High Input Voltage LDO Linear Regulators AS7150H Series

General Description

AS7150H series are low-dropout linear voltage regulators with a built-in voltage reference module, error correction module and phase compensation module. AS7150H 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 40V.

Features

Output voltage: 5.0V

High output accuracy：±2%

Output Current: IOUT = 100mA（VIN = 7.0V and VOUT =5.0V）

Input Voltage: up to 40V

Ultra-low quiescent current: 4 μ A

Short-circuit Current：(Typ.= 25mA)

Low temperature coefficient

Ceramic capacitor can be used

Small Packages:SOT-89
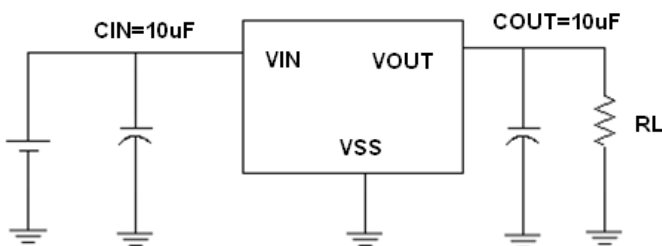
Typical Application

Ceramic capacitor can be used
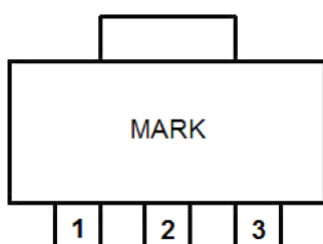
SCM

Phones, cordless phones

Security Products

Water meters, power meters
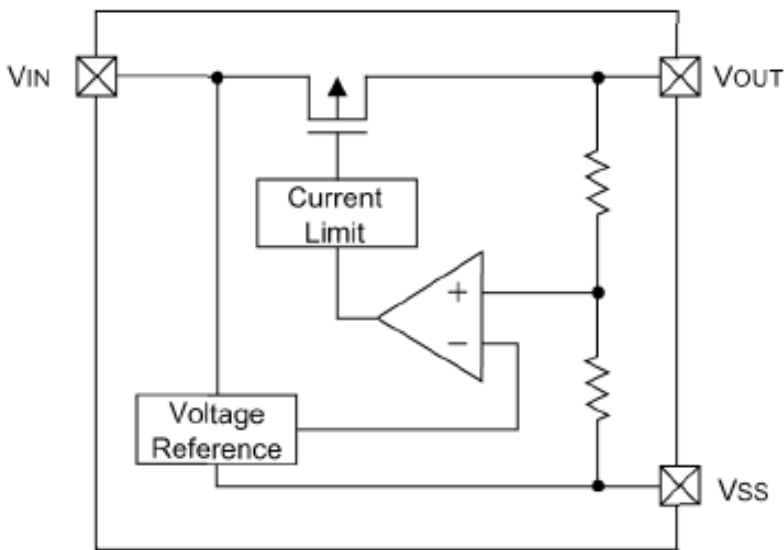
Typical Application Circuit

Pin Configuration
SOT-89-3

High Input Voltage LDO Linear Regulators AS7150H Series

Pin Assignment

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

Block Diagram

Absolute Maximum Ratings

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

High Input Voltage LDO Linear Regulators AS7150H Series

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	4.90	5.00	5.10	V
Input Voltage	V_{IN}		5.0		40	V
Maximum Output Current	I_{OUT} _max	V_{IN}= V_{OUT}+2.0V		100		mA
Load Regulation	ΔVOUT	V_{IN}= V_{OUT} +2.2V, 1mA≤I_{OUT}≤100mA		33	60	mV
Dropout Voltage	VDIF	I_{OUT} =10mA		0.13		V
		I_{OUT} =50mA		0.68		V
Supply Current	ISS	V_{IN}= V_{OUT} +2V		3.3	4.5	μA
Line Regulations	$\frac{ΔVOUT}{ΔVIN \times V_{OUT}}$	I_{OUT} =1mA V_{OUT} +1V ≤V_{IN}≤40V		0.03	0.1	%/V
Short-circuit Current	ISHORT	V_{OUT}=0V		20	40	mA
Temperature Coefficient	$\frac{ΔVOUT}{VOUT \times ΔTa}$	I_{OUT} =10mA -40℃≤Ta≤85℃		80		ppm/℃

Packaging Information
SOT-89-3