUT} + 1V$, $1mA \leq I_{OUT} \leq 60mA$		15	40	mV
Dropout Voltage	V_{DIF}	$I_{OUT} = 40mA$		80		mV
Supply Current	I_{SS}	$V_{IN} = V_{OUT} + 1V$		3	4	μA
Line Regulations	$\frac{\Delta V_{OUT}}{\Delta V_{IN}} \times V_{OUT}$	$I_{OUT} = 40mA$ $V_{OUT} + 1V \leq V_{IN} \leq 18V$		0.05	0.2	%/V
$\Delta V_{OUT} / \Delta T_a$	Temperature Coefficient	$V_{IN} = V_{OUT} + 1V$, $I_{OUT} = 40mA$ $-40^\circ C < T_a < 85^\circ C$		± 0.7		mV/ $^\circ C$

Packaging Information

SOT23-3



DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	2.7	3.1	0.1063	0.122
B	1.7	2.1	0.0669	0.0827
b	0.35	0.5	0.0138	0.0197
C	1.0	1.2	0.0394	0.0472
c	0.1	0.25	0.0039	0.0098
d	0.2	-	0.0079	-
E	2.6	3.0	0.1023	0.1181
e	1.5	1.8	0.059	0.0708