

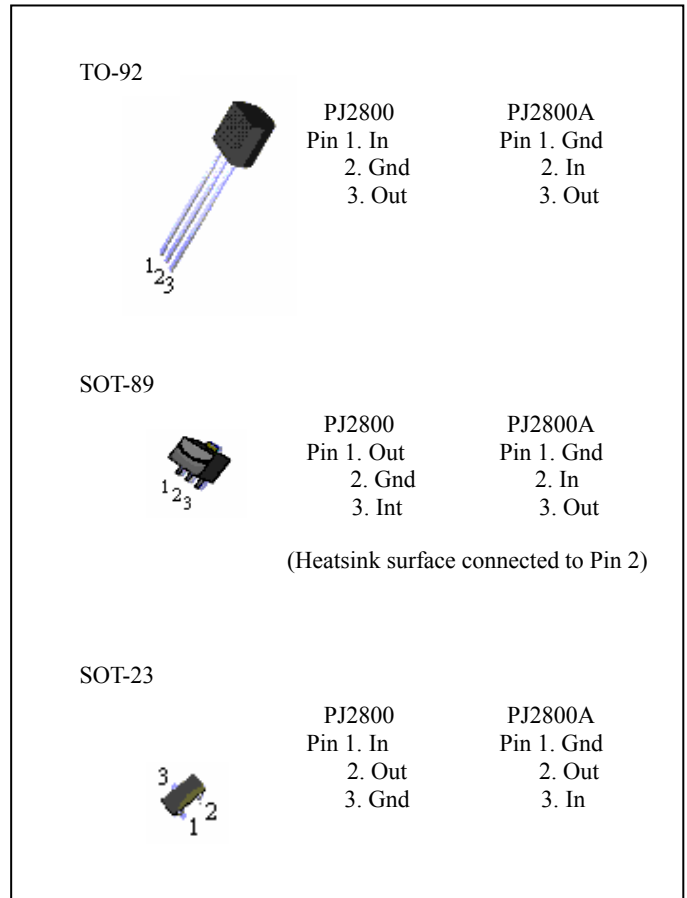
The PJ2800/A series are highly precise, low power consumption, positive voltage regulators manufactured using CMOS and laser trimming technologies. The series provides large currents with a significantly small dropout voltage. The PJ2800/A consists of a current limiter circuit, a driver transistor, a precision reference voltage and an error amplifier. Output voltage is selectable in 0.1V steps between 1.5V to 5.0V, TO-92, SOT-89 and SOT-23 packages are available.

FEATURES

- Input Voltage range is up to 12V
- Dropout Voltage :450mV at 300mA output current
- Guaranteed 300mA output current
- Internal Ron=1.5Ω PMOS draw no base current
- Highly Accurate : ±2%, 1.5V to 5V with 0.1V step
- Low quiescent current : 100µA
- Fast transient response
- Good load regulation
- Current limit and thermal shutdown protection
- Ultra Small Packages : TO-92, SOT-89, SOT-23

Applications

- Wireless Communication
- Cameras, video recorders
- Portable games
- Portable AV equipment
- Battery powered equipment
- CD-ROM, DVD, and LAN Card



ORDER INFORMATION

Device	Operation Temperature	Package
PJ28xxCT	-20°C ~ +85°C	TO-92
PJ28xxCY		SOT-89
PJ28xxCX		SOT-23
PJ28xxACT		TO-92
PJ28xxACY		SOT-89
PJ28xxACX		SOT-23

Note:

1. xx is the index of output voltage, ex. 33=3.3V
2. Available output voltage – 1.5/1.8/2.5/2.8/3.0/3.2/3.3/5.0
3. Contact factory fro additional voltage options.

ABSOLUTE MAXIMUM RATINGS

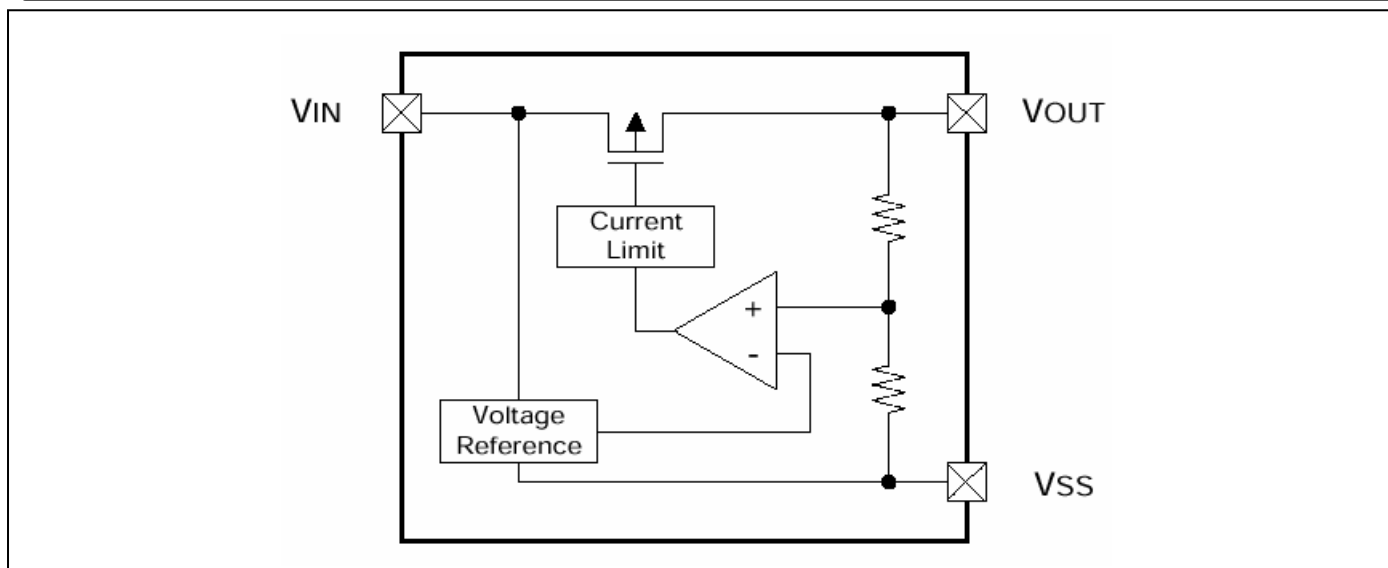
Parameter	Symbol	Value	Unit
Input Voltage	V_{cc}	12	V
Package thermal resistance	θ_{JA}	TO-92	100
		SOT-89	100
		SOT-23	250
Power Dissipation	P_D	TO-92	625
$P_D @ T_A = 25^\circ C$		SOT-89	500
		SOT-23	150
Operating Junction Temperature range	T_{op}	-40 ~ +125	$^\circ C$
Storage Temperature range	T_{st}	-65 ~ +150	$^\circ C$

ELECTRICAL CHARACTERISTICS ($T_a = +25^\circ C$ unless otherwise noted)

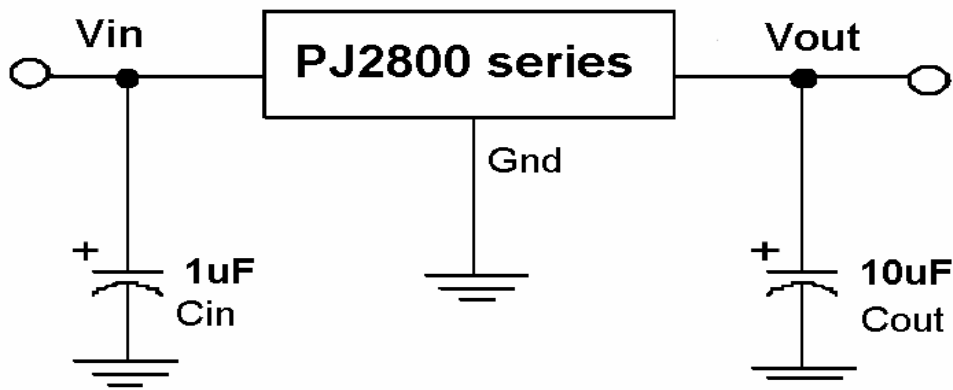
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Input Voltage	V_{IN}		--	--	10	V
Output Voltage accuracy	V_{OUT}	$V_{IN}=5V, I_{OUT}=1mA$	-2	--	+2	%
Current Limit (Note 2)	I_{LIMIT}	$V_{IN}=5V, V_{OUT}=0V$	350	450	--	mA
Load Regulation (Note 3)	ΔV_{LOAD}	$I_{OUT}=1\sim 300mA, V_{IN}=5V$	--	1	30	mV
Dropout Voltage (Note 1)	V_{DROP}	$I_{OUT}=300mA$	--	450	600	mV
Standby Current	$V_{STANDBY}$	$I_{OUT}=0mA, V_{IN}=12V$	--	100	110	μA
Line Regulation	ΔV_{LINE}	$I_{OUT}=1mA, V_{IN}=4.5\sim 12V$	--	2	3	%/V
Output Voltage (Note 4) Temperature Coefficient	ΔV_{OUT}		--	50	150	PPM/ $^\circ C$

- Note 1.** Dropout voltage is defined as the input to output differential voltage. Dropout is measured at constant junction temperature by using pulsed ON time, and the criterion is V_{OUT} Inside target value $\pm 2\%$. This test is skipped at the condition of $V_{IN} < 3V$.
- 2.** Current limit is measured at constant junction temperature by using pulsed testing with a low ON time.
- 3.** Regulation is measured at constant junction temperature by using pulsed testing with a low ON time
- 4.** Guaranteed by design.

BLOCK DIAGRAM

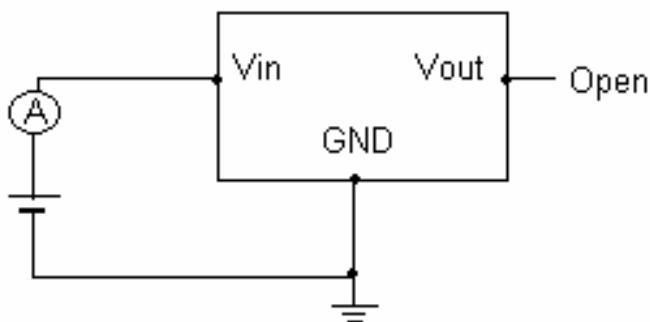


TYPICAL APPLICATION CIRCUIT

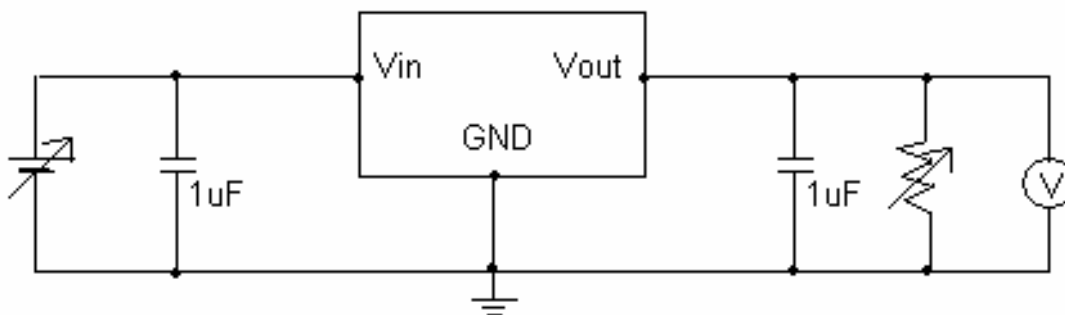


MEASURING CIRCUITS

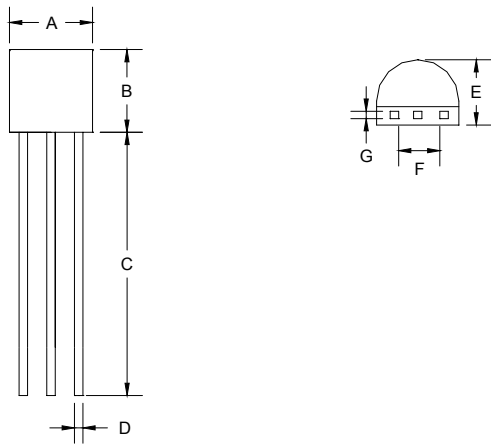
Measuring Circuit 1: Supply Current



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

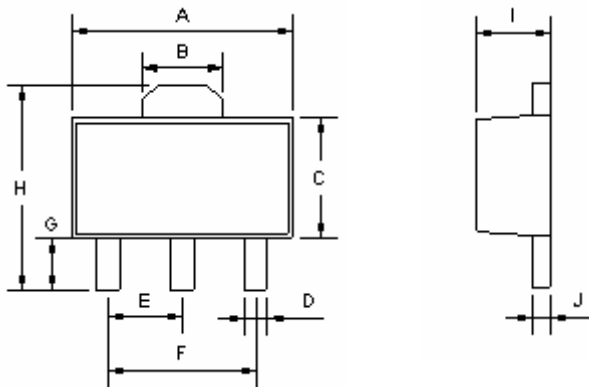


TO-92 Unit : mm



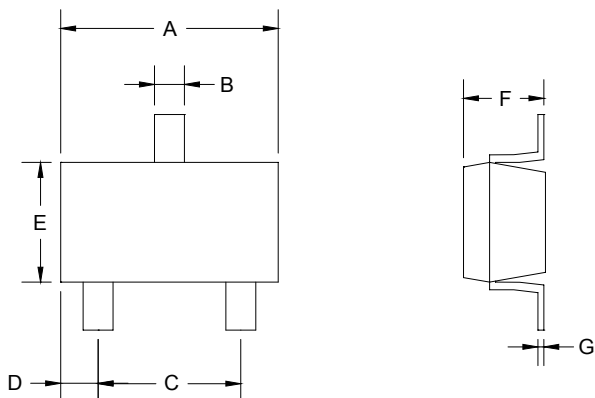
TO-92 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.300	4.700	0.169	0.185
B	4.300	4.700	0.169	0.185
C	14.300	14.350	0.563	0.565
D	0.220	0.490	0.008	0.019
E	3.300	3.700	0.129	0.146
F	2.420	2.660	0.095	0.105
G	0.375	0.425	0.014	0.017

SOT-89 Unit : mm



SOT-89 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.400	4.600	0.173	0.181
B	1.500	1.700	0.059	0.070
C	2.300	2.600	0.090	0.102
D	0.400	0.520	0.016	0.020
E	1.500	1.500	0.059	0.059
F	3.000	3.000	0.118	0.118
G	0.890	1.200	0.035	0.047
H	4.050	4.250	0.159	0.167
I	1.400	1.600	0.055	0.063
J	0.350	0.440	0.014	0.017

SOT-23 Unit : mm



SOT-23 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.780	3.030	0.109	0.119
B	0.350	0.450	0.013	0.018
C	1.780	2.030	0.070	0.080
D	0.510	0.610	0.020	0.024
E	1.550	1.650	0.061	0.065
F	0.960	1.240	0.037	0.049
G	0.076	0.127	0.003	0.005