High Input Voltage LDO Linear Regulators AS7133HA Series

General Description

AS7133HA series are low-dropout linear voltage regulators with a built-in voltage reference module, error correction module and phase compensation module. AS7133HA series are based on the CMOS process and allow high voltage input with low quiescent current. This series can deliver 100mA output current and allow an input voltage as high as 30V.

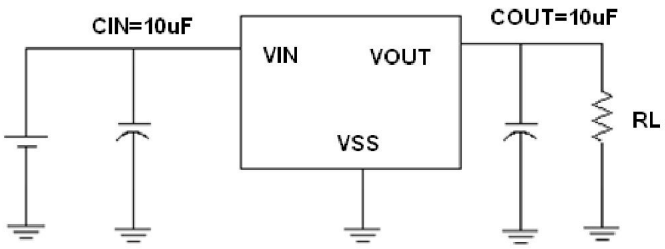
Features

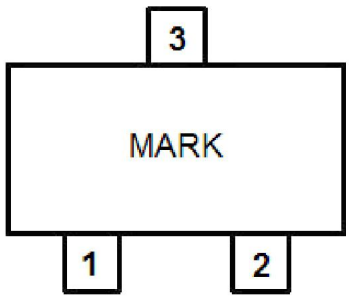
Output voltage: 3.3V
High output accuracy：± 2%
Output Current: IOUT = 100mA（VIN = 5.5V and VOUT =3.3V）
Input Voltage: up to 30V
Ultra-low quiescent current: 3 μ A
Short-circuit Current：(Typ.= 20mA)
Low temperature coefficient
Ceramic capacitor can be used
Small Packages:SOT23-3

Typical Application

Ceramic capacitor can be used
SCM
Phones, cordless phones
Security Products
Water meters, power meters

Typical Application Circuit





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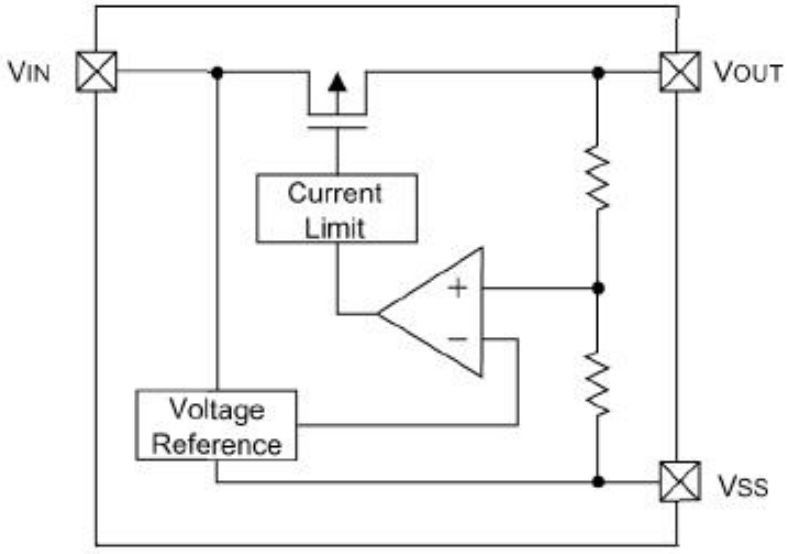
Pin Assignment

Pin Number	Pin Name	Functions
1	Vss	Ground
2	Vout	Output
3	Vin	Power input

Block Diagram



Absolute Maximum Ratings

Parameter	Symbol	Ratings	Units
Input Voltage	V_{IN}	30	V
Output Voltage	V_{OUT}	Vss-0.3～V_{IN} +0.3	V
Output Current	I_{OUT}	150	mA
Operating Temperature Range	T_{OPR}	-25～＋85	℃
Storage Temperature Range	T_{STG}	-40～＋150	℃
Lead Temperature		260℃，10sec	

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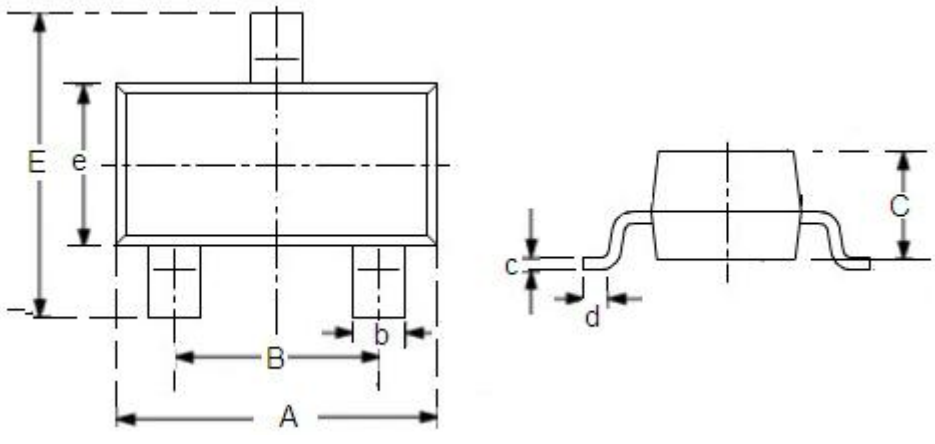
Electrical Characteristics

(V_{IN}= V_{OUT}+2.0V，C_{IN}=C_L=10uF，Ta=25oC, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Output Voltage	V_{OUT}	I_{OUT}=10mA	3.23	3.30	3.37	V
Input Voltage	V_{IN}		3.3		30	V
Maximum Output Current	I_{OUT} _max	V_{IN}= V_{OUT}+2.2V		100		mA
Load Regulation	ΔVOUT	V_{IN}= V_{OUT} +2.2V, 1mA≤I_{OUT}≤100mA		30	60	mV
Dropout Voltage	VDIF	I_{OUT} =10mA		0.22		V
		I_{OUT} =50mA		1.1		V
Supply Current	ISS	V_{IN}= V_{OUT} +2V		3	4	μA
Line Regulations	$\frac{\Delta VOUT}{\Delta VIN \times V_{OUT}}$	I_{OUT} =1mA V_{OUT} +1V ≤V_{IN}≤40V		0.04	0.1	%/V
Short-circuit Current	ISHORT	V_{OUT}=0V		20	40	mA
Temperature Coefficient	$\frac{\Delta VOUT}{VOUT \times \Delta Ta}$	I_{OUT} =10mA -40℃≤Ta≤85℃		80		ppm/℃

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