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.

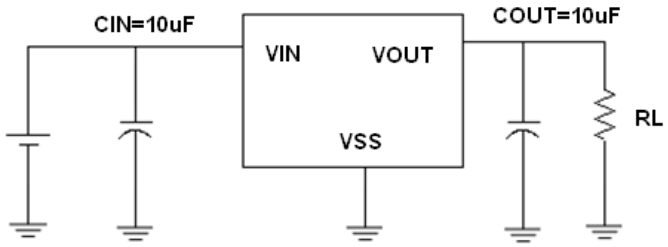
Features

Output voltage: 3.0V
Output voltage accuracy： ±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

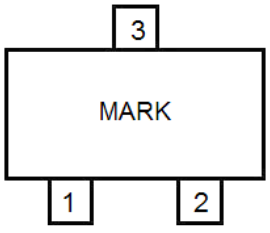
Typical Application Circuit



（Note：The above circuit is for reference only, the value of capacitors should be adjusted to pratical application.）

Pin Configuration

SOT23-3



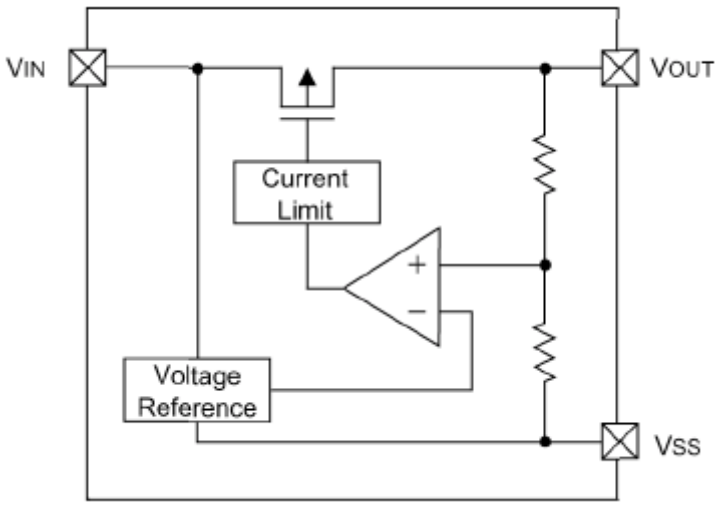
Pin Assignment

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}	Vss-0.3～V_{IN} +0.3	V
Output Current	I_{OUT}	250	mA
Operating Temperature Range	T_{OPR}	－40～＋85	℃
Storage Temperature Range	T_{STG}	－40～＋125	℃
Power Dissipation	P_D	300	mW

Block Diagram



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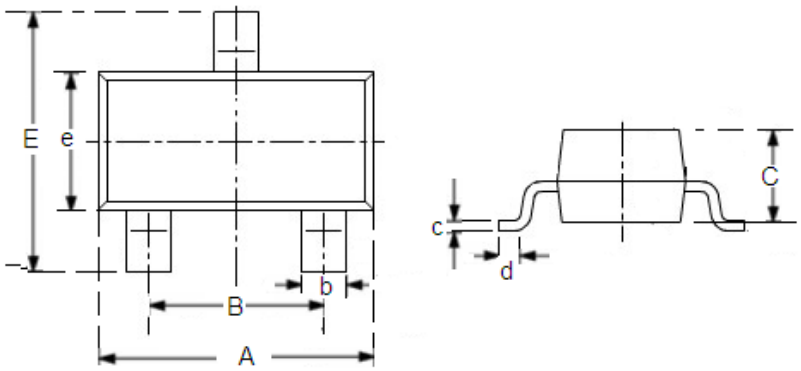
Electrical Characteristics

(V_{IN}= V_{OUT}+1.0V，C_{IN}=C_L=10uF，Ta=25°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≤I_{OUT}≤60mA		15	40	mV
Dropout Voltage	V_{DIF}	I_{OUT} =40mA		80		mV
Supply Current	I_{SS}	V_{IN}=V_{OUT}+1V		3	4	μ A
Line Regulations	$\frac{\Delta V_{OUT}}{\Delta V_{IN}} \times V_{OUT}$	I_{OUT} =40mA V_{OUT}+1V ≤V_{IN}≤18V		0.05	0.2	%/V
△VOUT/△Ta	Temperature Coefficient	V_{IN}=V_{OUT}+1V, I_{OUT} =40mA -40℃<Ta<85℃		± 0.7		mV/℃

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