

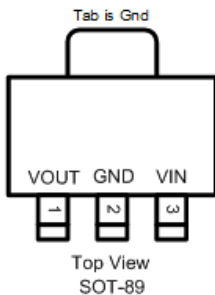
General Description

The SE7550 is a very low dropout three-terminal regulator. The SE7550 is specifically designed to work with SE8801 for the electricity meter applications. SE7550 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. SE7550 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.

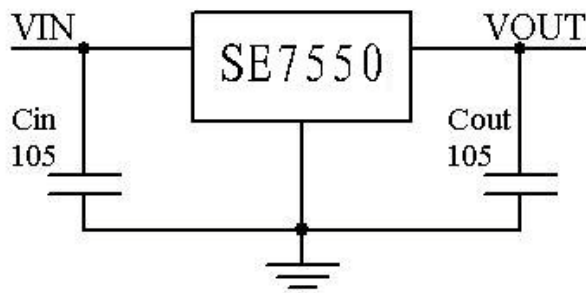
The SE7550 also provides Over Current Protection (OCP) and Over Temperature Protection (OTP) . Both these features will ensure a safe operating environment for electricity meter applications.

The SE7550 is available in SOT-89 packages

Pin Configuration



Application Circuit



Features

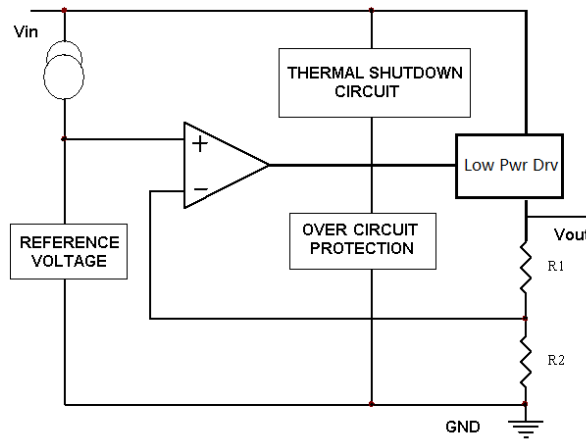
- Output voltage of 11.6V (Typ.)
- Output current up to 150mA (Typ.)
- Current limiting
- Over thermal Protection.
- Minimum external components.
- Output voltage tolerances of $\pm 2\%$
- Input Voltage up to 30V
- Operating Junction Temperature Range -40 to +125°C
- ESD rating is 2KV (Per MIL-STD-883D)

Applications

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



Functional Block Diagram



Ordering Information

Part Number	Marking Information	Package	Remarks
SE7550	SE7550 YYWWG-LF	SOT-89	YYWW means Production batch LF means LeadFree

Absolute Maximum Rating

Parameter	Symbol	Maximum	Units
Power dissipation @ Ta=25°C SOT-89	P_D	0.45	W
Input Voltage	V_{IN}	-0.3~30	V
Operating Junction Temperature Range	T_J	-40 to +125	°C
Package Thermal Resistance ^(Note1) SOT-89	θ_{JA}	95	°C/W
Lead Temperature (Soldering) 10 seconds	T_{LEAD}	260±5	°C
Storage Temperature	T_{STG}	-65 to +150	°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

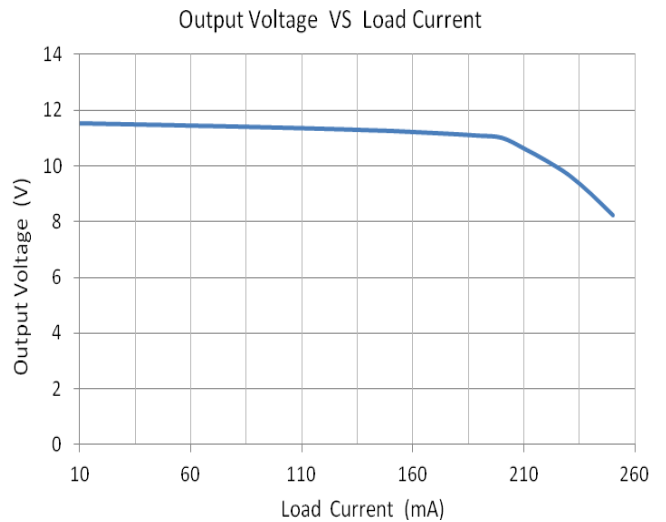
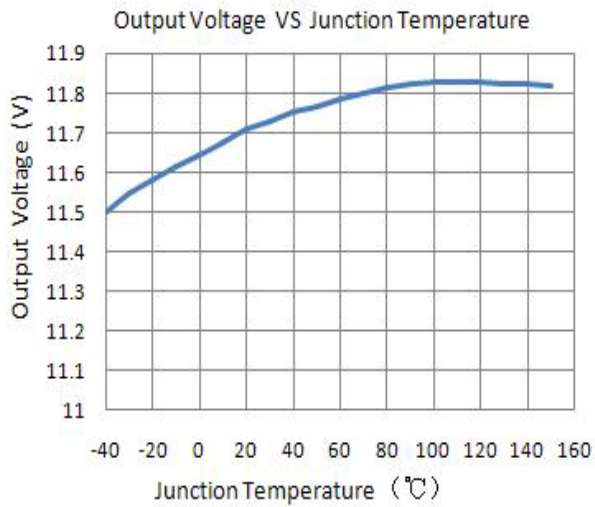
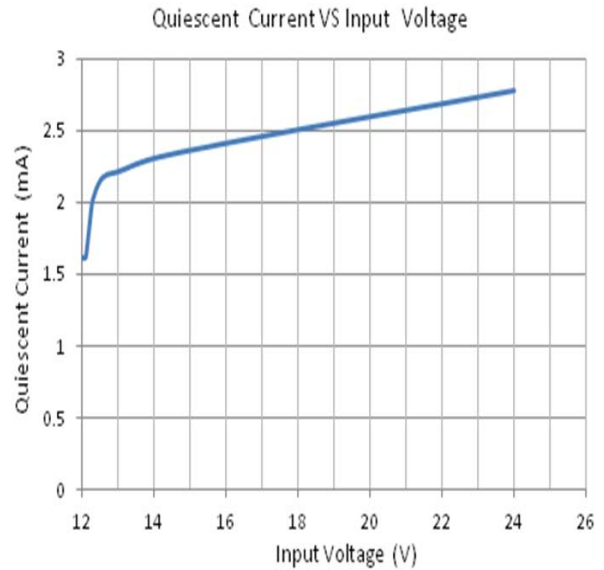
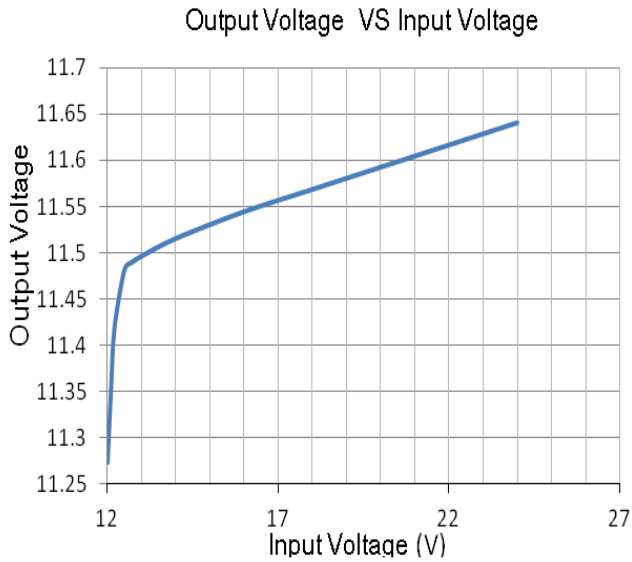
$V_{IN} = 13V$; $I_{OUT} = 10mA$; $C_{IN} = 1\mu F$; $C_{OUT} = 1\mu F$; $T_J = 25^\circ C$; unless otherwise specified

Symbol	Parameter	Conditions	SE7550			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



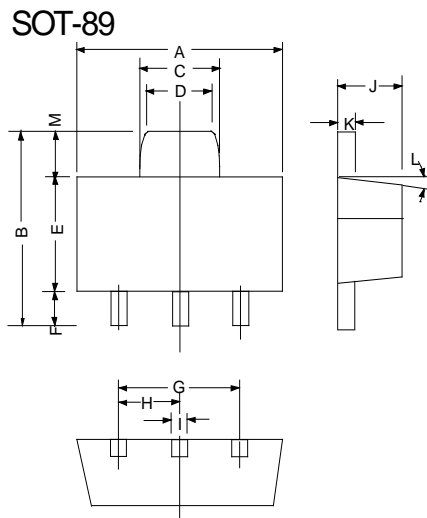
Typical Performance Characteristic

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





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	



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