



General Description

The SE8802 is a very low dropout three-terminal regulator. The SE8802 is specifically designed to work with SE8801 for the electricity meter applications. SE8802 is capable of delivering 150mA output current at a very low dropout voltage of 0.82V (Typical). The other unique and important feature is the low noise. SE8802 has a ripple rejection ratio at 62dB (Typical) and this helps to reduce the overall system noise level. The high precision output at 2% ensures that the accurate power supply requirement is met with enough margin in many tough applications.

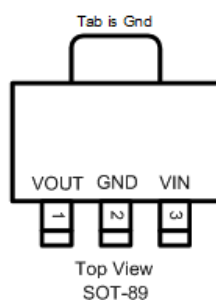
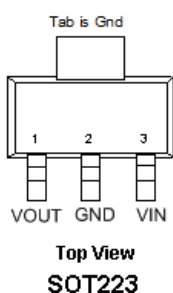
The SE8802 also provides Over Current Protection (OCP) and Over Temperature Protection (OTP). Both these features will ensure a safe operating environment for electricity meter applications.

The SE8802 is available in SOT-89 and SOT-223 packages.

Features

- Output voltage of 11.6V (Typ.)
- Output current up to 150mA (Typ.)
- Current limiting
- Over thermal Protection.
- Minimum external components.
- Output voltage tolerances of $\pm 2\%$
- Input Voltage up to 30V
- Operating Junction Temperature Range -40 to +125°C
- ESD rating is 2KV (Per MIL-STD-883D)

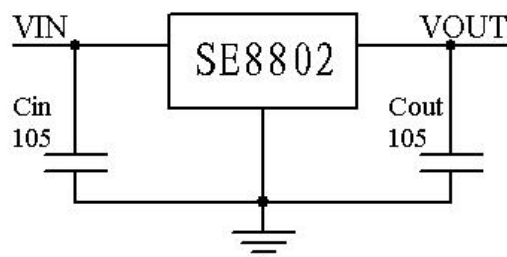
Pin Configuration



Applications

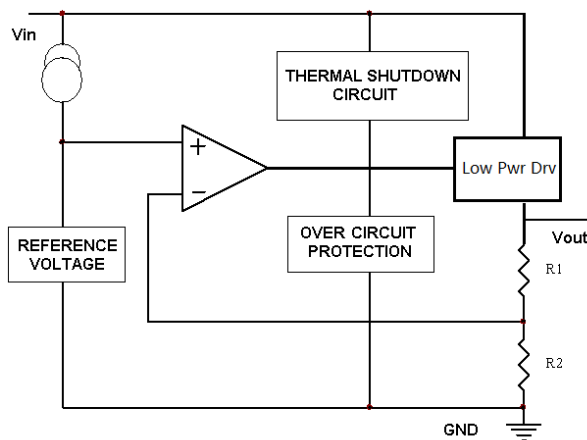
- Electricity meter
- Networking Equipments where low noise and low power consumption is required.

Application Circuit





Functional Block Diagram



Ordering Information

Part Number	Marking Information	Package	Remarks
SE8802S	SE8802 YYWW-LF	SOT-223	YYWW means Production batch LF means LeadFree
SE8802K	SE8802 YYWW-LF	SOT-89	

Absolute Maximum Rating

Parameter	Symbol	Maximum	Units
Power dissipation@ $T_a=25^{\circ}\text{C}$			
SOT-223	P_D	0.85	W
SOT-89		0.45	
Input Voltage	V_{IN}	-0.3~30	V
Operating Junction Temperature Range	T_J	-40 to +125	$^{\circ}\text{C}$
Package Thermal Resistance ^(Note1)			
SOT-223	θ_{JA}	85	$^{\circ}\text{C/W}$
SOT-89		95	
Lead Temperature (Soldering) 10 seconds	T_{LEAD}	260 $\pm$ 5	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-65 to +150	$^{\circ}\text{C}$
ESD (HBM) Susceptibility	V_{ESD}	2.0	KV

Note: 1) Thermal resistance test board Size: 5mm*5mm*0.7mm;



Recommended Operating Conditions

Parameter	Symbol	Value	Units
Supply Input Voltage	V_{IN}	13 to +28	V
Junction Temperature	T_J	-40 to +85	°C

Electrical Characteristics

$V_{IN} = 13V$; $I_{OUT} = 10mA$; $C_{IN} = 1\mu F$; $C_{OUT} = 1\mu F$; $T_J = 25^\circ C$; unless otherwise specified

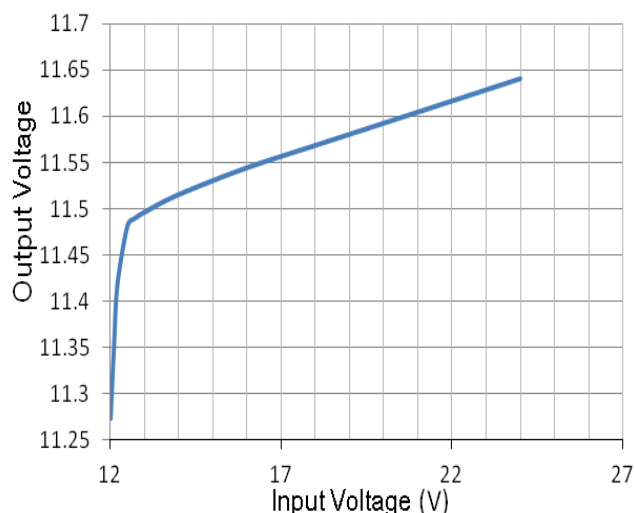
Symbol	Parameter	Conditions	SE8802			Unit
			Min	Typ	Max	
V_O	Output Voltage	$I_O = 10mA$	-2%	11.6	+2%	V
ΔV_O	Line Regulation	$13V \leq V_{IN} \leq 26V$	--	0.11	--	%/V
ΔV_O	Load Regulation	$10mA \leq I_O \leq 150mA$	--	320	--	mV
I_Q	Quiescent Current	$I_{OUT} = 10mA$	--	2.21	--	mA
		$I_{OUT} = 100mA$	--	1.7	--	
ΔI_Q	Quiescent Current Change	$13V \leq V_{IN} \leq 24V$	--	0.56	--	mA
V_{DROP}	Dropout Voltage	$\Delta V_O = -2\%$	-	0.82	--	V
$\Delta V_{IN} / \Delta V_{OUT}$	Ripple Rejection	$F = 120Hz$, $V_{IN} = 15V$	--	-62	--	dB
I_{LIM}	Output Current limited		150	200	--	mA
$\Delta V_O / \Delta T$	Output Voltage TempCo	$I_O = 10mA$	--	0.8	--	mV/°C
OTP	Over Temperature Protection	$I_{OUT} = 10mA$	--	165	--	°C



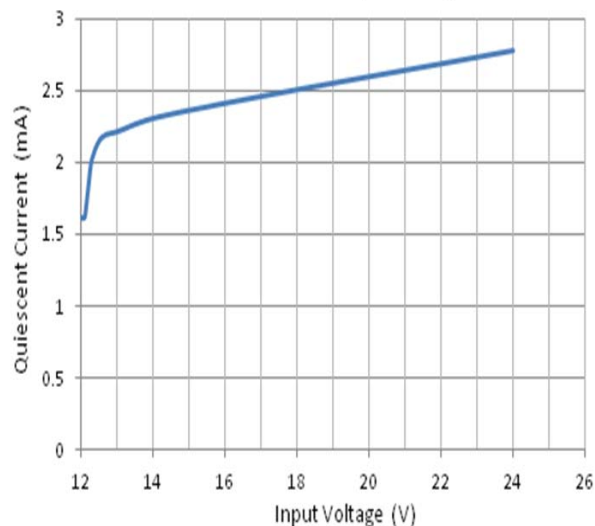
Typical Performance Characteristic

$V_{IN} = 13V$, $I_{OUT} = 10mA$, $C_{IN} = 1\mu F$, $C_{OUT} = 1\mu F$, $T_J = 25^\circ C$, unless specified otherwise.

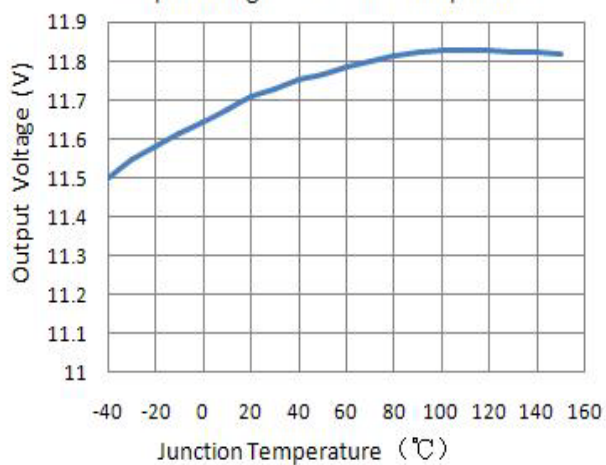
Output Voltage VS Input Voltage



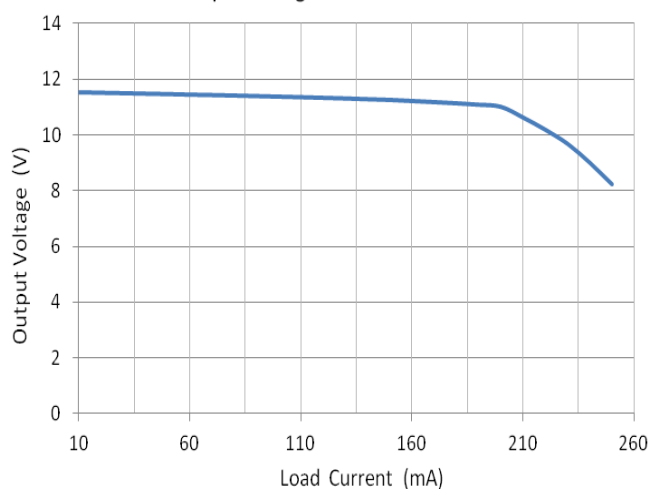
Quiescent Current VS Input Voltage



Output Voltage VS Junction Temperature

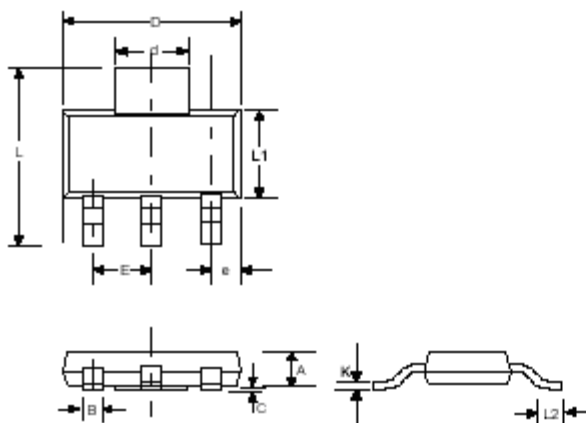


Output Voltage VS Load Current



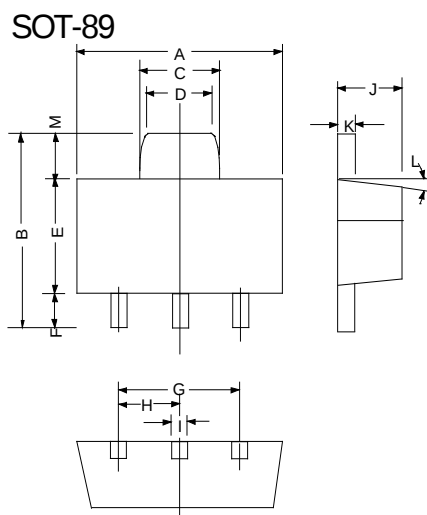


Outline Drawing for SOT-223



DIMENSIONS				
DIM ^N	INCHES		MM	
	MIN	MAX	MIN	MAX
A	—	0.071	—	1.80
B	0.025	0.033	0.640	0.840
C	0.012	—	0.31	—
D	0.248	0.264	6.30	6.71
d	0.115	0.124	2.95	3.15
E	—	0.090	—	2.29
e	0.033	0.041	0.840	1.04
L	0.264	0.287	6.71	7.29
L1	0.130	0.148	3.30	3.71
L2	0.012	—	0.310	—
K	0.010	0.014	0.250	0.360

Outline Drawing SOT-89



DIMENSIONS				
DIM ^N	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	



联系方式:

北京思旺电子有限公司-中国总部

地址: 中国北京市海淀区信息路 22 号上地科技综合楼 B 座二层

邮编: 100085

电话: 010-82895700/1/5

传真: 010-82895706

Seaward Electronics Corporation – 台湾办事处

2F, #181, Sec. 3, Minguang East Rd,

Taipei, Taiwan R.O.C

电话: 886-2-2712-0307

传真: 886-2-2712-0191

Seaward Electronics Incorporated – 北美办事处

1512 Centre Pointe Dr.

Milpitas, CA95035, USA

电话: 1-408-821-6600