



300mA High PSRR Voltage Regulator

General Description

The FC131C Series is a high-performance, 300mA LDO regulator, offering extremely high PSRR and ultra-low dropout. Ideal for portable RF and wireless applications with demanding performance and space requirements.

The FC131C Series is available in SOT23-5 SOT23-3LPackage the output standards of 1.2V 1.5V 1.8V 2.5V 2.8V,3.3, 3.6V

Features

- Quiescent Current: 70uA
- PSRR:70dB@1KHz
- < 1uA current at shutdown mode
- Output current:300mA(Typ.)
- SOT23-5 package
- SOT23-3L package

Applications

- CDM/G-SM mobile phone
- PDAs /MP3
- Audio/Video equipment

Ordering Information

FC131C 33 S5

S5:SOT23- 5 Package
S3L:SOT23- 3 Package

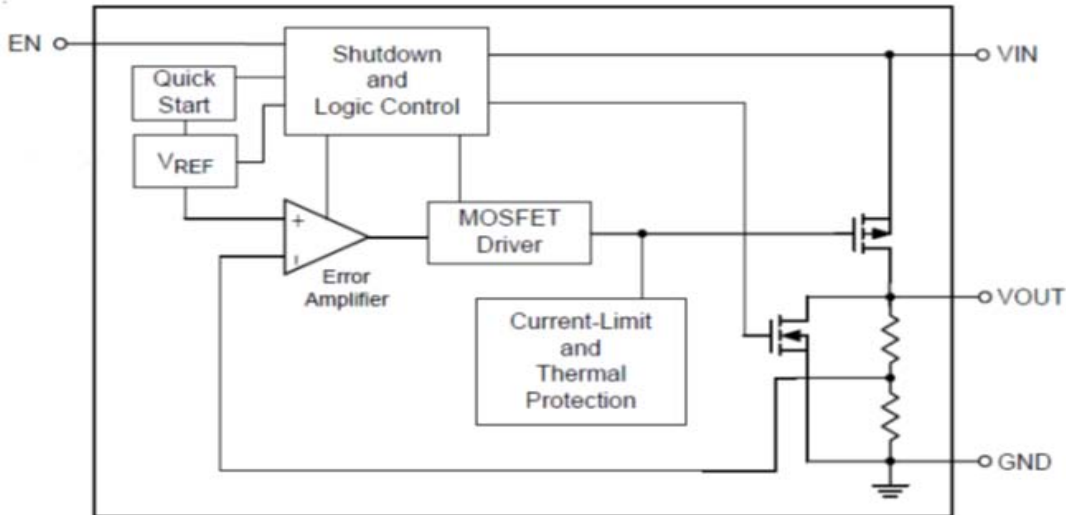
Output voltage: 12=1.2V
15=1.5V
18=1.8V
30=3.0V
33=3.3V
XX=X.XV



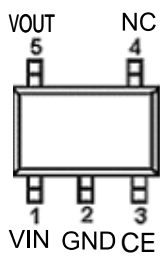
FC131C Series

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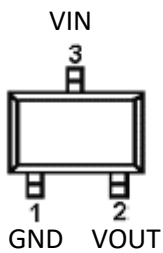
BLOCK DIAGRAM



PIN CONFIGURATION



SOT23-5



SOT23-3L

Pin Name	Function
VIN	Supply power
GND	Ground
CE	Enable pin
NC	NC
VOUT	Voltage output



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Absolute Maximum Rating ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	RATING	UNITS
INPUT VOLTAGE	V_{IN}	6	V
OUTPUT CURRENT	I_{OUT}	500	mA
OUTPUT VOLTAGE	V_{OUT}	GND-0.3 ~ $V_{IN} + 0.3$	V
POWER DISSIPATION (SOT23-5L)	P_d	400	mW
OPERATING TEMP.	T_{opr}	-25 ~ +85	$^{\circ}\text{C}$
STORAGE TEMP.	T_{stg}	-40 ~ +125	$^{\circ}\text{C}$
LEAD TEMP.	T_{solder}	260 $^{\circ}\text{C}$, 10s	

Electrical Characteristics ($T = 25^{\circ}\text{C}$ unless otherwise noted)

($V_{in}=V_{out}+1\text{V}, C_{in}=C_{out}=1\mu\text{F}, T_a=25^{\circ}\text{C}$)

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNITS
Output Voltage	$V_{OUT(E)}$ (Note 2)	$I_{OUT}=40\text{mA}$, $V_{IN}=V_{out}+1\text{V}$	X 0.98	$V_{OUT(T)}$ (Note 1)	X 1.02	V
Input Voltage	V_{IN}				6	V
Max. Output Current	I_{OUTmax}	$V_{IN}=V_{out}+1\text{V}$		300		mA
Load Regulation	ΔV_{OUT}	$V_{IN}=V_{out}+1\text{V}$, $1\text{mA} \leq I_{OUT} \leq 100\text{mA}$		50		mV
Dropout Voltage (Note 3)	V_{dif1}	$I_{OUT} = 100\text{mA}$		90		mV
	V_{dif2}	$I_{OUT} = 200\text{mA}$		230		mV
Supply Current	I_{SS}	$V_{IN}=V_{out}+1\text{V}$		70		μA
Standby Current	I_{CEL}	$V_{ce} = 0\text{V}$		1		μA
Line Regulation	$\frac{\Delta V_{OUT}}{\Delta V_{IN} \cdot V_{OUT}}$	$I_{OUT} = 40\text{mA}$ $V_{out}+1\text{V} \leq V_{IN} \leq 8\text{V}$		0.05		%/V
Output Noise	en	$I_{OUT} = 40\text{mA}$, 300Hz ~ 50kHz		50		μV_{rms}
Ripple Rejection Rate	PSRR	$V_{in} = [V_{out}+1]\text{V}$ +1Vp-p AC $I_{OUT} = 40\text{mA}, f=1\text{kHz}$		70		dB

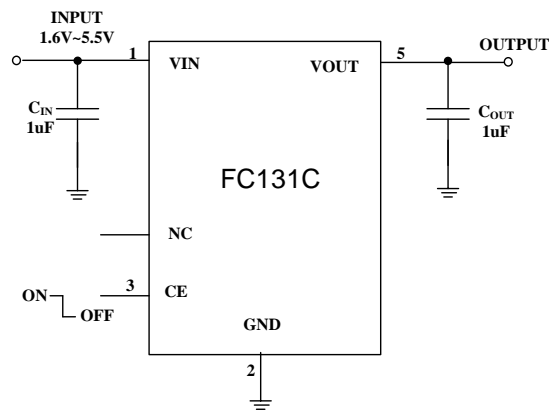
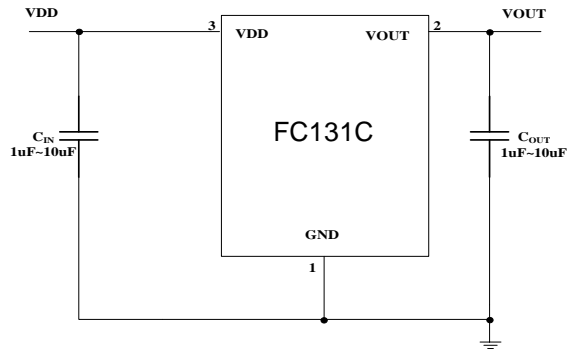
Note 3 : The Difference Of Output Voltage And Input Voltage When Input Voltage Is Decreased Gradually Till Output Voltage Equals To 98% Of $V_{OUT(E)}$.



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TYPICAL APPLICATION



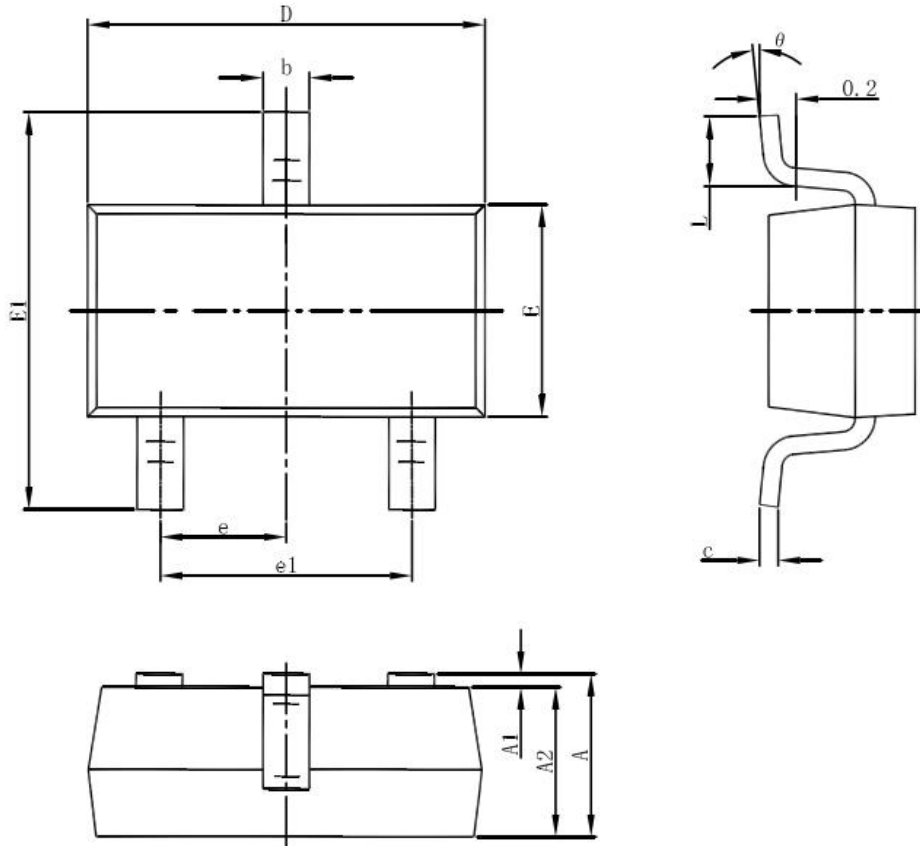


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Package information

3-pin SOT23-3 Outline Dimensions



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	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

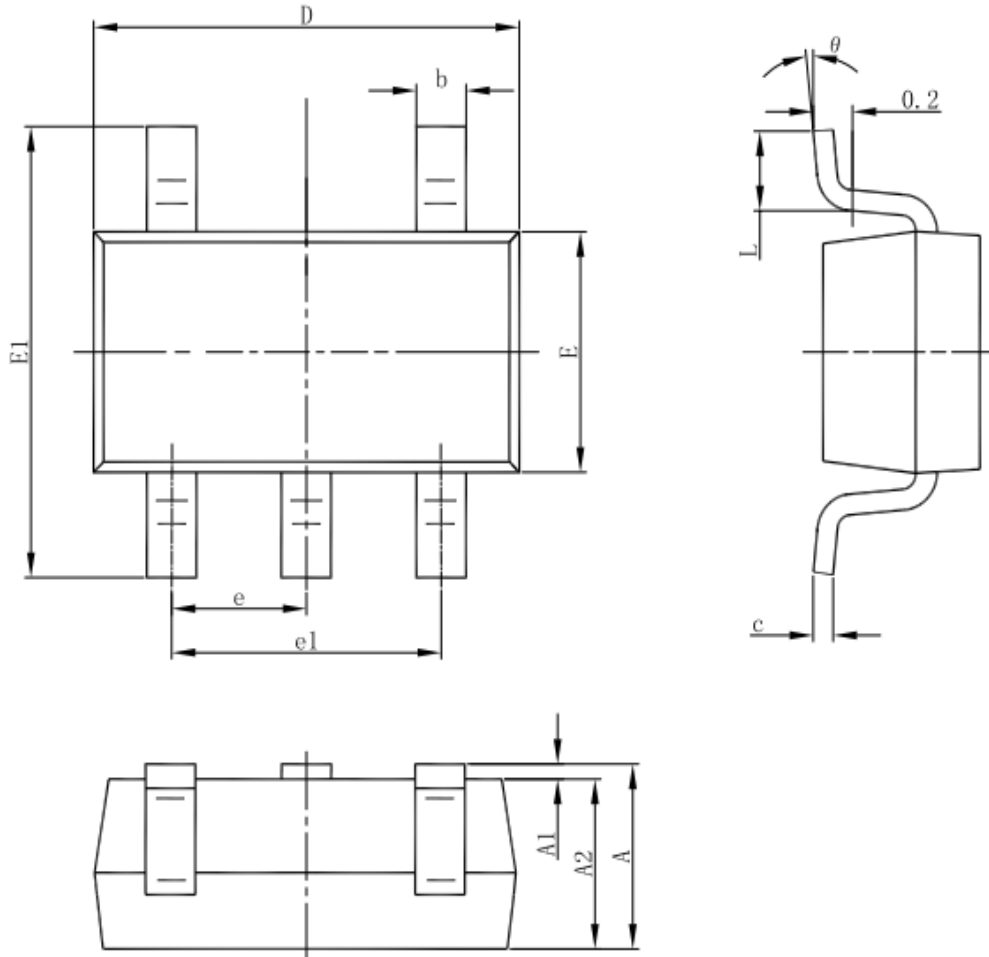


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Package information

SOT23-5



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	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°