



Dual, Ultra Low Noise, 250mA LDO Regulator

FEATURES

- Maximum Output Current Per Channel: More than 250mA
- Dropout Voltage: 120 mV @ 100mA
- Operating Voltage Range: 2.5V~6V
- Output Voltage Range: 1.2V to 5V
- Highly Accurate: $\pm 2\%$
- Low Power Consumption: 65 μ A (TYP.)
- Standby Current: Less than 0.1 μ A (TYP.)
- Ultra Low Output Noise: 30 μ Vrms.
- High Ripple Rejection: 72dB @ 1kHz
- Operating Temperature Range: -40°C ~ 85°C
- Low ESR capacitor compatible: Ceramic capacitor
- Ultra Small Packages: SOT-23-6L, SOT-89-6L
- Customer Voltage Available

APPLICATIONS

- Mobile Phones
- Cordless Phones
- Radio Communication Equipment
- Digital Cameras, Video Cameras
- Portable AV systems
- Portable Games Device
- PDAs

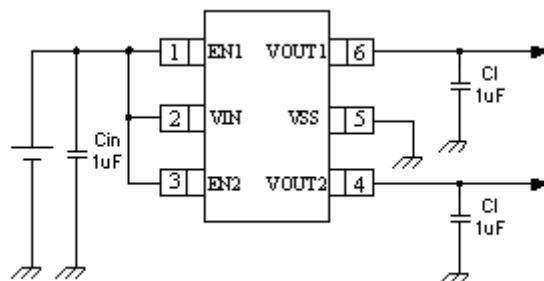
DESCRIPTION

The FT521xxx series are highly accurate, positive dual channel CMOS LDO voltage regulators. Performance features of the series include high ripple rejection ratio, low noise, low dropout and fast transient response.

The FT521xxx include a reference voltage source, error amplifiers, driver transistors, current limiters and phase compensators internally. The FT521xxx current limiters' fold-back circuit also operates as a short protection for the output current limiter. The high level of output stability is maintained even during frequent load fluctuations, due to the excellent transient response performance and high PSRR achieved across a broad range of frequencies. The EN function allows the output of each regulator to be turned off independently.

The output voltages of each channel are selectable within the range of 1.2V to 3.6V. Standard output voltage versions are 1.2, 1.3, 1.5, 1.8, 2.5, 2.7, 2.8, 3.0, 3.3, 3.6V. FT521xxx also fully compatible with low ESR ceramic capacitors, reducing cost and improving output stability. FT521xxx series is available in the SOT-23-6L and SOT-89-6L package.

TYPICAL APPLICATION CIRCUITS



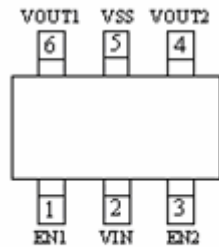
Typical Application Circuit

ABSOLUTE MAXIMUM RATINGS

- ♦ Supply Input Voltage ----- 6V
- ♦ Power Dissipation, PD@ TA=27°C
 - SOT-23-6L -----250mW
 - SOT-89-6L ----- 400mW
- ♦ Package Thermal Resistance
 - SOT-23-6L----- 250 °C/W
 - SOT-89-6L----- 150 °C/W
- ♦ Storage Temperature Range ----- - 60 °C to 150 °C
- ♦ ESD Susceptibility
 - HBM(Human Body Mode) -----2kV
 - MM(Machine Mode) ----- 200V

* Stresses exceed those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. Functional operation of the device at conditions beyond those listed in the specification is not guaranteed. Prolonged exposure to extreme conditions may affect device reliability or functionality.

PIN CONFIGURATION



SOT-23-6L / SOT-89-6L

(TOP-VIEW)

TERMINAL FUNCTIONS

PIN NUMBER		PIN NAME	FUNCTION
SOT-23-6L	SOT-89-6L		
1	1	EN1	ON/OFF Control 1 (High Active)
2	2	VIN	Power Input
3	3	EN2	ON/OFF Control 2 (High Active)
4	4	VOUT2	Output 2
5	5	VSS	Ground
6	6	VOUT1	Output 1

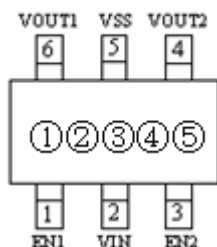
**ORDERING INFORMATION**

FT521①②③

DESIGNATOR	SYMBOL	OUTPUT VOLTAGE
①	A	Channel 1=1.2V
	B	Channel 1=1.3V
	C	Channel 1=1.5V
	D	Channel 1=1.8V
	E	Channel 1=2.5V
	F	Channel 1=2.7V
	G	Channel 1=2.8V
	H	Channel 1=2.85V
	I	Channel 1=3.0V
	J	Channel 1=3.3V
	K	Channel 1=3.6V
②	A	Channel 2=1.2V
	B	Channel 2=1.3V
	C	Channel 2=1.5V
	D	Channel 2=1.8V
	E	Channel 2=2.5V
	F	Channel 2=2.7V
	G	Channel 2=2.8V
	H	Channel 2=2.85V
	I	Channel 2=3.0V
	J	Channel 2=3.3V
	K	Channel 2=3.6V

DESIGNATOR	SYMBOL	PACKAGE TYPE
③	a	SOT-23-6L
	b	SOT-89-6L

MARKING RULE



SOT-23-6L / SOT-89-6L

(TOP-VIEW)

- ① Represent Product Series

SYMBOL	PRODUCT SERIES
4	FT521xxx

- ② Represent Channel 1 Output Voltage

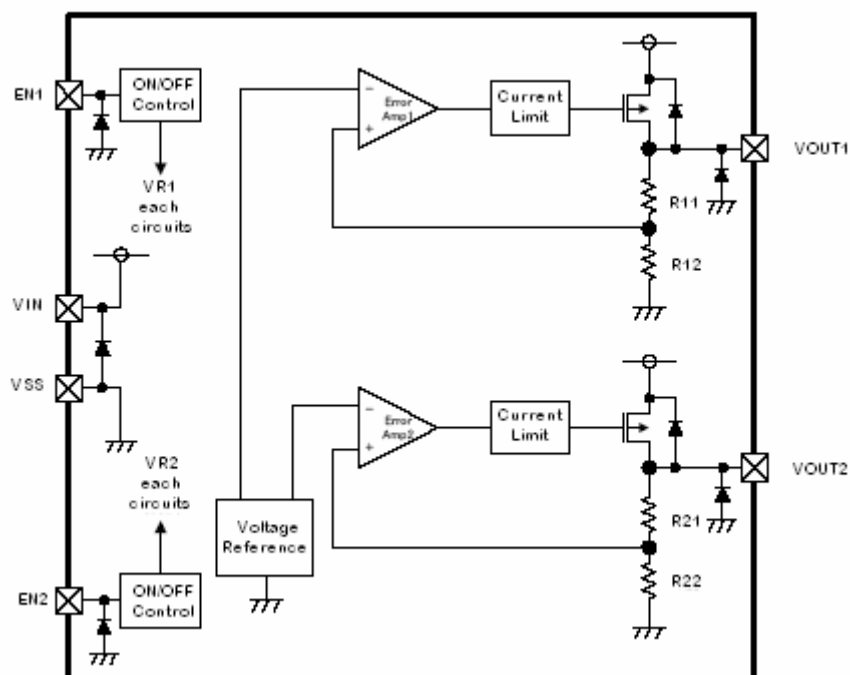
A represent $V_{OUT1} = 1.2V$.

- ③ Represent Channel 2 Output Voltage

A represent $V_{OUT2} = 1.2V$.

- ④⑤ For internal reference

BLOCK DIAGRAM



Block Diagram



ELECTRICAL CHARACTERISTICS

$V_{out}=1.2V$; $E_n=V_{in}=2.5V$; $C_{out}=1\mu F$ unless otherwise noted

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage Accuracy	V_{out}	$I_{out}=1mA$	-2	---	+2	%
Current Limiter	I_{max}	$V_{in}=2.5V$	260	400	---	mA
	I_{short}	$V_{in}=2.5V$	---	20	---	mA
Line Regulations	ΔV_{line}	2.5V~6V	---	0.01	0.3	%/V
Load Regulation	ΔV_{load}	$1mA \leq I_{out} \leq 100mA$	---	10	---	mV
Dropout Voltage	V_{drop}	$I_{out}=100mA$	---	400	---	mV
Supply Current	I_q	$V_{in}=2.5V, I_{out}=0mA$	---	65	---	μA
Standby Current	I_{stby}	Shut down	---	0.01	1	μA
Temperature Coefficient	$\Delta V_{out} / (\Delta Temp^* V_{out})$	$I_{out}=30mA$ $-40^\circ C \leq Temp \leq 85^\circ C$	---	100	---	ppm/ $^\circ C$
Output Noise Voltage	e_{NO}	10Hz~100kHz	---	30	---	μV_{rms}
Ripple Rejection Rate	PSRR@1k	$V_{in}=2.5VDC+1Vp-pAC,$ $I_{out}=30mA$	---	72	---	dB
	PSRR@10k		---	60	---	
EN Input Bias Current	I_{en}		---	0	100	nA
EN Threshold	VL	---	---	---	0.3	V
	VH	---	1.2	---	6	V

* Dropout voltage is defined as the input to output differential at which the output voltage drops 2% below its nominal value measured at 1V differential.



$V_{out}=1.3V$; $E_n=V_{in}=(V_{out}+1)V$; $C_{out}=1\mu F$ unless otherwise noted

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage Accuracy	V_{out}	$I_{out}=1mA$	-2	---	+2	%
Current Limiter	I_{max}	$V_{in}=V_{out}+1V$	260	400	---	mA
	I_{short}	$V_{in}=V_{out}+1V$	---	20	---	mA
Line Regulations	ΔV_{line}	$(V_{out}+1.0V)\sim 6V$	---	0.01	0.3	%/V
Load Regulation	ΔV_{load}	$1mA \leq I_{out} \leq 100mA$	---	10	---	mV
Dropout Voltage	V_{drop}	$I_{out}=100mA$	---	380	---	mV
Supply Current	I_q	$V_{in}=(V_{out}+1)V, I_{out}=0mA$	---	65	---	μA
Standby Current	I_{stby}	Shut down	---	0.01	1	μA
Temperature Coefficient	$\Delta V_{out} / (\Delta Temp^* V_{out})$	$I_{out}=30mA$ $-40^{\circ}C \leq Temp \leq 85^{\circ}C$	---	100	---	ppm/ $^{\circ}C$
Output Noise Voltage	e_{NO}	10Hz~100kHz	---	30	---	μV_{rms}
Ripple Rejection Rate	PSRR@1k	$V_{in}=V_{out}+1VDC+1Vp-pAC$ $I_{out}=30mA$	---	72	---	dB
	PSRR@10k		---	60	---	
EN Input Bias Current	I_{en}		---	0	100	nA
EN Threshold	VL	---	---	---	0.3	V
	VH	---	1.2	---	6	V

* Dropout voltage is defined as the input to output differential at which the output voltage drops 2% below its nominal value measured at 1V differential.



$V_{out}=1.5V$; $E_n=V_{in}=(V_{out}+1)V$; $C_{out}=1\mu F$ unless otherwise noted

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage Accuracy	V_{out}	$I_{out}=1mA$	-2	---	+2	%
Current Limiter	I_{max}	$V_{in}=V_{out}+1V$	260	400	---	mA
	I_{short}	$V_{in}=V_{out}+1V$	---	20	---	mA
Line Regulations	ΔV_{line}	$(V_{out}+1.0V)\sim 6V$	---	0.01	0.3	%/V
Load Regulation	ΔV_{load}	$1mA \leq I_{out} \leq 100mA$	---	10	---	mV
Dropout Voltage	V_{drop}	$I_{out}=100mA$	---	300	---	mV
Supply Current	I_q	$V_{in}=(V_{out}+1)V, I_{out}=0mA$	---	65	---	μA
Standby Current	I_{stby}	Shut down	---	0.01	1	μA
Temperature Coefficient	$\Delta V_{out} / (\Delta Temp^* V_{out})$	$I_{out}=30mA$ $-40^{\circ}C \leq Temp \leq 85^{\circ}C$	---	100	---	ppm/ $^{\circ}C$
Output Noise Voltage	e_{NO}	10Hz~100kHz	---	30	---	μV_{rms}
Ripple Rejection Rate	PSRR@1k	$V_{in}=V_{out}+1VDC+1Vp-pAC$ $I_{out}=30mA$	---	72	---	dB
	PSRR@10k		---	60	---	
EN Input Bias Current	I_{en}		---	0	100	nA
EN Threshold	VL	---	---	---	0.3	V
	VH	---	1.2	---	6	V

* Dropout voltage is defined as the input to output differential at which the output voltage drops 2% below its nominal value measured at 1V differential.



$V_{out}=1.8V$; $E_n=V_{in}=(V_{out}+1)V$; $C_{out}=1\mu F$ unless otherwise noted

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage Accuracy	V_{out}	$I_{out}=1mA$	-2	---	+2	%
Current Limiter	I_{max}	$V_{in}=V_{out}+1V$	260	400	---	mA
	I_{short}	$V_{in}=V_{out}+1V$	---	20	---	mA
Line Regulations	ΔV_{line}	$(V_{out}+1.0V)\sim 6V$	---	0.01	0.3	%/V
Load Regulation	ΔV_{load}	$1mA \leq I_{out} \leq 100mA$	---	10	---	mV
Dropout Voltage	V_{drop}	$I_{out}=100mA$	---	200	---	mV
Supply Current	I_q	$V_{in}=(V_{out}+1)V, I_{out}=0mA$	---	65	---	μA
Standby Current	I_{stby}	Shut down	---	0.01	1	μA
Temperature Coefficient	$\Delta V_{out} / (\Delta Temp^* V_{out})$	$I_{out}=30mA$ $-40^{\circ}C \leq Temp \leq 85^{\circ}C$	---	100	---	ppm/ $^{\circ}C$
Output Noise Voltage	e_{NO}	10Hz~100kHz	---	30	---	μV_{rms}
Ripple Rejection Rate	PSRR@1k	$V_{in}=V_{out}+1VDC+1Vp-pAC$ $I_{out}=30mA$	---	72	---	dB
	PSRR@10k		---	60	---	
EN Input Bias Current	I_{en}		---	0	100	nA
EN Threshold	VL	---	---	---	0.3	V
	VH	---	1.2	---	6	V

* Dropout voltage is defined as the input to output differential at which the output voltage drops 2% below its nominal value measured at 1V differential.



$V_{out}=2.5V$; $E_n=V_{in}=(V_{out}+1)V$; $C_{out}=1\mu F$ unless otherwise noted

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage Accuracy	V_{out}	$I_{out}=1mA$	-2	---	+2	%
Current Limiter	I_{max}	$V_{in}=V_{out}+1V$	260	400	---	mA
	I_{short}	$V_{in}=V_{out}+1V$	---	20	---	mA
Line Regulations	ΔV_{line}	$(V_{out}+1.0V)\sim 6V$	---	0.01	0.3	%/V
Load Regulation	ΔV_{load}	$1mA \leq I_{out} \leq 100mA$	---	10	---	mV
Dropout Voltage	V_{drop}	$I_{out}=100mA$	---	140	---	mV
Supply Current	I_q	$V_{in}=(V_{out}+1)V, I_{out}=0mA$	---	65	---	μA
Standby Current	I_{stby}	Shut down	---	0.01	1	μA
Temperature Coefficient	$\Delta V_{out} / (\Delta Temp^* V_{out})$	$I_{out}=30mA$ $-40^{\circ}C \leq Temp \leq 85^{\circ}C$	---	100	---	ppm/ $^{\circ}C$
Output Noise Voltage	e_{NO}	10Hz~100kHz	---	30	---	μV_{rms}
Ripple Rejection Rate	PSRR@1k	$V_{in}=V_{out}+1V_{DC}+1V_{p-pAC}$ $I_{out}=30mA$	---	72	---	dB
	PSRR@10k		---	60	---	
EN Input Bias Current	I_{en}		---	0	100	nA
EN Threshold	VL	---	---	---	0.3	V
	VH	---	1.2	---	6	V

* Dropout voltage is defined as the input to output differential at which the output voltage drops 2% below its nominal value measured at 1V differential.



$V_{out}=2.7V$; $E_n=V_{in}=(V_{out}+1)V$; $C_{out}=1\mu F$ unless otherwise noted

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage Accuracy	V_{out}	$I_{out}=1mA$	-2	---	+2	%
Current Limiter	I_{max}	$V_{in}=V_{out}+1V$	260	400	---	mA
	I_{short}	$V_{in}=V_{out}+1V$	---	20	---	mA
Line Regulations	ΔV_{line}	$(V_{out}+1.0V)\sim 6V$	---	0.01	0.3	%/V
Load Regulation	ΔV_{load}	$1mA \leq I_{out} \leq 100mA$	---	10	---	mV
Dropout Voltage	V_{drop}	$I_{out}=100mA$	---	130	---	mV
Supply Current	I_q	$V_{in}=(V_{out}+1)V, I_{out}=0mA$	---	65	---	μA
Standby Current	I_{stby}	Shut down	---	0.01	1	μA
Temperature Coefficient	$\Delta V_{out} / (\Delta Temp^* V_{out})$	$I_{out}=30mA$ $-40^{\circ}C \leq Temp \leq 85^{\circ}C$	---	100	---	ppm/ $^{\circ}C$
Output Noise Voltage	e_{NO}	10Hz~100kHz	---	30	---	μV_{rms}
Ripple Rejection Rate	PSRR@1k	$V_{in}=V_{out}+1VDC+1Vp-pAC$ $I_{out}=30mA$	---	72	---	dB
	PSRR@10k		---	60	---	
EN Input Bias Current	I_{en}		---	0	100	nA
EN Threshold	VL	---	---	---	0.3	V
	VH	---	1.2	---	6	V

* Dropout voltage is defined as the input to output differential at which the output voltage drops 2% below its nominal value measured at 1V differential.



$V_{out}=2.8V$; $E_n=V_{in}=(V_{out}+1)V$; $C_{out}=1\mu F$ unless otherwise noted

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage Accuracy	V_{out}	$I_{out}=1mA$	-2	---	+2	%
Current Limiter	I_{max}	$V_{in}=V_{out}+1V$	260	400	---	mA
	I_{short}	$V_{in}=V_{out}+1V$	---	20	---	mA
Line Regulations	ΔV_{line}	$(V_{out}+1.0V)\sim 6V$	---	0.01	0.3	%/V
Load Regulation	ΔV_{load}	$1mA \leq I_{out} \leq 100mA$	---	10	---	mV
Dropout Voltage	V_{drop}	$I_{out}=100mA$	---	120	---	mV
Supply Current	I_q	$V_{in}=(V_{out}+1)V, I_{out}=0mA$	---	65	---	μA
Standby Current	I_{stby}	Shut down	---	0.01	1	μA
Temperature Coefficient	$\Delta V_{out} / (\Delta Temp^* V_{out})$	$I_{out}=30mA$ $-40^{\circ}C \leq Temp \leq 85^{\circ}C$	---	100	---	ppm/ $^{\circ}C$
Output Noise Voltage	e_{NO}	10Hz~100kHz	---	30	---	μV_{rms}
Ripple Rejection Rate	PSRR@1k	$V_{in}=V_{out}+1VDC+1Vp-pAC$ $I_{out}=30mA$	---	72	---	dB
	PSRR@10k		---	60	---	
EN Input Bias Current	I_{en}		---	0	100	nA
EN Threshold	VL	---	---	---	0.3	V
	VH	---	1.2	---	6	V

* Dropout voltage is defined as the input to output differential at which the output voltage drops 2% below its nominal value measured at 1V differential.



Vout=2.85V; En=Vin=(Vout+1)V; Cout=1μF unless otherwise noted

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage Accuracy	Vout	Iout=1mA	-2	---	+2	%
Current Limiter	I _{max}	Vin=Vout+1V	260	400	---	mA
	I _{short}	Vin=Vout+1V	---	20	---	mA
Line Regulations	ΔV _{line}	(Vout+1.0V)~6V	---	0.01	0.3	%/V
Load Regulation	ΔV _{load}	1mA≤Iout≤100mA	---	10	---	mV
Dropout Voltage	V _{drop}	Iout=100mA	---	120	---	mV
Supply Current	I _q	Vin=(Vout+1)V, Iout=0mA	---	65	---	μA
Standby Current	I _{stby}	Shut down	---	0.01	1	μμμA
Temperature Coefficient	ΔVout/ (ΔTemp* Vout)	Iout=30mA -40°C≤Temp≤85°C	---	100	---	ppm/°C
Output Noise Voltage	e _{NO}	10Hz~100kHz	---	30	---	μVrms
Ripple Rejection Rate	PSRR@1k	Vin=Vout+1VDC+1Vp-pAC Iout=30mA	---	72	---	dB
	PSRR@10k		---	60	---	
EN Input Bias Current	I _{en}		---	0	100	nA
EN Threshold	VL	---	---	---	0.3	V
	VH	---	1.2	---	6	V

*** Dropout voltage is defined as the input to output differential at which the output voltage drops 2% below its nominal value measured at 1V differential.**



Vout=3.0V; En=Vin=(Vout+1)V; Cout=1μF unless otherwise noted

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage Accuracy	Vout	Iout=1mA	-2	---	+2	%
Current Limiter	I _{max}	Vin=Vout+1V	260	400	---	mA
	I _{short}	Vin=Vout+1V	---	20	---	mA
Line Regulations	ΔV _{line}	(Vout+1.0V)~6V	---	0.01	0.3	%/V
Load Regulation	ΔV _{load}	1mA≤Iout≤100mA	---	10	---	mV
Dropout Voltage	V _{drop}	Iout=100mA	---	120	---	mV
Supply Current	I _q	Vin=(Vout+1)V, Iout=0mA	---	65	---	μA
Standby Current	I _{stby}	Shut down	---	0.01	1	μA
Temperature Coefficient	ΔVout/ (ΔTemp* Vout)	Iout=30mA -40°C≤Temp≤85°C	---	100	---	ppm/°C
Output Noise Voltage	e _{NO}	10Hz~100kHz	---	30	---	μV _{rms}
Ripple Rejection Rate	PSRR@1k	Vin=Vout+1VDC+1Vp-pAC Iout=30mA	---	72	---	dB
	PSRR@10k		---	60	---	
EN Input Bias Current	I _{en}		---	0	100	nA
EN Threshold	VL	---	---	---	0.3	V
	VH	---	1.2	---	6	V

*** Dropout voltage is defined as the input to output differential at which the output voltage drops 2% below its nominal value measured at 1V differential.**



$V_{out}=3.3V$; $E_n=V_{in}=(V_{out}+1)V$; $C_{out}=1\mu F$ unless otherwise noted

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage Accuracy	V_{out}	$I_{out}=1mA$	-2	---	+2	%
Current Limiter	I_{max}	$V_{in}=V_{out}+1V$	260	400	---	mA
	I_{short}	$V_{in}=V_{out}+1V$	---	20	---	mA
Line Regulations	ΔV_{line}	$(V_{out}+1.0V)\sim 6V$	---	0.01	0.3	%/V
Load Regulation	ΔV_{load}	$1mA \leq I_{out} \leq 100mA$	---	10	---	mV
Dropout Voltage	V_{drop}	$I_{out}=100mA$	---	120	---	mV
Supply Current	I_q	$V_{in}=(V_{out}+1)V, I_{out}=0mA$	---	65	---	μA
Standby Current	I_{stby}	Shut down	---	0.01	1	μA
Temperature Coefficient	$\Delta V_{out} / (\Delta Temp^* V_{out})$	$I_{out}=30mA$ $-40^{\circ}C \leq Temp \leq 85^{\circ}C$	---	100	---	ppm/ $^{\circ}C$
Output Noise Voltage	e_{NO}	10Hz~100kHz	---	30	---	μV_{rms}
Ripple Rejection Rate	PSRR@1k	$V_{in}=V_{out}+1VDC+1Vp-pAC$ $I_{out}=30mA$	---	72	---	dB
	PSRR@10k		---	60	---	
EN Input Bias Current	I_{en}		---	0	100	nA
EN Threshold	VL	---	---	---	0.3	V
	VH	---	1.2	---	6	V

* Dropout voltage is defined as the input to output differential at which the output voltage drops 2% below its nominal value measured at 1V differential.



$V_{out}=3.6V$; $E_n=V_{in}=(V_{out}+1)V$; $C_{out}=1\mu F$ unless otherwise noted

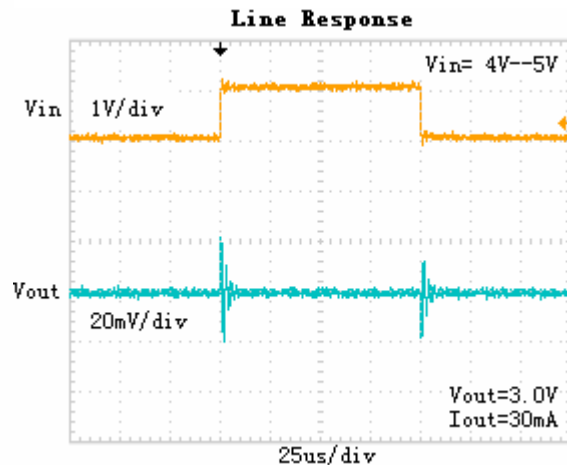
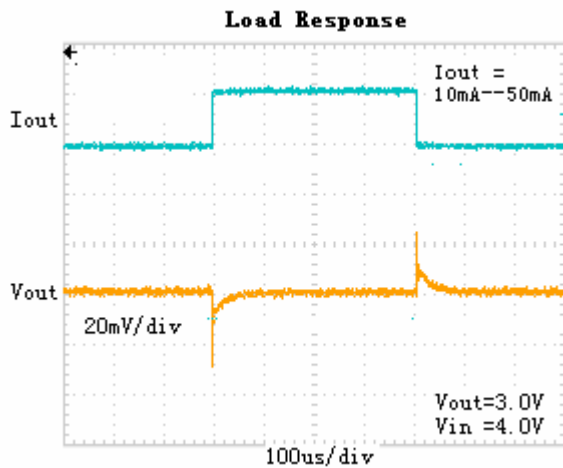
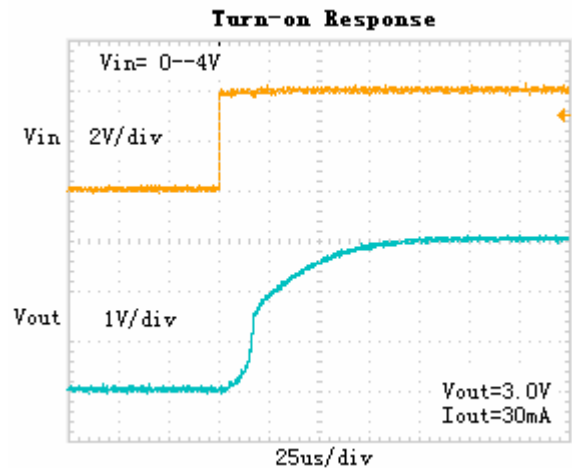
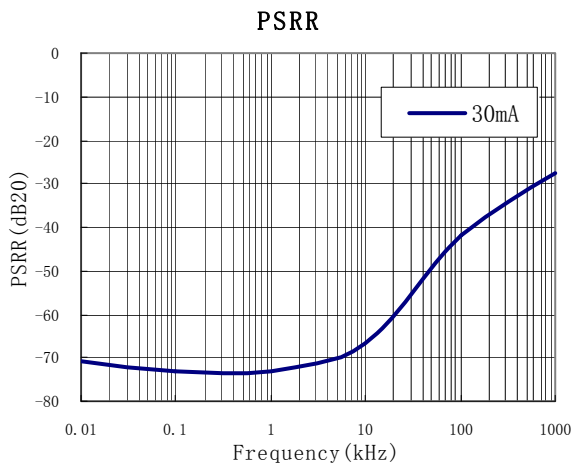
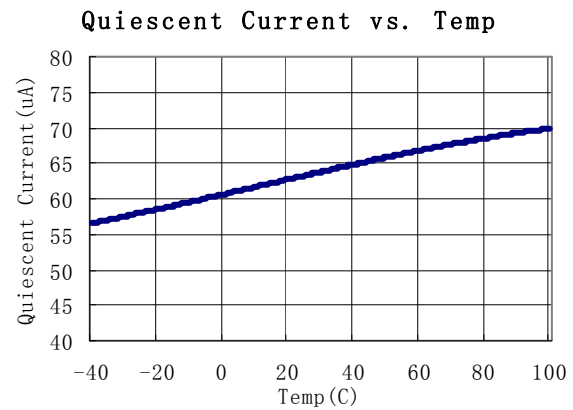
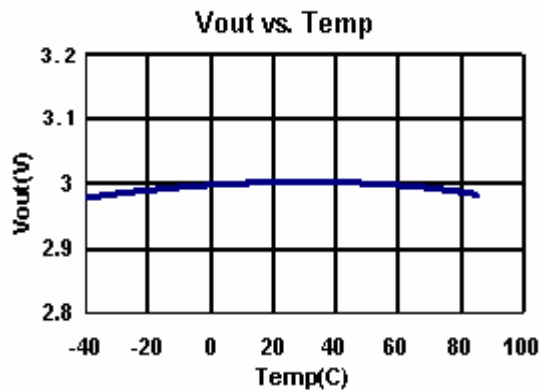
PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage Accuracy	V_{out}	$I_{out}=1mA$	-2	---	+2	%
Current Limiter	I_{max}	$V_{in}=V_{out}+1V$	260	400	---	mA
	I_{short}	$V_{in}=V_{out}+1V$	---	20	---	mA
Line Regulations	ΔV_{line}	$(V_{out}+1.0V)\sim 6V$	---	0.01	0.3	%/V
Load Regulation	ΔV_{load}	$1mA \leq I_{out} \leq 100mA$	---	10	---	mV
Dropout Voltage	V_{drop}	$I_{out}=100mA$	---	120	---	mV
Supply Current	I_q	$V_{in}=(V_{out}+1)V, I_{out}=0mA$	---	65	---	μA
Standby Current	I_{stby}	Shut down	---	0.01	1	μA
Temperature Coefficient	$\Delta V_{out} / (\Delta Temp^* V_{out})$	$I_{out}=30mA$ $-40^{\circ}C \leq Temp \leq 85^{\circ}C$	---	100	---	ppm/ $^{\circ}C$
Output Noise Voltage	e_{NO}	10Hz~100kHz	---	30	---	μV_{rms}
Ripple Rejection Rate	PSRR@1k	$V_{in}=V_{out}+1VDC+1Vp-pAC$ $I_{out}=30mA$	---	72	---	dB
	PSRR@10k		---	60	---	
EN Input Bias Current	I_{en}		---	0	100	nA
EN Threshold	VL	---	---	---	0.3	V
	VH	---	1.2	---	6	V

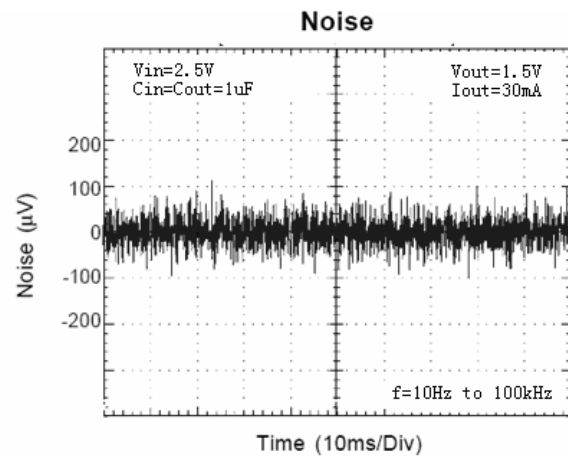
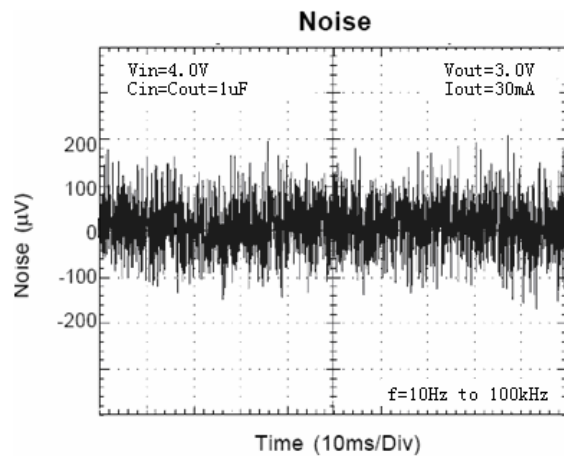
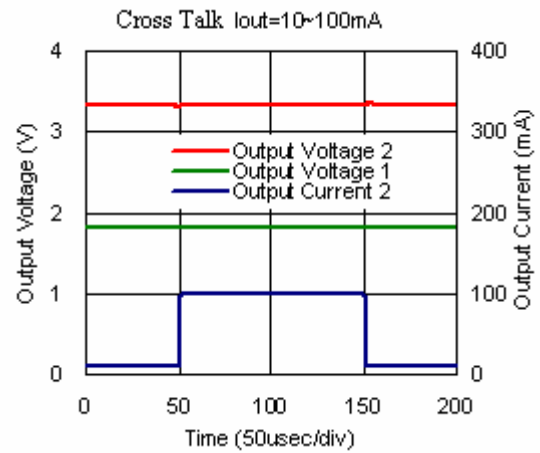
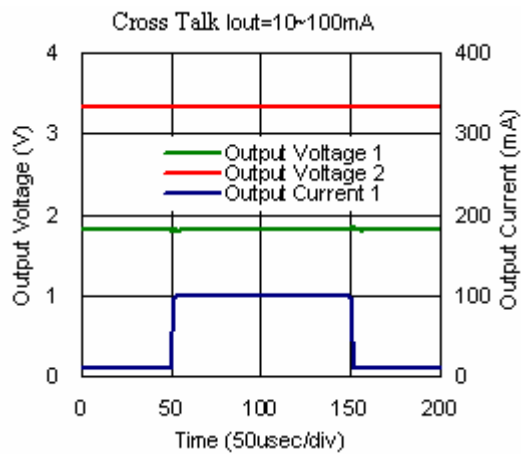
* Dropout voltage is defined as the input to output differential at which the output voltage drops 2% below its nominal value measured at 1V differential.



TYPICAL PERFORMANCE CHARACTERISTICS

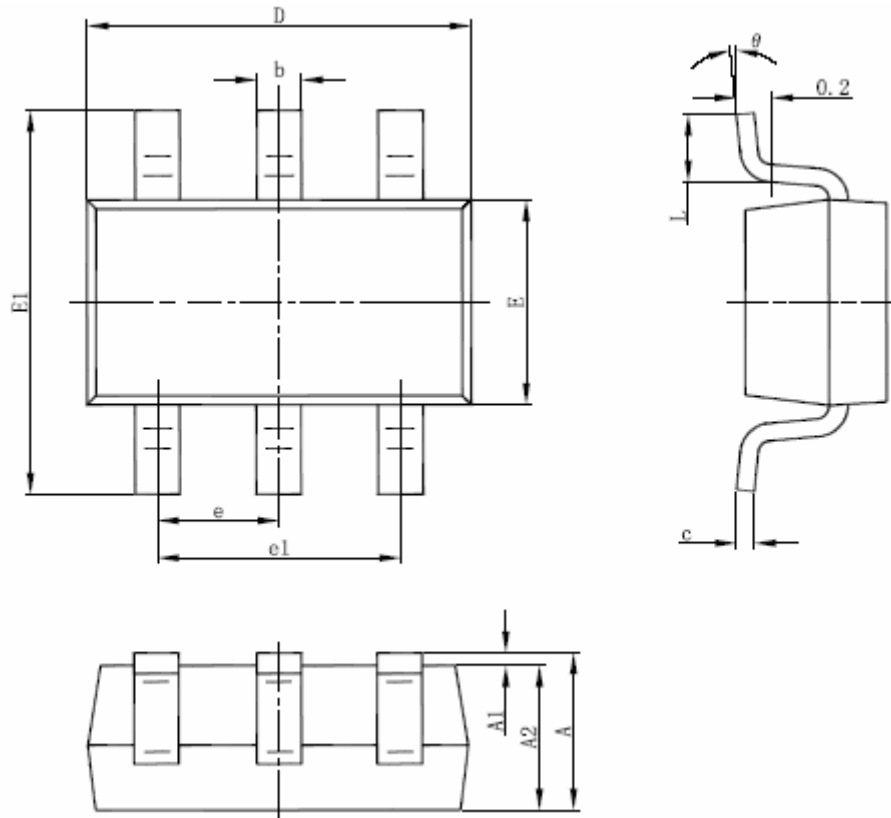
$V_{in}=V_{out}+1V$, $C_{in}=C_L=1\mu F$, $temp=27^{\circ}C$ unless otherwise noted





PACKAGING INFORMATION

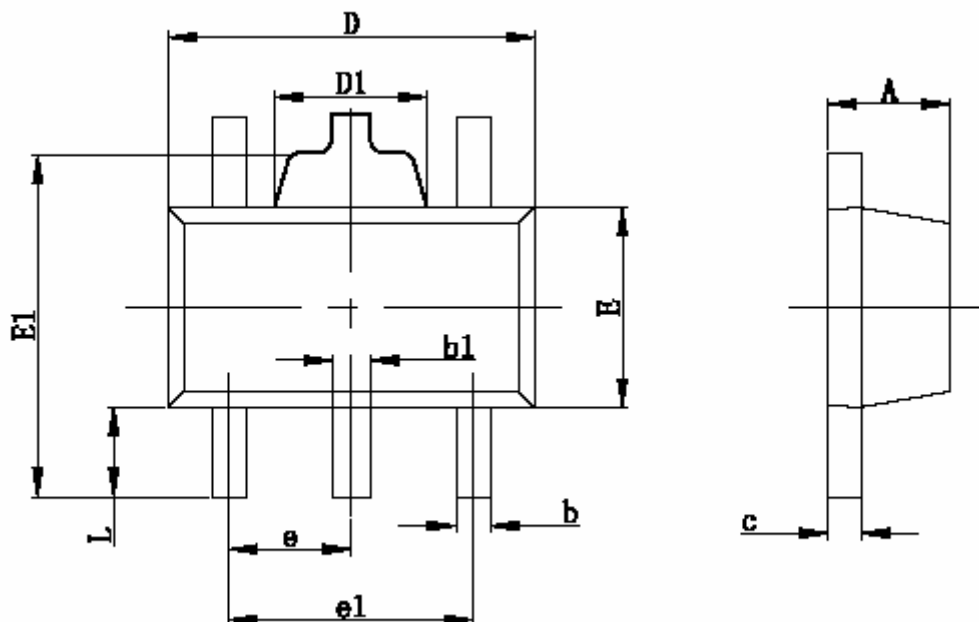
SOT-23 -6L



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950 (BSC)		0.037 (BSC)	
e1	1.800	2.00	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

PACKAGING INFORMATION (Continued)

SOT-89-6L



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	0.360	0.560	0.014	0.022
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.400	1.800	0.055	0.071
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500TYP		0.060TYP	
e1	2.900	3.100	0.114	0.122
L	0.900	1.100	0.035	0.043