WL2805N

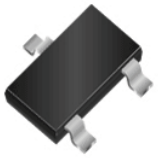
Low power consumption，CMOS LDO **Http://www.willsemi.com**

Descriptions

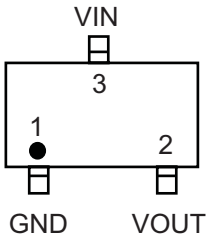
The WL2805N series are low dropout linear regulators and optimized to provide a high performance solution for battery power system to deliver low quiescent current. The devices offer a new level of cost effective performance in cellular phones, laptop and notebook computers, and other portable devices.

The WL2805N series are designed to make use of low cost ceramic capacitors which ensure the stability of the output current, and enhance the efficiency in order to prolong the battery life of those portable devices.

The WL2805N regulators are available in SOT-23-3L packages. Standard products are Pb-free and Halogen free products.



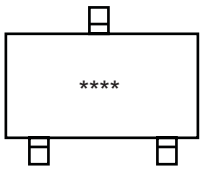
SOT-23-3L



Pin Configuration (Top View)

Features

- Quiescent current : 3μA Typ.
- Input voltage : 2.2V ~ 5.5V
- Output voltage : 1.2V ~ 3.3V
- Output current : 250mA @ V_{OUT}>2V
- Output current : 100mA @ V_{OUT}≤2V
- Dropout voltage : 100mV @ 100mA
- Recommend capacitor : 1uF
- Operating Temperature : -40 ~ +85 °C
- Output short protection



For detail marking information please see page 8.

Marking

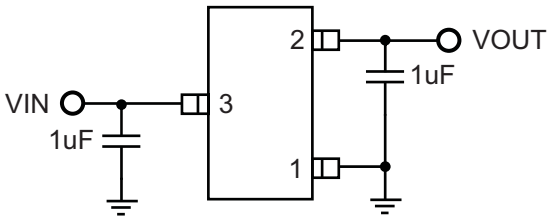
Applications

- MP3/MP4 Players
- Cell phones
- Bluetooth earphone
- Wireless mouse
- Others electronics devices

Order Information

For detail order information please see page 8.

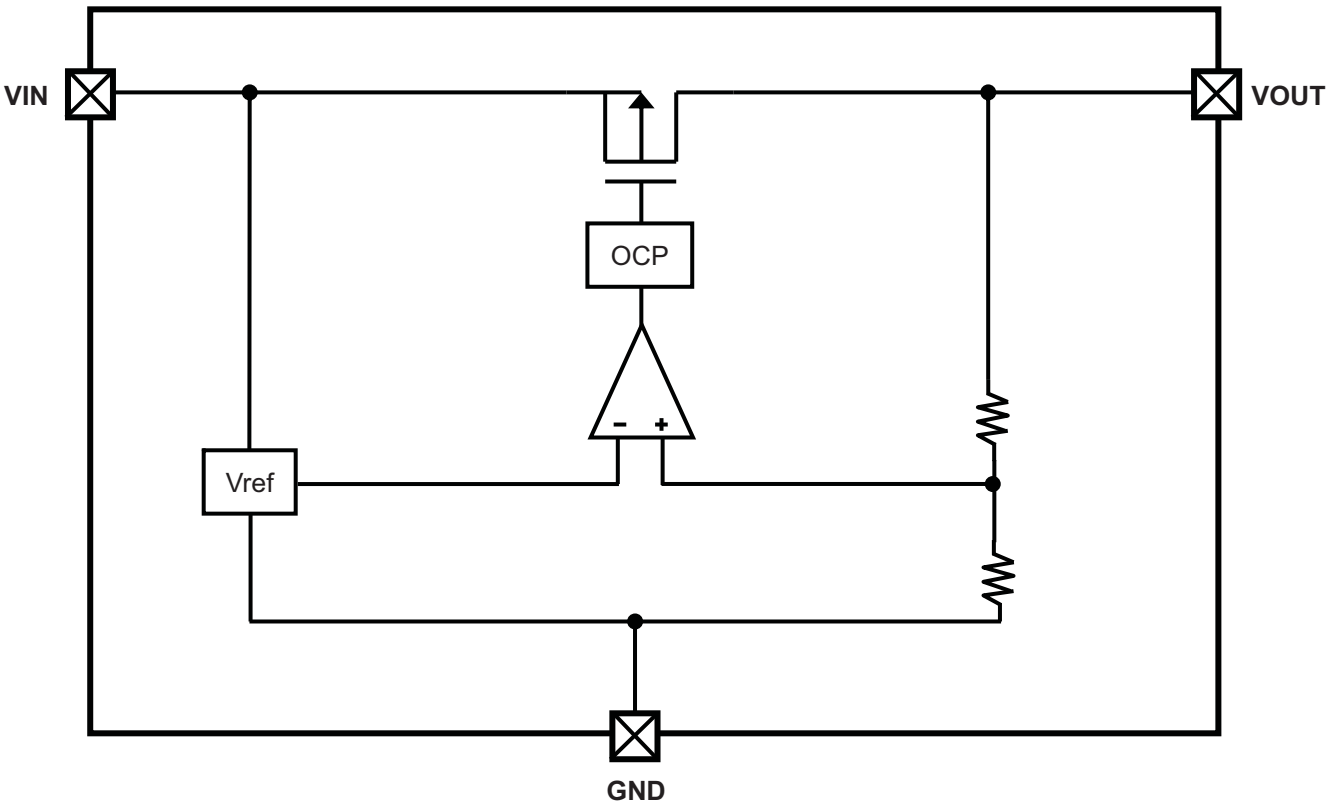
Typical Applications



Pin Descriptions

PIN	Symbol	Description
1	GND	Ground
2	VOUT	Output
3	VIN	Input

Block Diagram



Absolute Maximum Ratings

Parameter	Value	Unit
Power Dissipation	300	mW
V_{IN} Range	-0.3～6.0	V
V_{EN} Range	-0.3～V_{IN}	V
V_{OUT} Range	-0.3～V_{IN}	V
Lead Temperature	260	°C
Storage Temperature	-65 ~ 150	°C
Operating Junction Temperature	150	°C

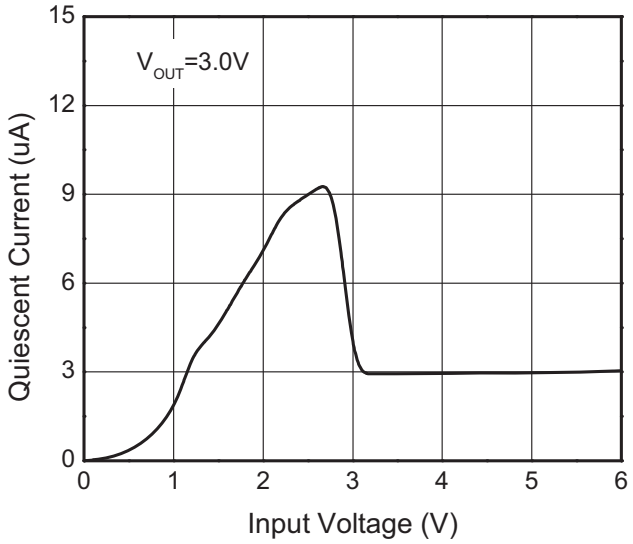
Operating Range

Parameter	Value	Unit
Thermal Resistance, $R_{\theta JA}$	417	°C/W
Input Voltage	2.2 ~ 5.5	V
Operating Temperature Range	-40～85	°C

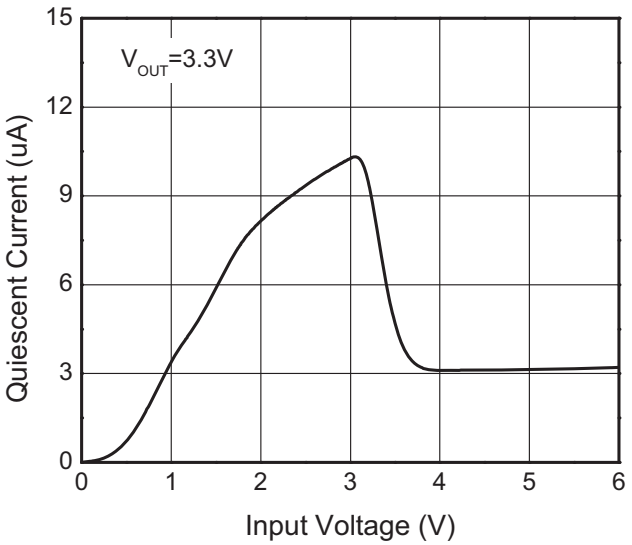
Electronics Characteristics (V_{IN} = V_{OUT} +1V, C_{IN}=C_{OUT}=1uF, T_A=25°C, unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Output Voltage	V_{OUT}	V_{IN} = V_{OUT} +1V , I_{OUT}=1mA	1.170	1.200	1.230	V
			1.270	1.300	1.330	
			1.470	1.500	1.530	
			1.764	1.800	1.836	
			2.450	2.500	2.550	
			2.744	2.800	2.856	
			2.940	3.000	3.060	
			3.234	3.300	3.366	
Output Current	I_{OUT}	V_{OUT} > 2V			250	mA
		V_{OUT} ≤ 2V			100	
Output short current limiter	I_{LIM}	V_{OUT}=GND		150		mA
Dropout Voltage	V_{DROP}	I_{OUT} =30mA, V_{OUT}=3.0V		30	100	mV
		I_{OUT} =100mA, V_{OUT}=3.0V		100	200	
Line Regulation	$\triangle V_{LINE}$	V_{IN}=V_{OUT}+1V~6V, I_{OUT}=40mA			0.1	%/V
Load Regulation	$\triangle V_{LOAD}$	I_{OUT} = 1~ 100mA		25		mV
Quiescent Current	I_Q	V_{IN} = V_{OUT} +1V, I_{OUT}=0A		3	5	uA
Power Supply Ripple Rejection	PSRR	Vp-p=1V, F=100Hz, I_{OUT}=10mA		-50		dB
		Vp-p=1V, F=1KHz, I_{OUT}=10mA		-30		dB

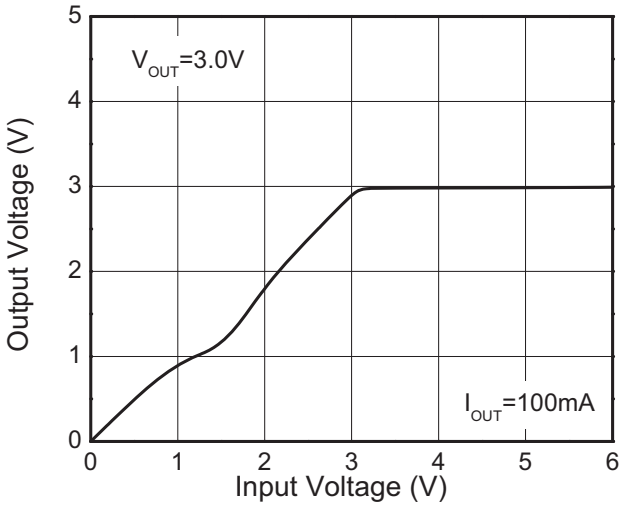
Typical Characteristics (T_A=25°C, unless otherwise noted)



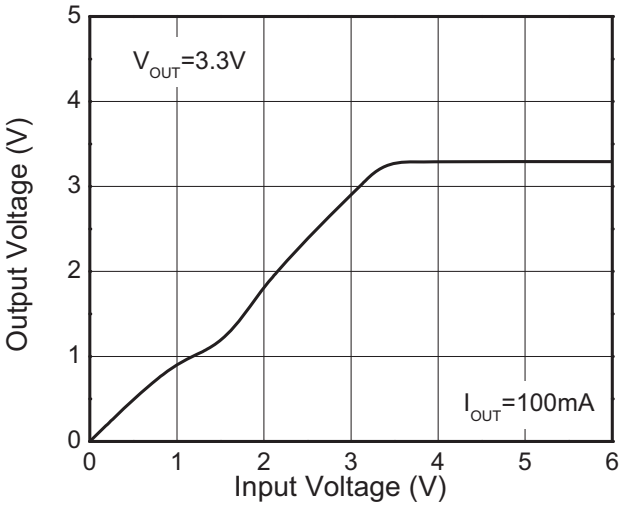
Quiescent Current vs. Input Voltage



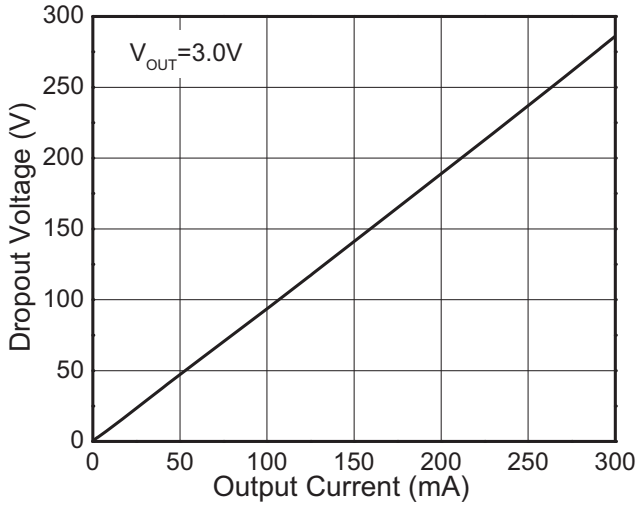
Quiescent Current vs. Input Voltage



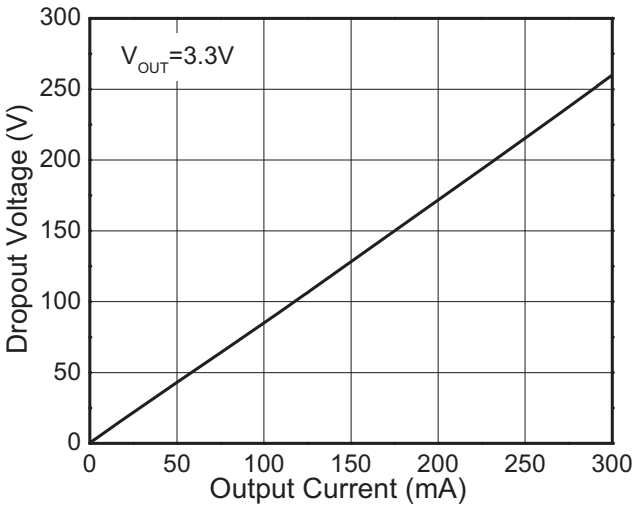
Output Voltage vs. Input Voltage



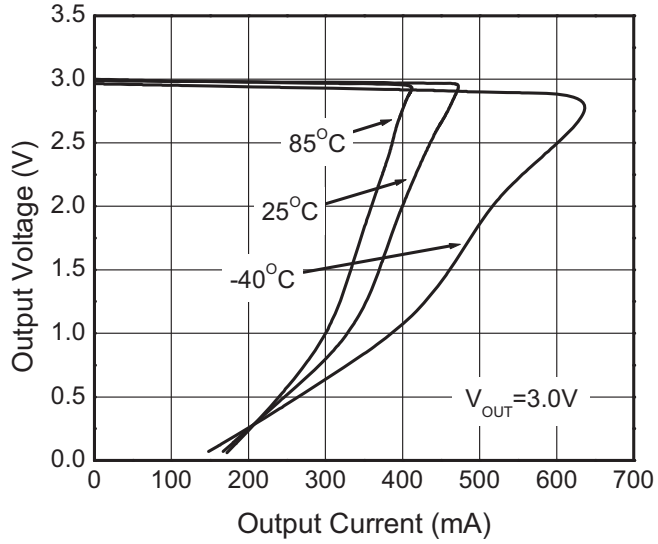
Output Voltage vs. Input Voltage



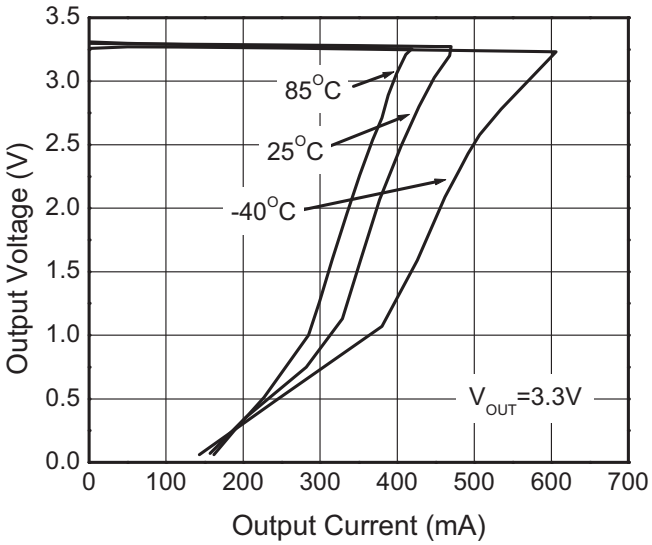
Dropout Voltage vs. Output Current



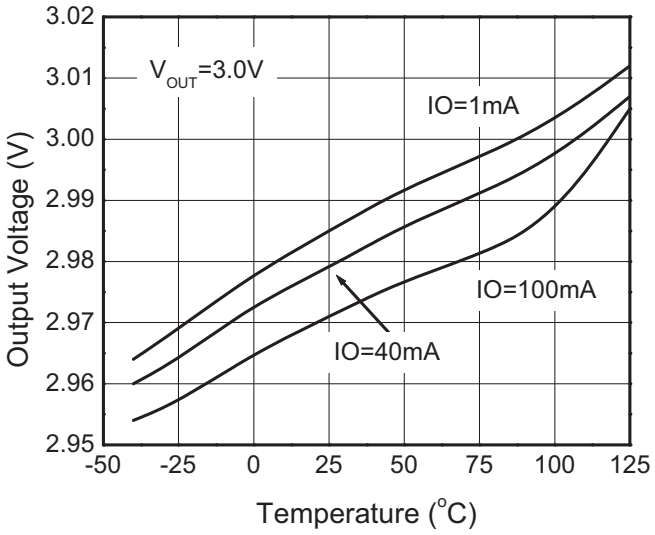
Dropout Voltage vs. Output Current



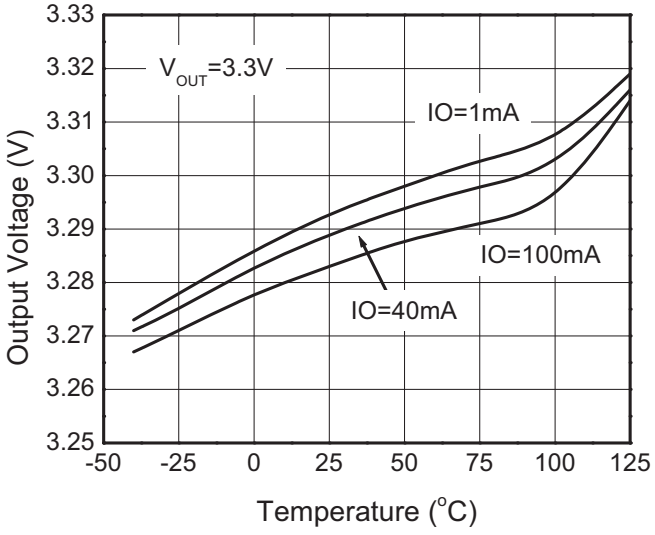
Output Short Protection



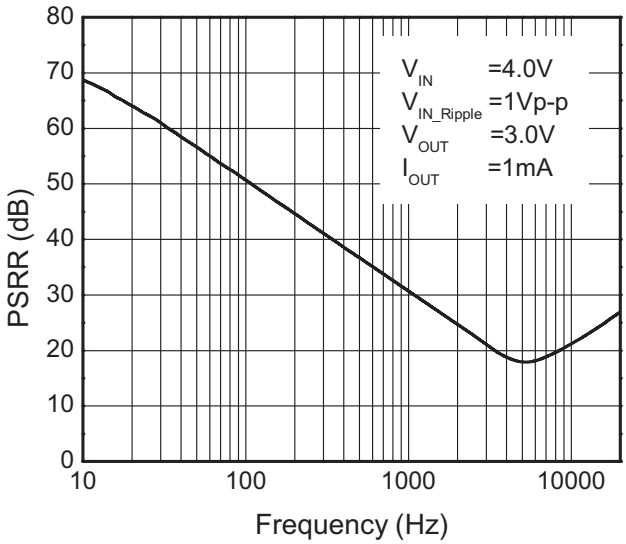
Output Short Protection



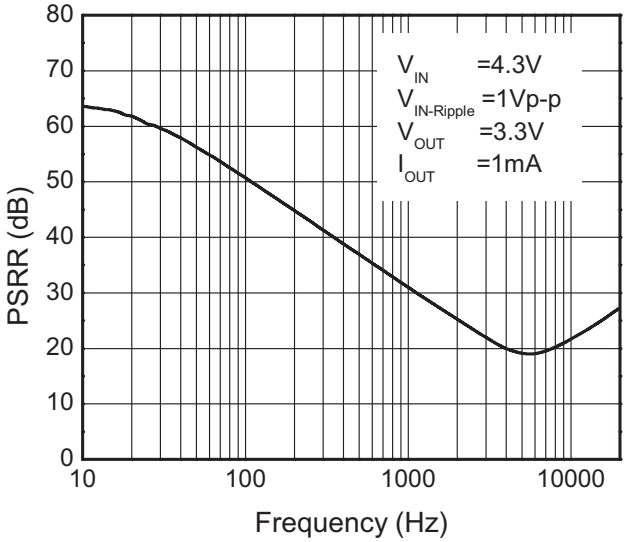
Output Voltage vs. Temperature



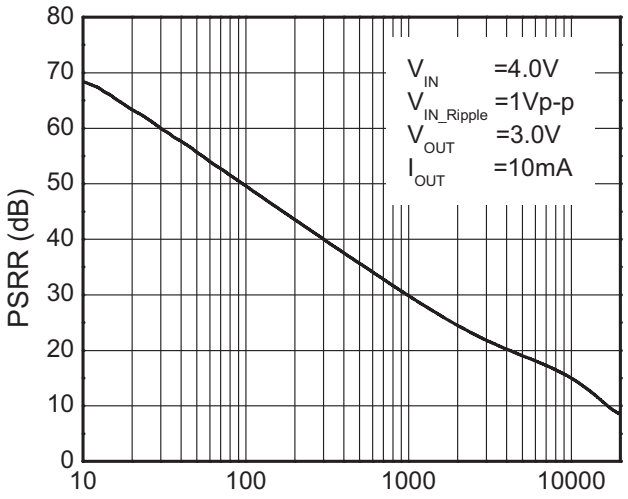
Output Voltage vs. Temperature



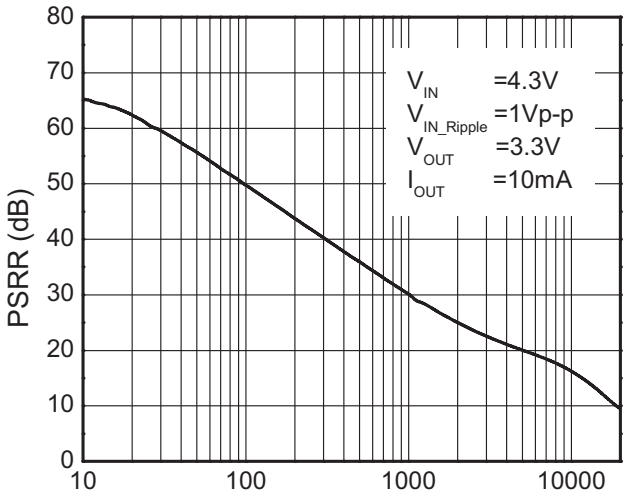
PSRR vs. Frequency



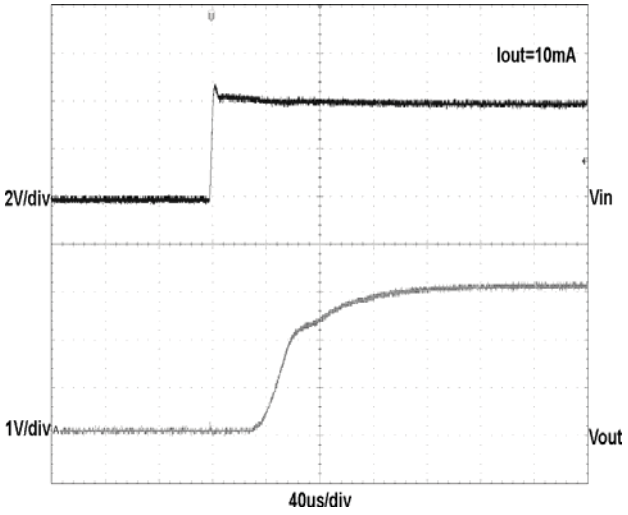
PSRR vs. Frequency



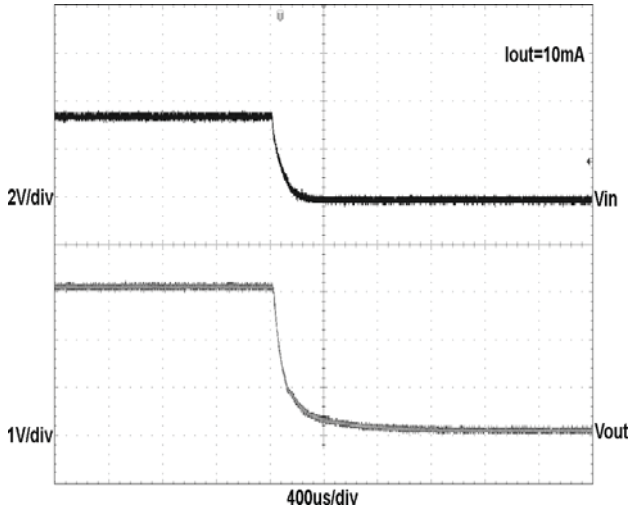
PSRR vs. Frequency



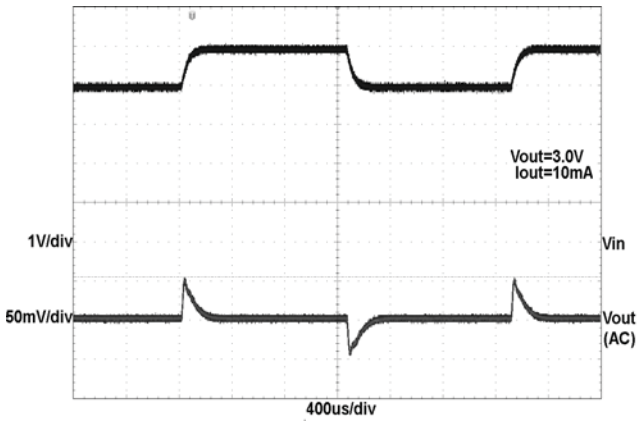
PSRR vs. Frequency



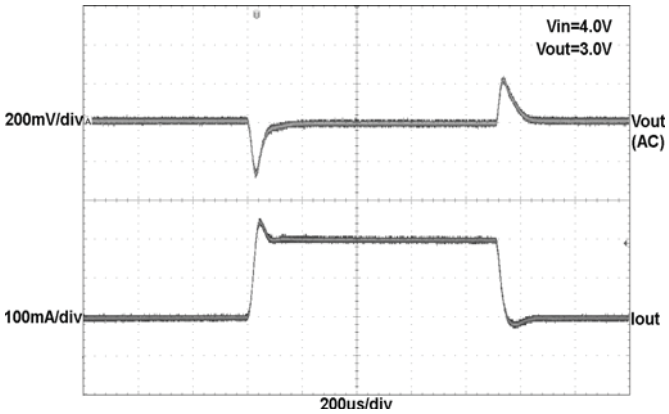
Power Up



Power Down



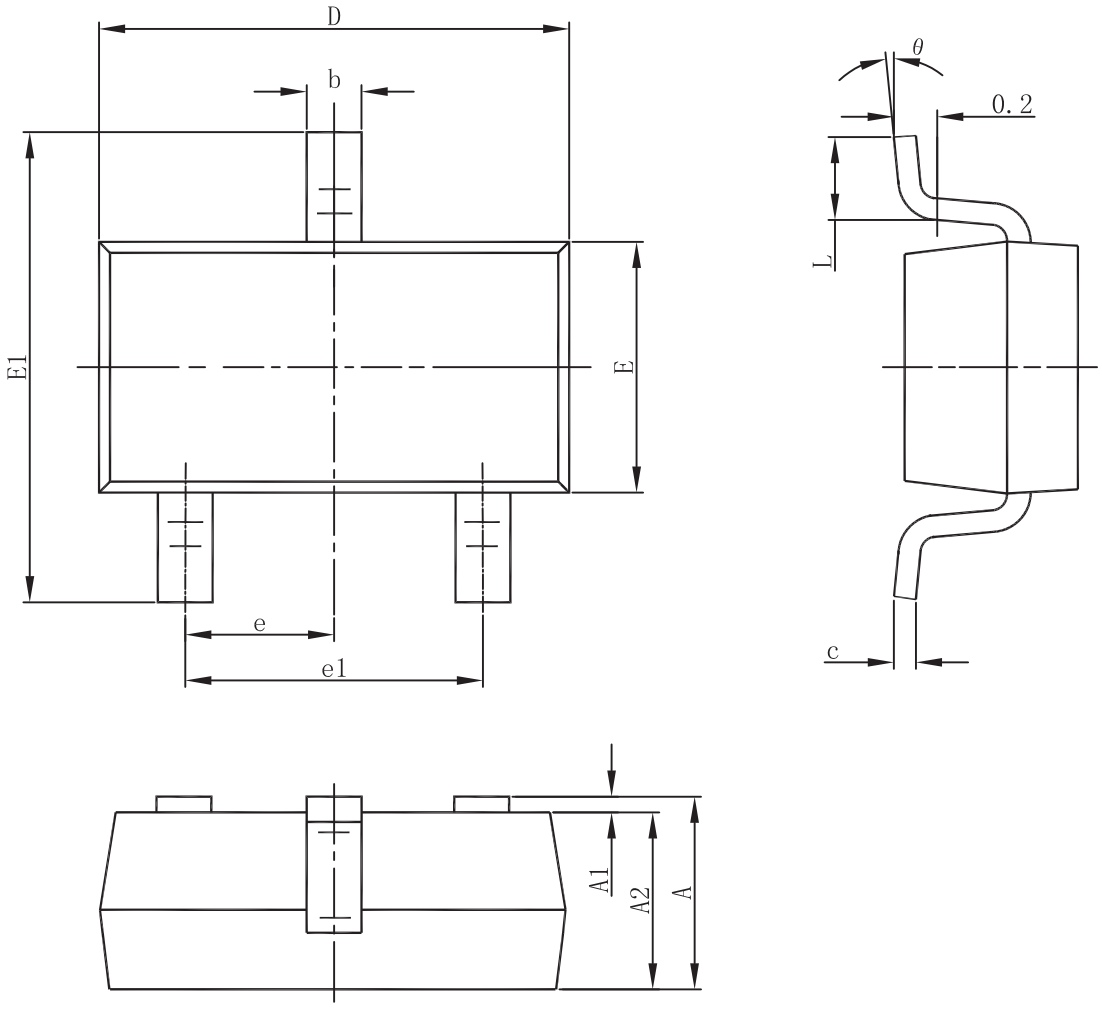
Line Regulation



Load Regulation

Package outline dimensions

SOT-23-3L



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.300	0.500
c	0.100	0.200
D	2.820	3.020
E	1.500	1.700
E1	2.650	2.950
e	0.950(Basic)	
e1	1.800	2.000
L	0.300	0.600
θ	0°	8°

Order Information

Ordering No.	Vout (V)	Package	Operating Temperature	Marking	Shipping
WL2805N12-3/TR	1.2	SOT-23-3L	-40~+85°C	F12*	Tape and Reel, 3000
WL2805N13-3/TR	1.3	SOT-23-3L	-40~+85°C	F13*	Tape and Reel, 3000
WL2805N15-3/TR	1.5	SOT-23-3L	-40~+85°C	F15*	Tape and Reel, 3000
WL2805N18-3/TR	1.8	SOT-23-3L	-40~+85°C	F18*	Tape and Reel, 3000
WL2805N25-3/TR	2.5	SOT-23-3L	-40~+85°C	F25*	Tape and Reel, 3000
WL2805N28-3/TR	2.8	SOT-23-3L	-40~+85°C	F28*	Tape and Reel, 3000
WL2805N30-3/TR	3.0	SOT-23-3L	-40~+85°C	F30*	Tape and Reel, 3000
WL2805N33-3/TR	3.3	SOT-23-3L	-40~+85°C	F33*	Tape and Reel, 3000

Remark:

1. **Marking:**
   - **F = Device code**
   - **12 = Voltage code**
   - *** = Month code (A~Z)**