High Driver LDO Regulator

Features

• Low Power Consumption 3.0μA (TYP.)
• Low voltage drop
• Low temperature coefficient
• High input voltage (Up to 30V)
• High input current:100mA (Pd:250mW)
• Low power consumption
• Ceramic compatible
• TO92 & SOT89 package

General Description

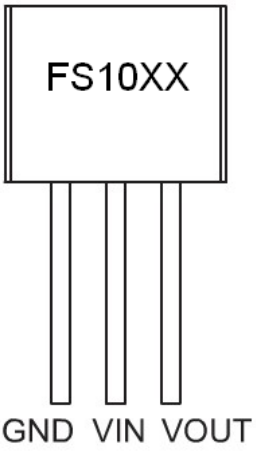
The FS10XX series is a set of three-terminal high current low voltage regulator implemented in CMOS technology. They can deliver 150mA output current and allow an input voltage as high as 30V. They are available with several fixed output voltages ranging 3.0V 3.3V 3.6V 5.0V. CMOS technology ensures low voltage drop and low quiescent current
Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain variable voltages and currents.

Applications

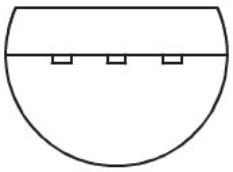
• Battery powered equipment
• Audio/Video equipment
• Communication equipment

Package Information

TO92

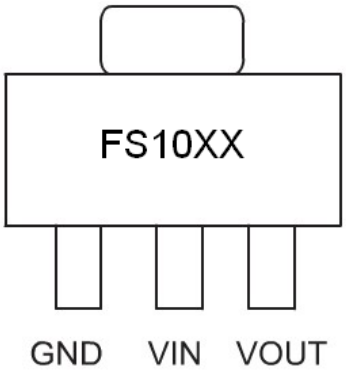


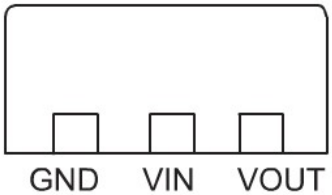
FRONT VIEW



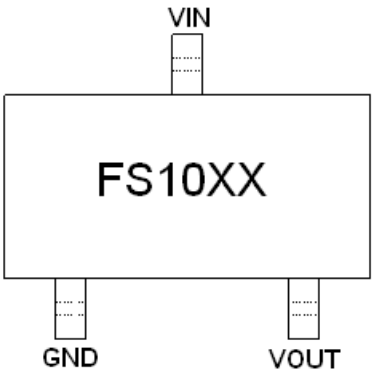
BOTTOM VIEW

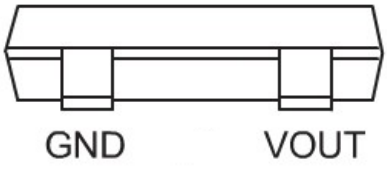
SOT89



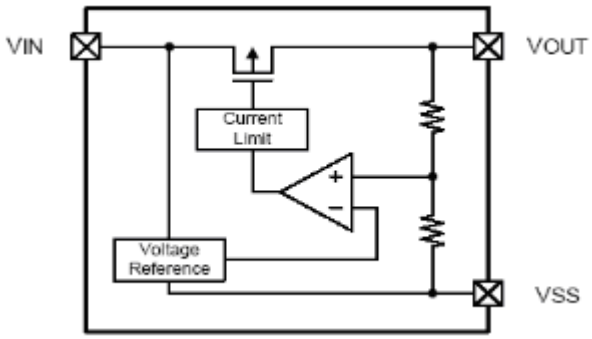


SOT23





Functional Block Diagram



- **Ordering information**

FS10XX - □ □ □ □ □

Package type
TA=TO92; SM=SOT89
Output Voltage Accuracy
2: ±2.0%
Output Voltage
... 30=3.0V 33=3.3V 50=5.0V ...
Indicates the product number

- **Absolute Maximum Ratings**

Parameter	Symbol		Ratings	Units
Input Voltage	V_{IN}		30	V
Output Current	I_{OUT}		150	mA
Output Voltage	V_{OUT}		Vss-0.3 to V_{IN}+0.3	V
Operating Ambient Temperature	Topr		-25 to + 85	℃
Storage Temperature	Tstg		-40 to + 125	℃
Continuous Total Power Dissipation	P_D	TO92	700	mW
		SOT89	500	
Lead Temperature (Soldering) 10 seconds	Tsolder		260	℃

Note: Operating near the absolute maximum ratings may affect the device's reliability or make the device damage

Electrical Characteristics

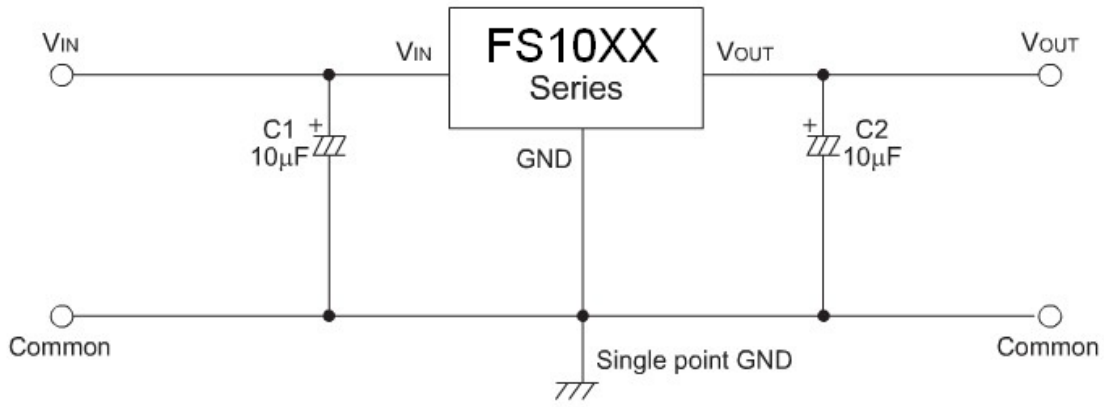
Vin=Vout(s)+2V,Cin=Cout=10μF electronic,Ta=25℃,Unless otherwise specified (Note1)

Parameter	Symbol	conditions	Min	Typ	Max	Unit
Output Voltage	Vout(E) (Note2)	Iout=40mA Vin=vout(Test)+2V	Vout(s) x 0.98		Vout(s) x 1.02	V
Input Voltage	Vin				20	V
Maximum Output current	Iout max		150			mA
Load Regulation	△Vout	Vin=Vout+2V 1mA≤Iout≤150mA		30		mV
Dropout Voltage (Note3)	Vdif	Iout=1mA		100		mV
		Iout=10mA		160		
		Iout=40mA		650		
Supply Current	Iss	Vin=Vout(S)+2V		3		uA
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{out} \times \Delta V_{IN}}$	Iout=40mA Vout+2V≤Vin≤20V		0.3		%/V

Note:

1. Vout (S) = Specified output Voltage
2. Vout (E) = Effective output Voltage (i.e. the output voltage when "Vout (Test)+2.0V" is provided at the VIN pin while maintaining a certain Iout value)
3. Vdrop = { VIN1 (note5) - VOUT1 (note4) }
4. Vout1 = A voltage equal to 98% of the output voltage whenever an amply stabilized Iout (Vout (T) +2.0V) is input
5. VIN1 = The input voltage when Vout = VOUT1

Typical Application Circuit



- **Typical Performance Characteristics** （For FS1033 2SM）