

Features

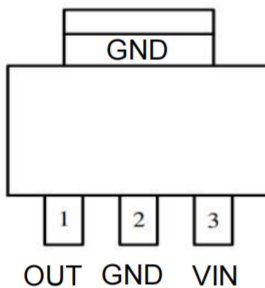
- 3-Terminal regulators
- output current up to 200mA
- Compact package: SOT-223
- Fixed Output Voltage of 5V, 6V, 8V, 9V, 10V, 12V, 15V, 18V and 24V Available

Applications

- HVAC Systems
- SMPS Post Regulation
- Test and Measurement Equipment
- Industrial Power Supplies

PIN CONFIGURATION

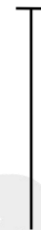
(TOP VIEW)



Pin Number	Pin Name	Pin Function
1	VOUT	Output of the Regulator
2	GND	Ground
3	VIN	Input of Supply Voltage

Ordering Information

78LXXMG



OUTPUT VOLTAGE

- 05 : 5.0V
- 06 : 6.0V
- 08 : 8.0V
- 09 : 9.0V
- 10 : 10V
- 12 : 12V
- 15 : 15V
- 18 : 18V
- 24 : 24V

Example: 78L15MG

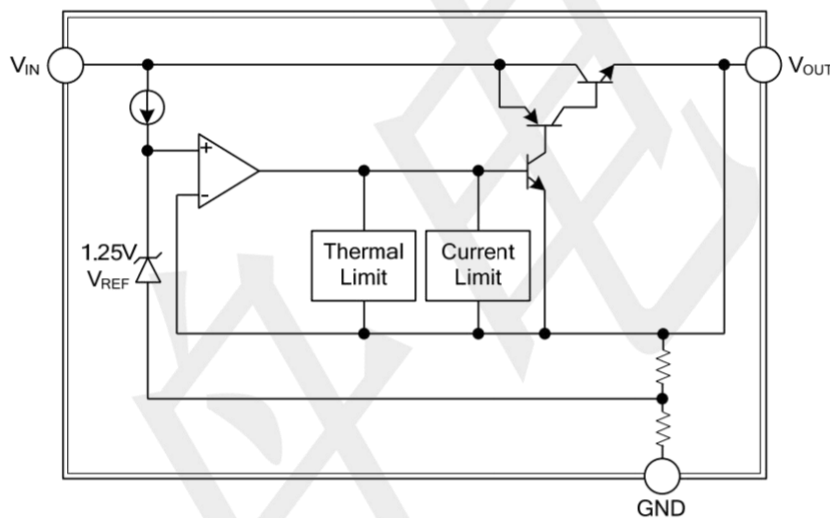
→ 15V Version, in SOT-223 Package & Tape & Reel Packing Type

Absolute Maximum Ratings

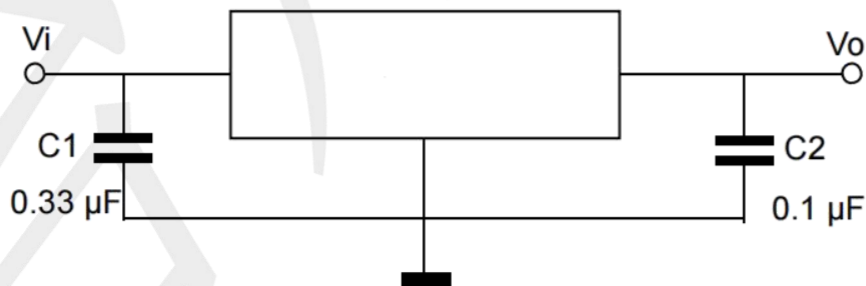
over operating free-air temperature range (unless otherwise noted)

Symbol	Parameter	Rating	UNIT
V _{IN}	Input voltage	35	V
I _{OUT}	output current	200	mA
T _J	Junction temperature	+150	°C
T _{OPR}	Operating Junction Temperature Range	0~+150	°C
T _{stg}	Storage temperature range	-65~+150	°C

BLOCK DIAGRAM



Typical Application Circuit



Note:1 Required if the regulator is located far from the power supply filter.

2 Although no output capacitor is needed for stability, it does help transient response.

(If needed, use 0.1-μF, ceramic disc).

Electrical Characteristics

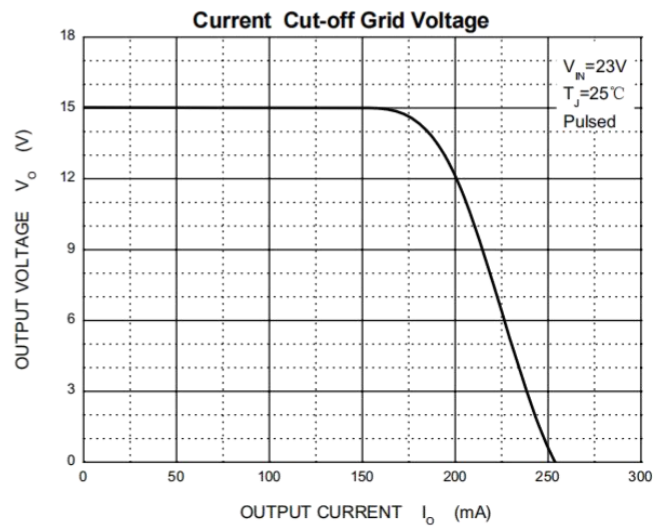
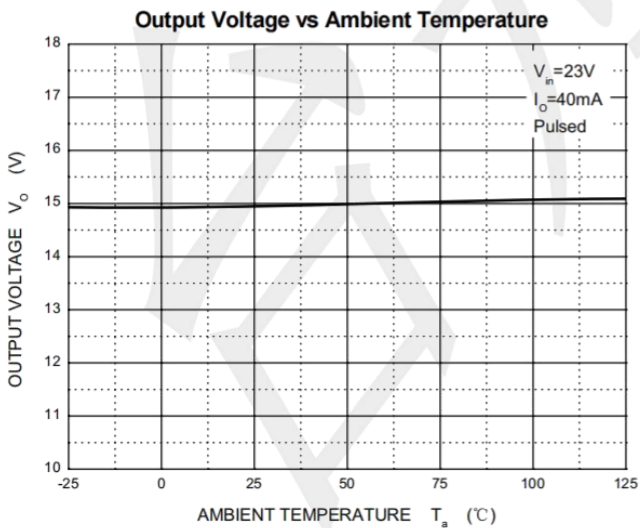
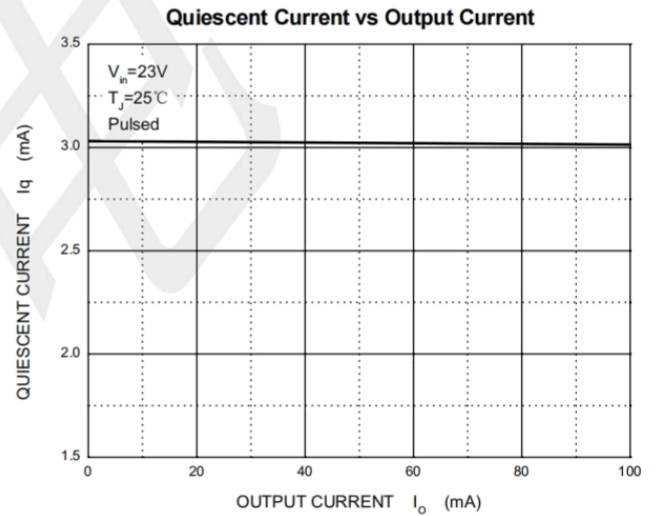
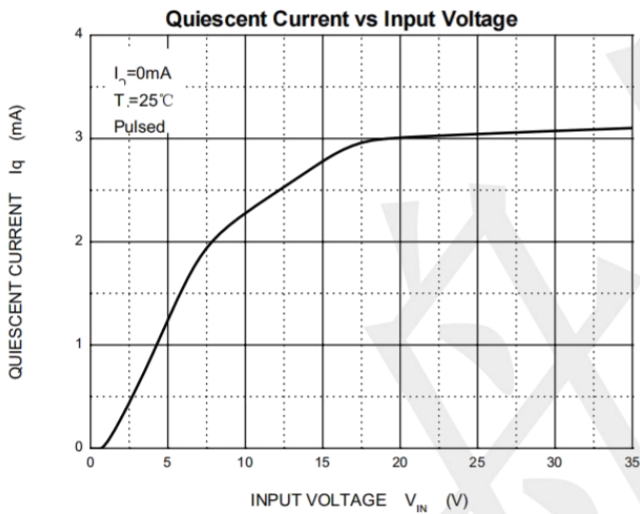
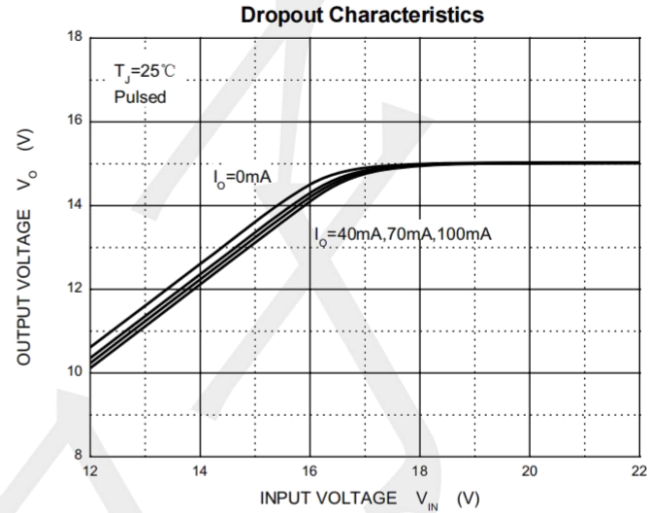
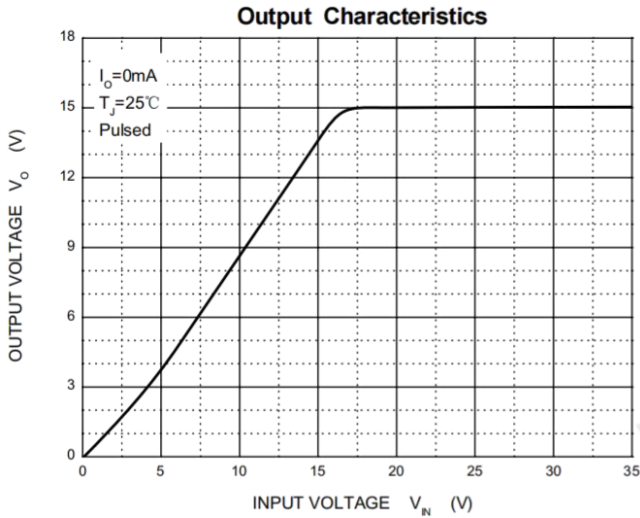
(TA=25°C, unless otherwise specified)

Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Output voltage Range	Vo		25°C	Vo X 0.96	--	Vo X 1.04	V
		17.5V≤Vi≤30V, Io=1mA-40mA	0-125°C	Vo X 0.95	--	Vo X 1.05	V
		Vi=23V, Io=1mA-70mA		Vo X 0.95	--	Vo X 1.05	V
Load Regulation	ΔVo	Io=1mA-100mA, Vi=23V	25°C	--	25	150	mV
		Io=1mA-40mA, Vi=23V	25°C	--	15	75	mV
Line regulation	ΔVo	17.5V≤Vi≤30V, Io=40mA	25°C	--	65	300	mV
		19V≤Vi≤30V, Io=40mA	25°C	--	58	250	mV
Quiescent Current	Iq		25°C	--	4.6	6.5	mA
Quiescent Current Change	ΔIq	19V≤Vi≤30V, Io=40mA	0-125°C	--	--	1.5	mA
	ΔIq	1mA≤Io≤40mA, Vi=23V	0-125°C	--	--	0.1	mA
Output Noise Voltage	VN	10Hz≤f≤100KHz	25°C	--	82	--	μV
Ripple Rejection	RR	18.5V≤Vi≤28.5V, f=120Hz	0-125°C	34	39	--	dB
Dropout Voltage	Vd		25°C	--	1.7	--	V

Note: All characteristics are measured with a 0.33-μF capacitor from input to ground and a 0.1-μF capacitor from output to ground. All characteristics except noise voltage and ripple rejection ratio are measured using pulse techniques (tw ≤ 10 ms, duty cycle ≤ 5%).

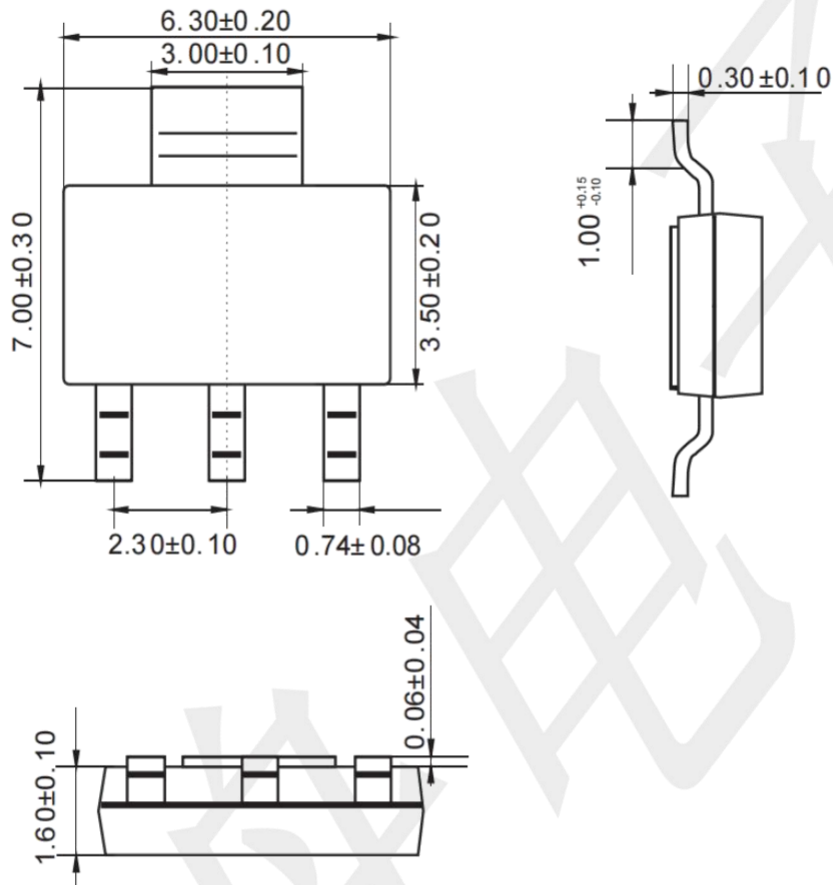
Output voltage changes due to changes in internal temperature must be taken into account separately.

Typical Operating Characteristics (25 °C, unless otherwise noted)



Package Outline Dimensions (unit: mm)

SOT-223



Mounting Pad Layout (unit: mm)

