

Descriptions

The EC82XX series is a high voltage , ultralow-powerregulator. The device can allows an input voltage as high as 30V. The typical quiescent current is only 2μA. The device is available in fixed output voltages of 3V/ 3.3V and 5.0V. The device features integrated short-circuit and thermal shutdown protection.

Although designed primarily as fixed voltage regulators, the device can be used with external components to obtain variable voltages.

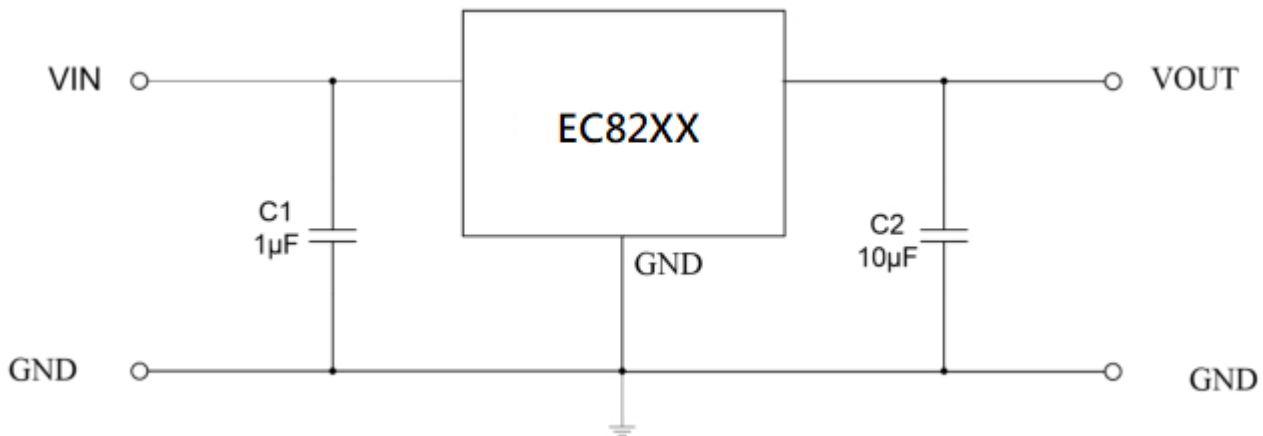
Feature

- Low Quiescent Current: 2μA
- High Input Voltage: Up to 30V
- High Output Current: 100mA
- Dropout Voltage:
500mV@100mA
- Fixed Output Voltages : 3V/ 3.3V and 5.0V
- High-accuracy Output Voltage
- Integrated Short-Circuit Protection
- Integrated Thermal Protection
- Available Packages : SOT23-3,SOT89

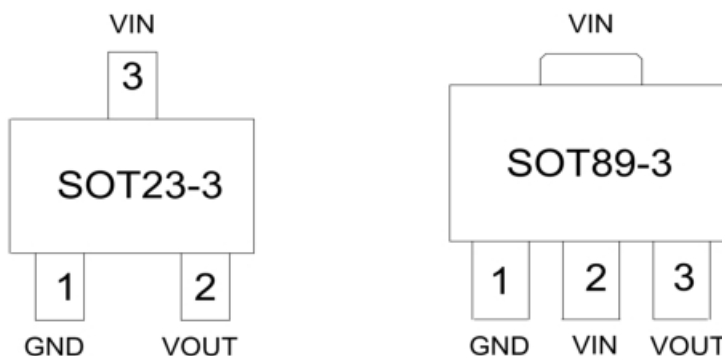
Application

- Battery-powered Smoke sensor
- Smoke detector and sensor
- Microcontroller Applications
- Smart electric meter

Typical Application



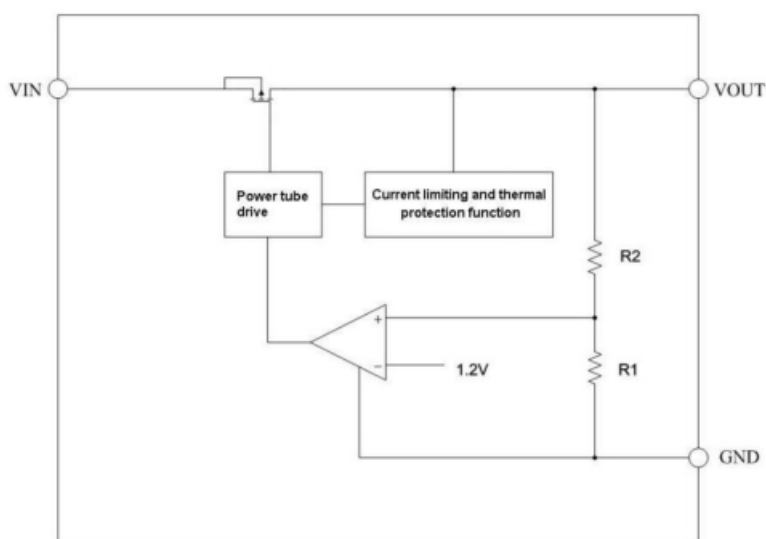
Pin Configuration



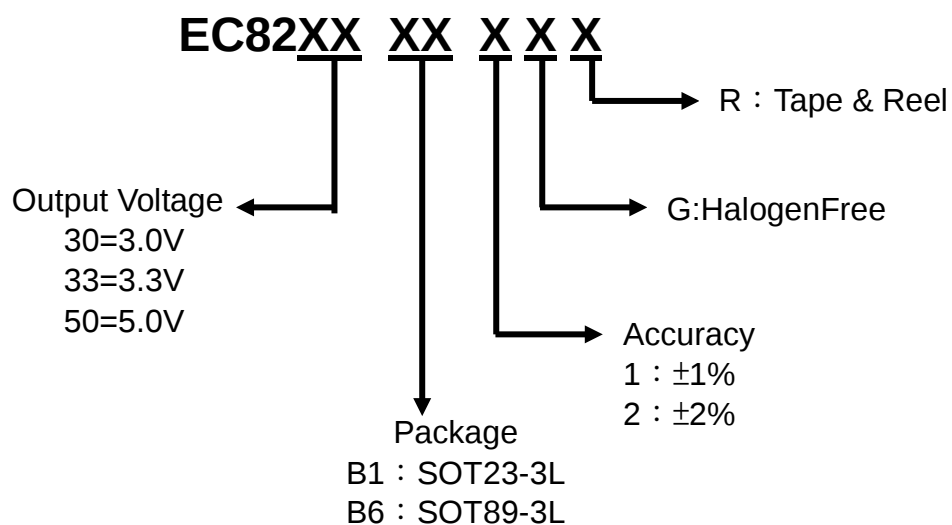
Pin Description

Pin Name	Pin Function Description
VIN	In put pin
VOUT	Out put pin
GND	Ground pin

Functional Block Diagram



Ordering Information



Absolute Maximum Ratings

Symbol	Parameter	Value	Units
V_{IN}	Input Supply Voltage	30	V
$V_{OUT}-----GND$	Output Voltage TO GND	15	
T_A	Operating Temperature	-40----105	$^{\circ}C$
T_{STG}	Storage Temperature	-40---150	
T_J	Maximum Junction Temperature	150	
T_{LEAD}	Lead Temperature (Soldering) 10 seconds	260	
θ_{JA}	Thermal Resistance, Junction-to-Ambient	165(SOT89)	$^{\circ}C/W$
		280(SOT23-3)	
P_D	Power Consumption	750(SOT89)	mW
		446(SOT23-3)	

Note : Stresses exceeding the range specified under “Absolute Maximum Ratings” may cause substantial damage to the device. Functional operation of this device at other conditions beyond those listed in the specification is not implied and prolonged exposure to extreme conditions may affect device reliability.

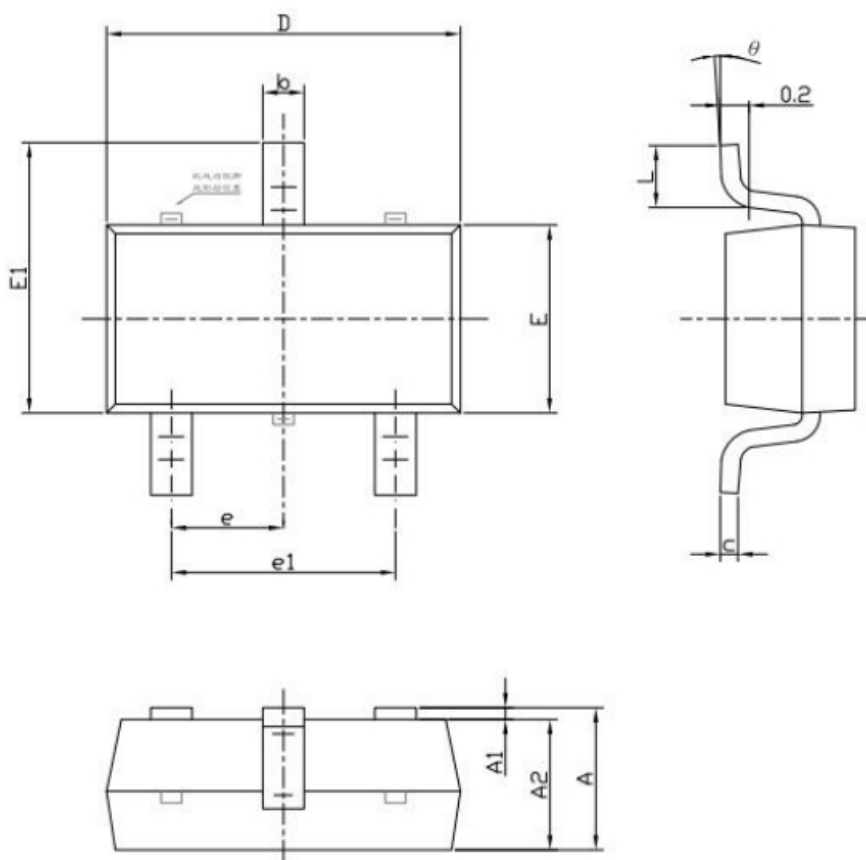
Recommended Operating Conditions

Symbol	Parameter	Maximum	Units
V_{IN}	Input Supply Voltage	24	V
T_A	Operating Temperature	-20----85	$^{\circ}C$
T_{LEAD}	Lead Temperature (Soldering) 10 seconds	230	$^{\circ}C$

**Electrical Characteristics**(TA=25°C, CIN=1 μ F, VIN=VOUT+1.0V, COUT=10 μ F, unless otherwise noted)

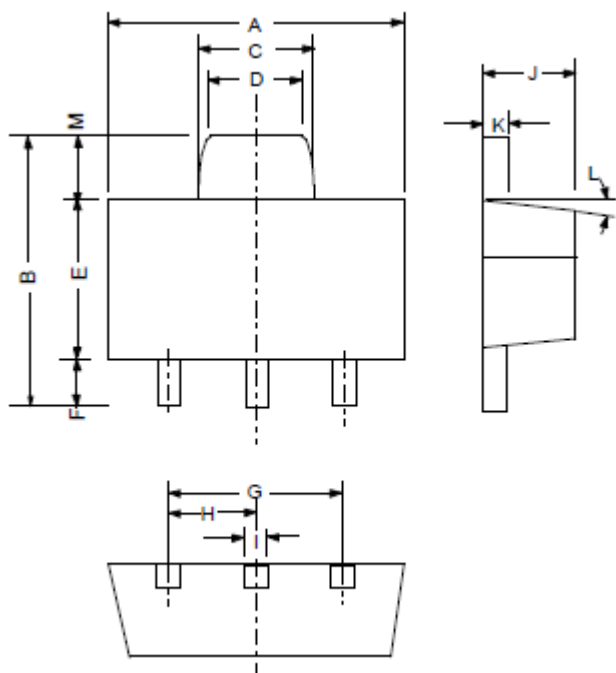
Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V _{IN}	Input Supply Voltage		2.8		24	V
V _{OUT}	Output Voltage Accuracy	I _{OUT} =10mA	-1%		1%	V
			-2%		2%	V
I _Q	Quiescent Current	V _{IN} =12V, NO Load		2	3	μ A
I _{OUT}	Output Current				150	mA
V _{DROP}	Dropout Voltage	I _{OUT} =10mA $\Delta V_{OUT} = -V_{OUT} \times 2\%$		50		mV
		I _{OUT} =100mA $\Delta V_{OUT} = -V_{OUT} \times 2\%$		500		mV
V _{LR}	Load Regulation	1mA $\leq$ I _{OUT} $\leq$ 150mA		40		mV
V _{SR}	Line Regulation	I _{OUT} =1mA, V _{IN} =(V _{OUT} +2V) to 24V		0.2		%/V
I _{short}	Short Current			100		mA
T _{SHDN}	Thermal Protection			125		°C

Outline Drawing for SOT-23-3



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°

Outline Drawing for SOT-89



DIM _N	DIMENSIONS			
	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.173	0.181	4.400	4.600
B	0.159	0.167	4.050	4.250
C	0.067	0.075	1.700	1.900
D	0.051	0.059	1.300	1.500
E	0.094	0.102	2.400	2.600
F	0.035	0.047	0.890	1.200
G	0.118REF		3.00REF	
H	0.059REF		1.50REF	
I	0.016	0.020	0.400	0.520
J	0.055	0.063	1.400	1.600
K	0.014	0.016	0.350	0.410
L	10°TYP		10°TYP	
M	0.028REF		0.70REF	