



General Description

The SSP7603PxxPR series is a group of positive voltage output,three-pin regulators,it provide a high current even when the input/output voltage differential is small.low power consumption and high accuracy is achieved through CMOS and laser trimming technologies.

The SSP7603PxxPR consists of a high-precision voltage reference,an error amplification circuit,and a current limited output driver.Load Transient response has improved in comparidon to the existing series. SOT-89 package.

Features

- Low voltage drop:0.26v@100mA &VOUT=3.3V
- High input voltage:15V
- Low temperature coefficient
- Large Output Current:500mA
- Low Quiescent Current:2.0uA
- Output Voltage Accuracy: tolerance $\pm 2\%$
- Built-in current limiter
- SOT-89 package

Application

- Battery-powered Equipments
- Hand-Hold Equipment
- GPS Receivers
- Wireless LAN

Pin Configuration And Descriptions

SOT-89

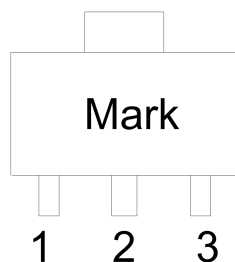


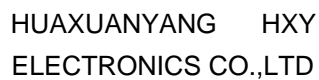
Table1: SSP7603PxxPR series (SOT-89 PKG)

PIN NO.	PIN NAME	FUNCTION
1	GND	GND pin
2	VIN	Input voltage pin
3	VOUT	Output voltage pin

Order Information

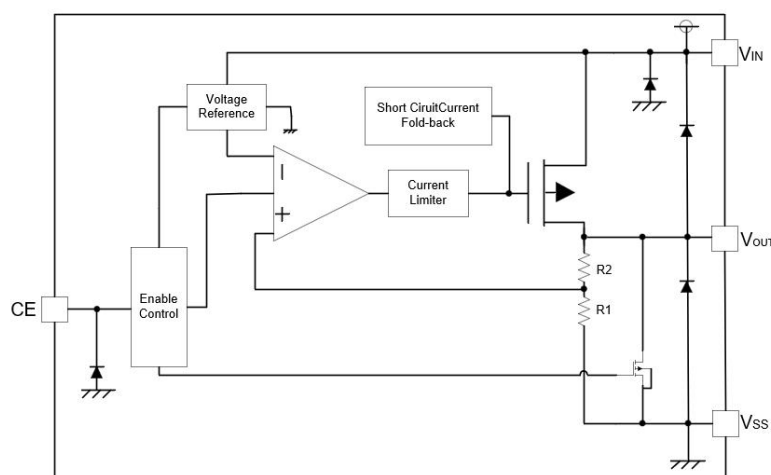
Orderable Device	Package	Output Voltage	Packing Option
SSP7603PxxPR	SOT-89	2.8V,3.0V,3.3V,3.6V, 4.0V,4.5V,5.0V	1000/Reel

xx:From 28-50



Description	Symbol	Value Range	Unit
Supplu Voltage	V _{IN}	3.5 ~ 18	V
Storage Temperature Range	T _{STG}	-40 ~ +150	°C
Operating Free-air Temperature Range	T _A	-40 ~ +125	°C

Block Diagram





DC Characteristics (unless otherwise noted T_A= 25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	V _{out}	V _{in} =V _{out} +1V 1.0mA≤I _{out} ≤30mA	V _{out} ×0.98	--	V _{out} ×1.02	V
Output Current*1	I _{out}	V _{in} -V _{out} =1.5V	--	500	--	mA
Low dropout*2	V _{drop}	Refer to the next table				
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \times V_{OUT}}$	4.3V≤V _{in} ≤8V I _{out} =100mA	--	0.75	0.9	%/V
Load Regulation	ΔV _{out}	V _{in} = V _{out} +1V 1.0mA≤I _{out} ≤100mA	--	12	30	mV
Output voltage Temperature Coefficient	$\frac{\Delta V_{OUT}}{\Delta T_a}$	I _{out} =30mA 0°C≤T _a ≤70°C	--	±100	--	Ppm/°C
PSRR	PSRR	F=1KHz V _{in} =V _{out} +1V	--	40	--	dB
Supply Current	I _{ss1}	--	--	1	2	uA
Input Voltage	V _{in}	--	3.5	--	15	V

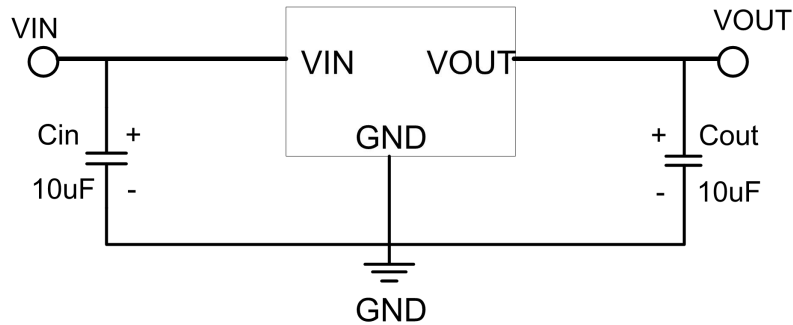
Electrical Characteristics by Output Voltage:

Output Voltage V _{out} (V)	Dropout Voltage V _{dif} (V)		
	Conditions	Typ.	Max.
2.0 < V _{out} ≤ 2.8	I _{out} =80 mA	0.4	0.6
2.8 < V _{out} ≤ 4.0	I _{out} =100 mA	0.26	0.46
4.0 < V _{out} ≤ 5.0		0.23	0.42
2.8 < V _{out} ≤ 4.0	I _{out} =200 mA	0.53	0.82
4.0 < V _{out} ≤ 5.0		0.42	0.76
3.0 < V _{out} ≤ 4.0	I _{out} =500 mA	1.5	1.8
4.0 < V _{out} ≤ 5.0		1.2	1.5



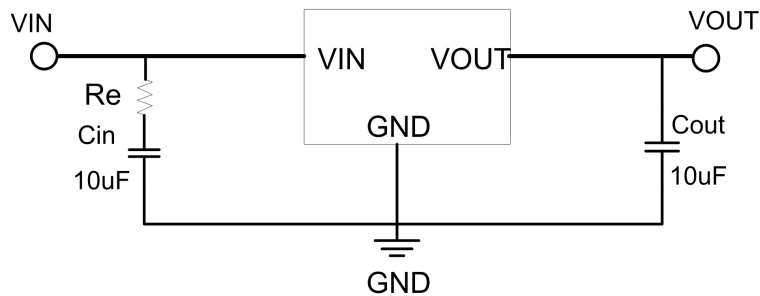
Application Circuit

Basic Circuits

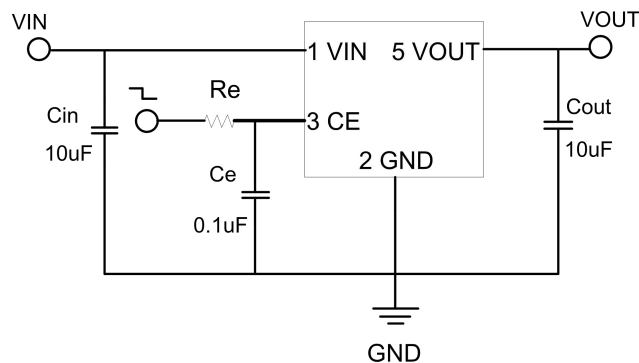


Note1: $C_{in}=C_{out}=10\mu F$. (10uF Electrolytic capacitor is recommended).

Note2: If the input and output capacitors are ceramic, add a resistor at the input, as follows.



Note: $R_e = (1.2 \sim 1.8) \Omega$.



Note1: Input capacitor $C_{IN}=10\mu F$.

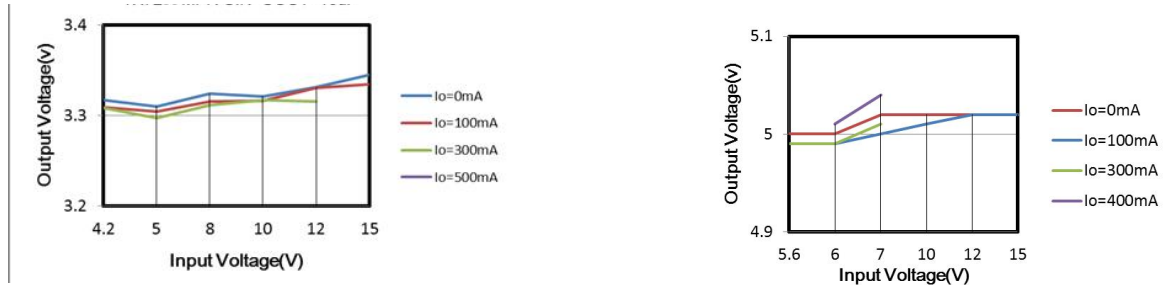
Note2: Output capacitor $C_{OUT}=10\mu F/6.8\mu F$ (1uF Tantalum capacitor or 6.8uF ceramic capacitor is recommended).

Note3: The CE port is recommended to connect the current limiting resistor Re. The recommended resistance is 10K~47K. When the input voltage is larger than or equal to 12V, it is recommended to add a 0.01uF capacitor Ce.

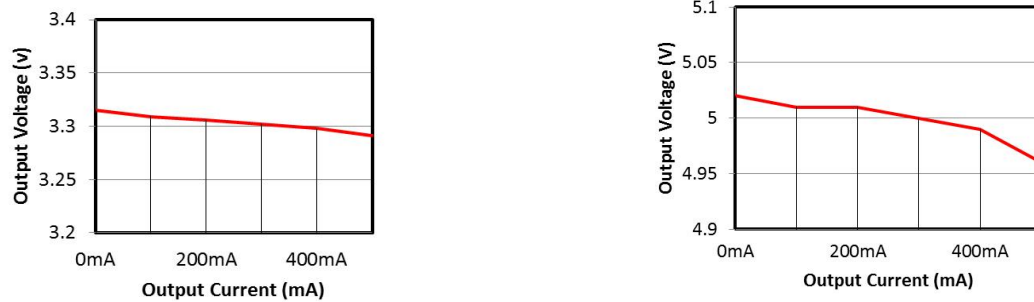


Typical Characteristics

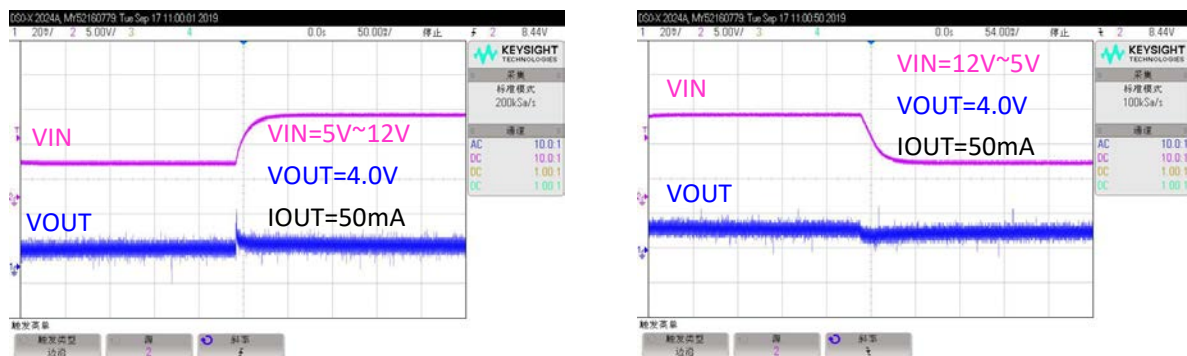
(1) Output Voltage vs Input voltage



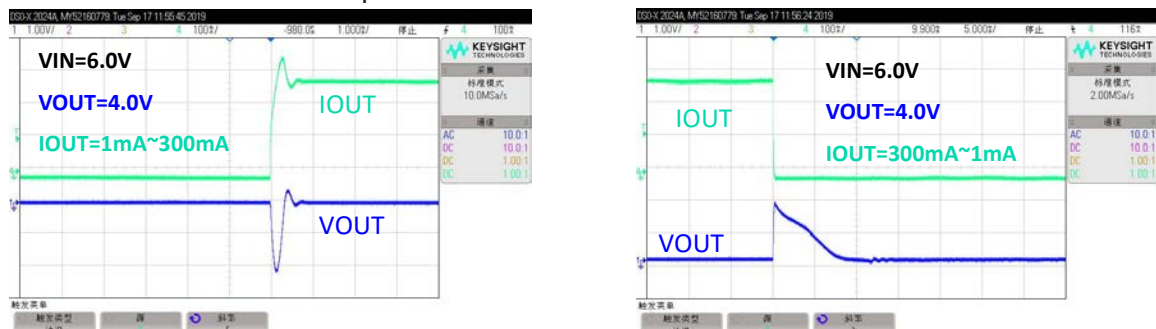
(2) Output Voltage vs. Output Current



(3) Input Transient Response

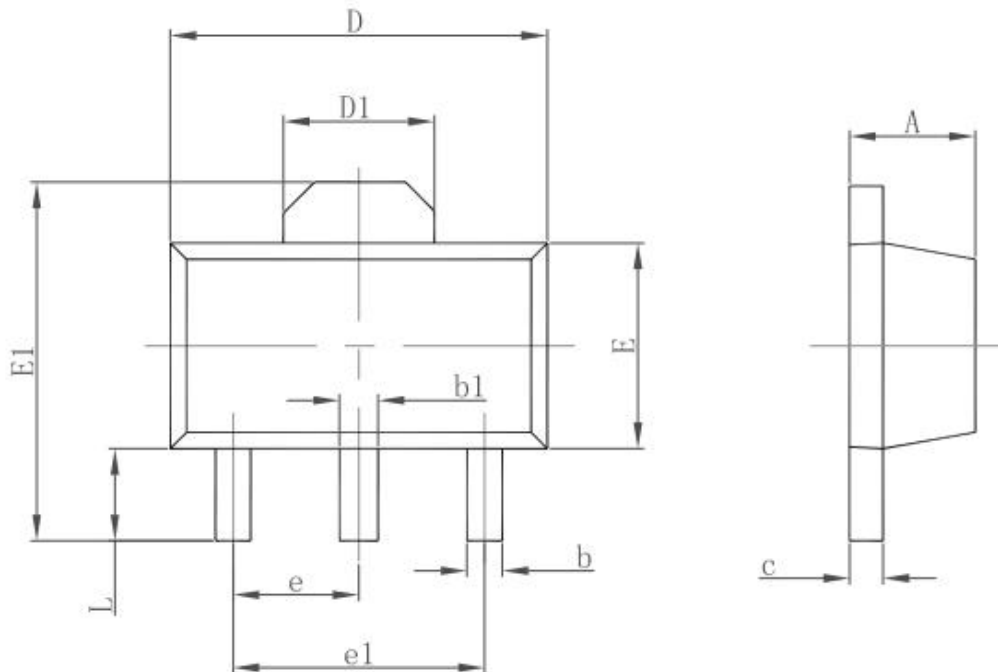


(4) Load Transient Response





Package Outline Dimensions SOT-89



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047



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