

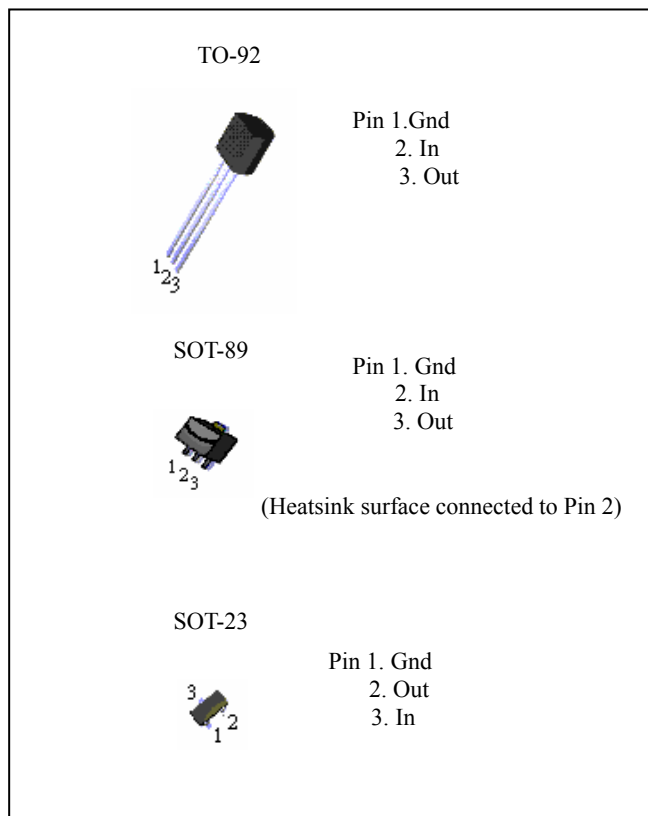
The PJ2700 series are highly precise, low noise, ultra low power consumption, positive voltage regulators manufactured using CMOS and laser trimming technologies. The series provides large currents with a significantly small dropout voltage. The PJ2700 consists of a current limiter circuit, a driver transistor, a precision reference voltage and an error amplifier. Output voltage is selectable in 0.1V steps between 2.0V ~ 6.0V in TO-92, SOT-89 and SOT-23 packages are available.

FEATURES

- Maximum Output Current: 300mA
- Dropout Voltage : 300mV @ 100mA
- Maximum Operating Voltage : 10V
- Output Voltage Range : 2.0V ~ 6.0V (selectable in 0.1V steps)
- Highly Accurate : $\pm 2\%$
- Low Power Consumption : TYP 2 μ A at Vout=5.0V
- Operational Temperature Range : -20°C ~ 85°C
- Ultra Small Packages : TO-92, SOT-89, SOT-23

Applications

- Mobile phones
- Cordless phones
- Cameras, video recorders
- Portable games
- Portable AV equipment
- CD-Rom, DVD and LAN Card
- Battery powered equipment

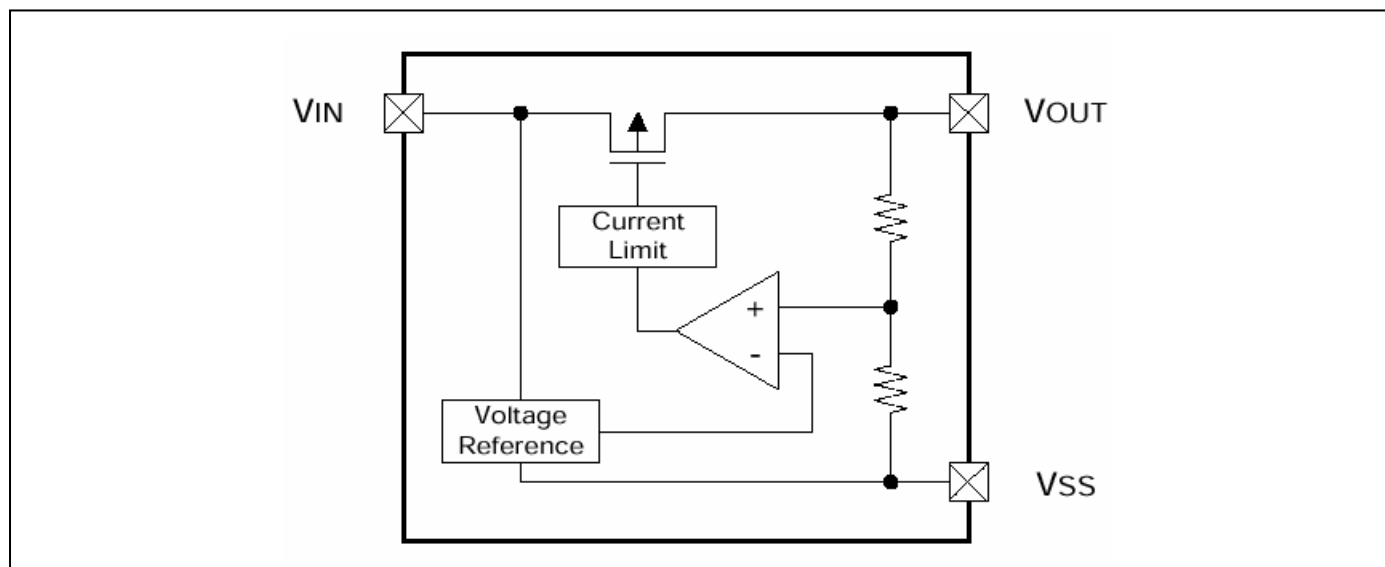


ORDER INFORMATION

Device	Operation Temperature	Package
PJ27xxCT	-20°C ~ +85°C	TO-92
PJ27xxCY		SOT-89
PJ27xxCX		SOT-23

Remark: xx is output voltage, ex 33 = 3.3V, 25 = 2.5V

BLOCK DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Input Voltage	V_{IN}	10	V
Output Current	I_{OUT}	300	mA
Output Voltage	V_{OUT}	$V_{SS}-0.3 \sim V_{IN}+0.3$	V
Power Dissipation TO-92 SOT-89 SOT-23	P_d	625 550 300	mW
Operating Temp	T_{opr}	-20 ~ +85	°C
Storage Temp	T_{stg}	-40 ~ +125	°C

ELECTRICAL CHARACTERISTICS ($T_a = +25^\circ\text{C}$, $C_{in} = C_{out} = 1\mu\text{F}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit	Circuit
Output Voltage	$V_{OUT} (E)$ (Note 2)	$I_{OUT}=40\text{mA}$ $V_{IN}=V_{OUT} + 1\text{V}$	-2%	--	+2%	V	2
Maximum Output Current	$I_{OUT \text{ max}}$	$V_{IN}= V_{OUT} + 1\text{V},$	300	--	--	mA	2
Load Regulation	ΔV_{OUT}	$V_{IN}= V_{OUT} + 1\text{V}$ $1\text{mA} \leq I_{OUT} \leq 100\text{mA}$	--	45	90	mV	--
Dropout Voltage (Note3)	$V_{dif} 1$	$I_{OUT}=80\text{mA}$		200	360	mV	2
	$V_{dif} 2$	$I_{OUT}=160\text{mA}$	--	450	700		
	$V_{dif} 3$	$I_{out}=300\text{mA}$		800	950		
Supply Current	I_{ss}	$V_{IN}= V_{OUT} + 1\text{V}$	--	3.0	5.0	μA	1
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \cdot V_{OUT}}$	$I_{OUT}=40\text{mA}$ $V_{OUT} + 1\text{V} \leq V_{in} \leq 10\text{V}$	--	0.2	0.3	%/V	2
Input Voltage	V_{IN}	--	--	--	10	V	--
Output Voltage Temperature Characteristics	$\frac{\Delta V_{OUT}}{\Delta T_{opr} \cdot V_{OUT}}$	$I_{OUT}=40\text{mA}$ $-40^\circ\text{C} \leq T_{opr} \leq 85^\circ\text{C}$	--	±100	--	ppm/°C	2

Note: 1. $V_{OUT} (T)$ =Specified Output Voltage.

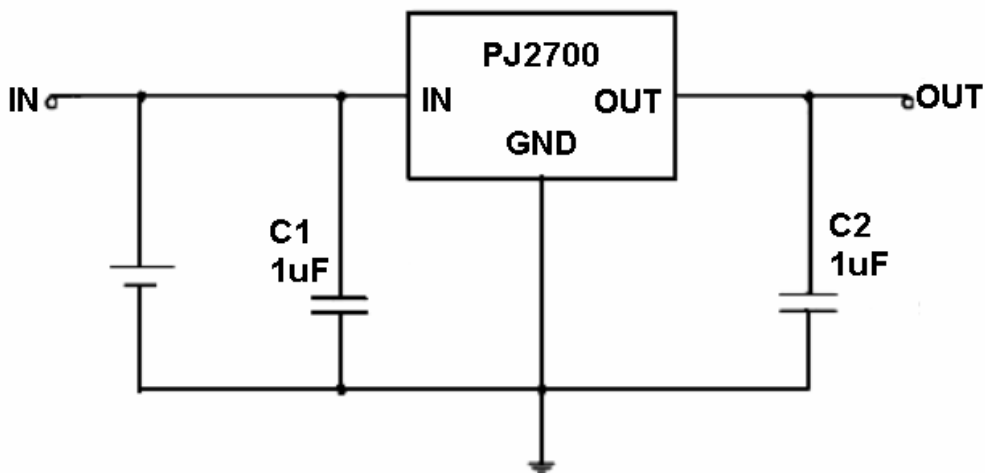
2. $V_{OUT} (E)$ =Effective output Voltage (i.e. the output voltage when “ $V_{OUT}(T)+1.0$ ” is provided while maintaining a certain I_{OUT} value).

3. $V_{dif}=\{V_{IN1}(\text{Note5})- V_{OUT1}(\text{Note4})\}$

4. $V_{OUT} 1$ =A voltage equal to 98% of the output voltage when a stabilized ($V_{OUT}(T)+1.0\text{V}$) is input.

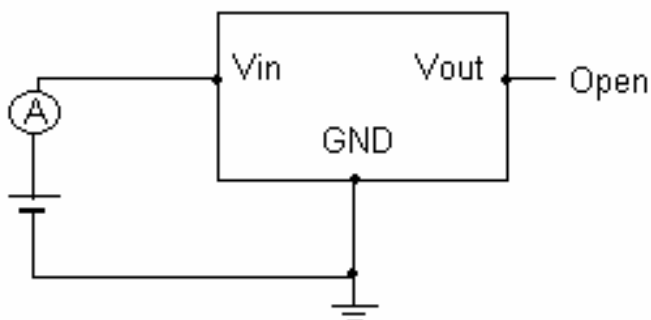
5. V_{IN} =The input voltage at the time $V_{OUT} 1$ is output (input voltage has been gradually reduced).

TYPICAL APPLICATIONS

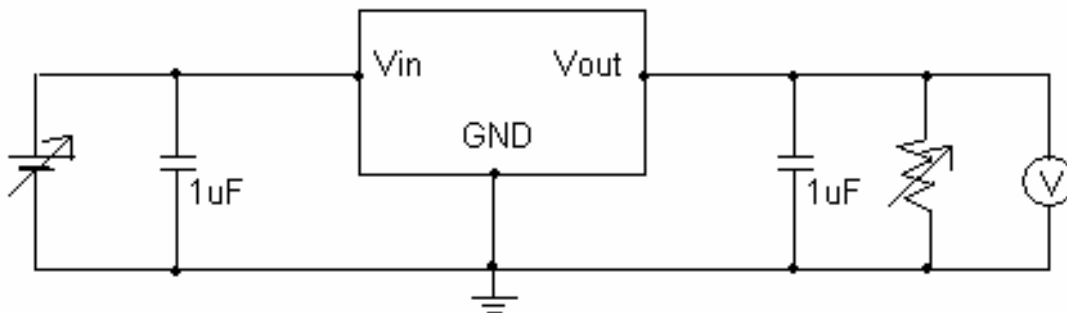


MEASURING CIRCUITS

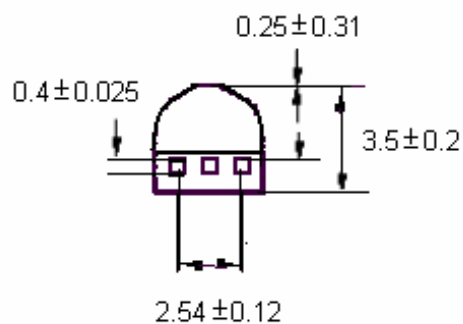
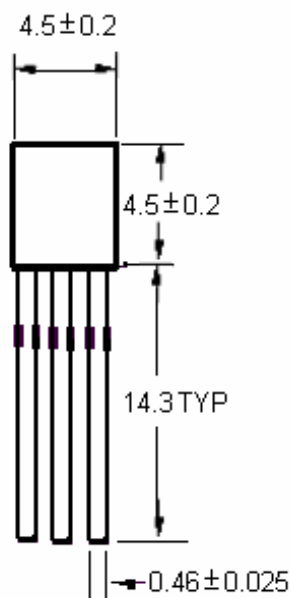
Measuring Circuit 1: Supply Current



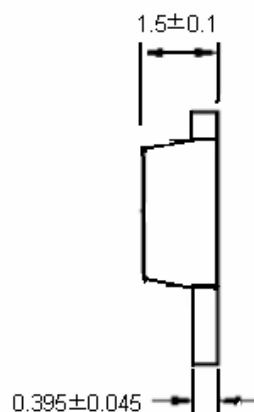
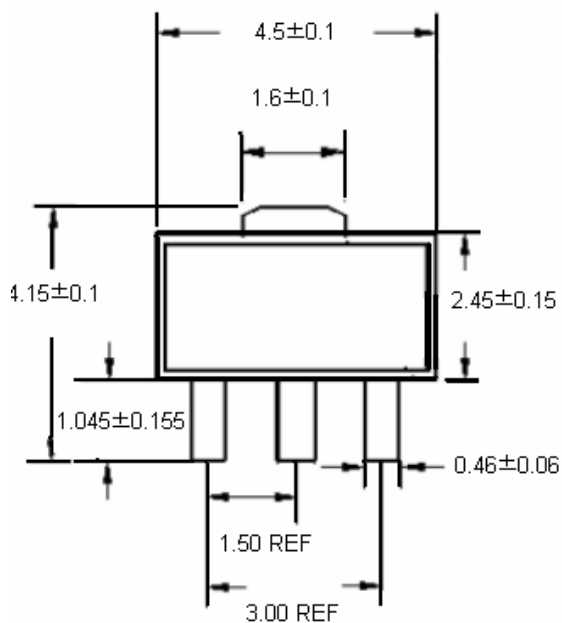
Measuring Circuit 2: Output Voltage, Oscillation Check, Line Regulation, Dropout Voltage, Load Regulation



TO-92 Unit:mm



SOT-89 Unit:mm



SOT-23 Unit:mm

