

TP78L15T3

0.1A Fixed Voltage Regulators

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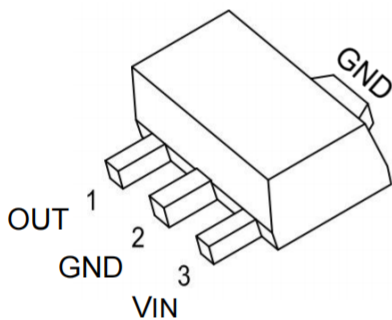
Features

- 3-Terminal regulators
- Maximum Output current 0.1A
- Output voltage V_o : 15V
- Compact package: SOT89-3

Applications

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

PIN CONFIGURATION



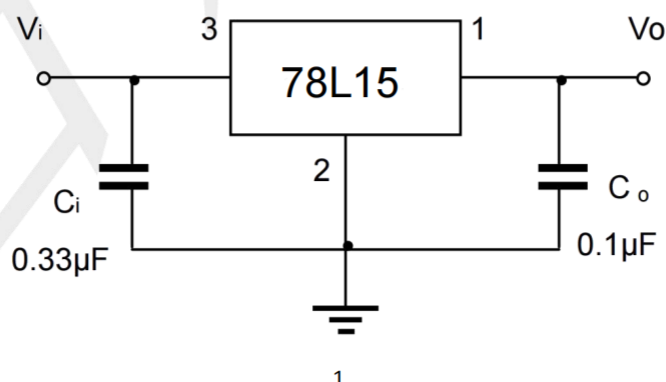
Pin Number	Pin Name	Pin Function
1	VOUT	Output of the Regulator
2	GND	Ground
3	VIN	Input of Supply Voltage

Absolute Maximum Ratings

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

Symbol	Parameter	Rating	UNIT
VIN	Input voltage	35	V
R θ JA	Thermal Resistance Junction-ambient to Air	250	°C/W
PD	Continuous total dissipation (Ta= 25 °C)	0.5	W
T _{OPR}	Operating Junction Temperature Range	-40~+150	°C
T _{stg}	Storage temperature range	-65~+150	°C

TYPICAL APPLICATION



Electrical Characteristics

($V_i=23V, I_o=40mA, C_i=0.33\mu F, C_o=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Output voltage	V_o	$17.5V \leq V_i \leq 30V, I_o=1mA$	$25^\circ C$	14.4	15	15.6	V
		$17.5V \leq V_i \leq 30V, I_o=1mA-40mA$	$0-125^\circ C$	14.25	15	15.75	V
		$V_i=23V, I_o=1mA-70mA$		14.25	15	15.75	V
Load Regulation	ΔV_o	$I_o=1mA-100mA, V_i=23V$	$25^\circ C$	--	25	150	mV
		$I_o=1mA-40mA, V_i=23V$	$25^\circ C$	--	15	75	mV
Line regulation	ΔV_o	$17.5V \leq V_i \leq 30V, I_o=40mA$	$25^\circ C$	--	65	300	mV
		$19V \leq V_i \leq 30V, I_o=40mA$	$25^\circ C$	--	58	250	mV
Quiescent Current	I_q		$25^\circ C$	--	4.6	6.5	mA
Quiescent Current Change	ΔI_q	$19V \leq V_i \leq 30V, I_o=40mA$	$0-125^\circ C$	--	--	1.5	mA
	ΔI_q	$1mA \leq I_o \leq 40mA, V_i=23V$	$0-125^\circ C$	--	--	0.1	mA
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$	$25^\circ C$	--	82	--	μV
Ripple Rejection	RR	$18.5V \leq V_i \leq 28.5V, f=120Hz$	$0-125^\circ C$	34	39	--	dB
Dropout Voltage	V_d		$25^\circ C$	--	1.7	--	V

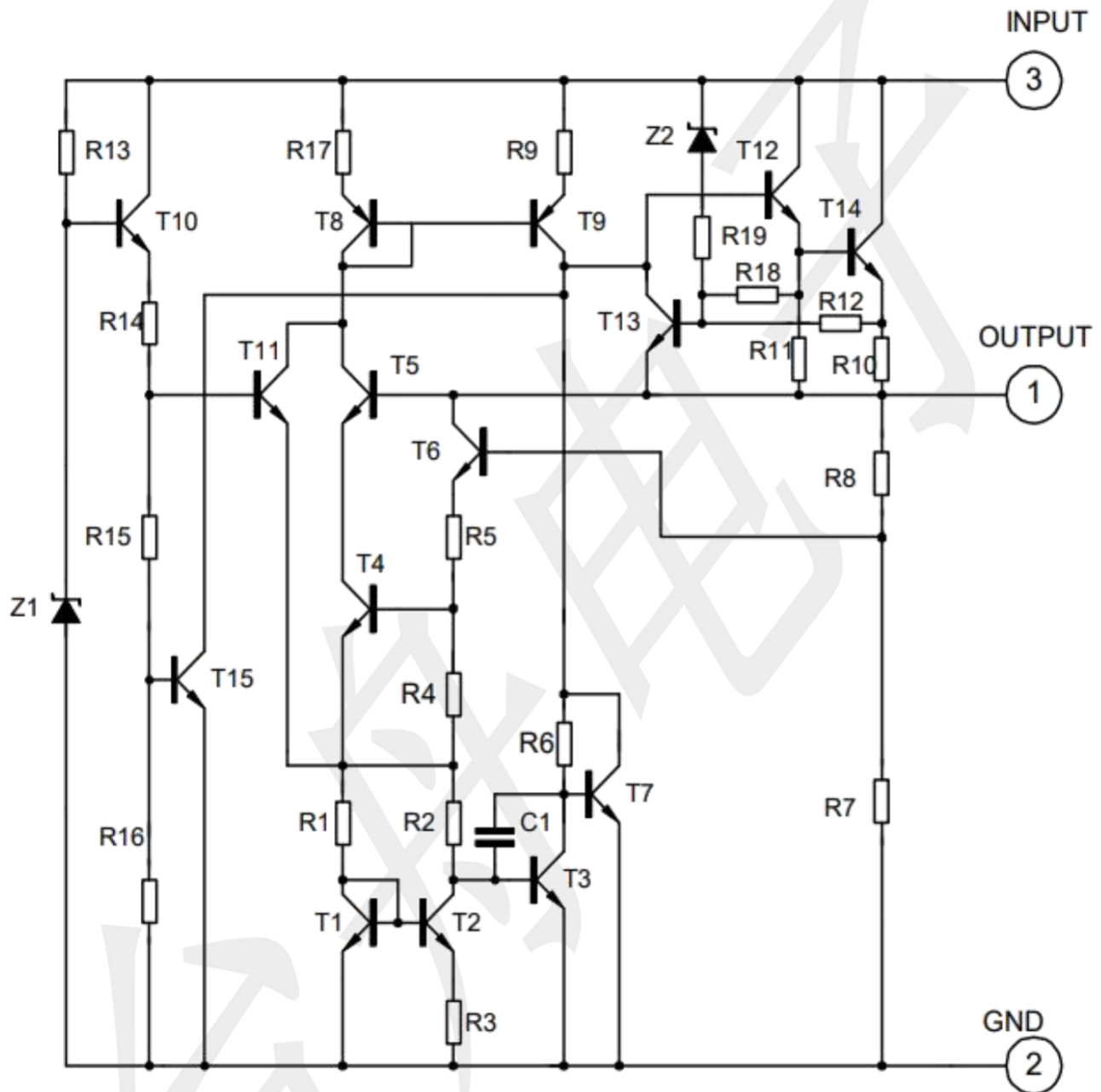
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

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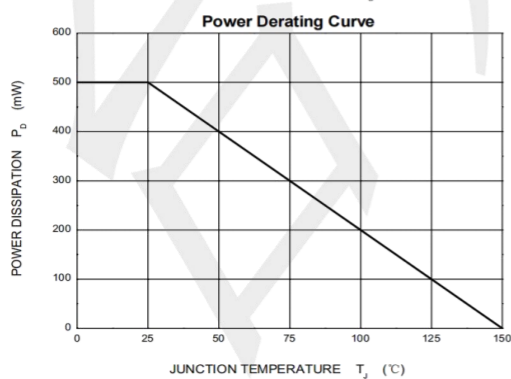
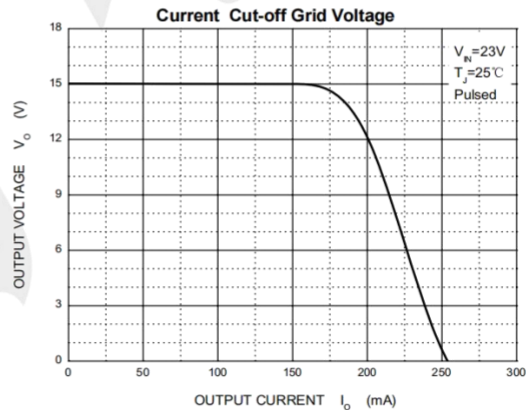
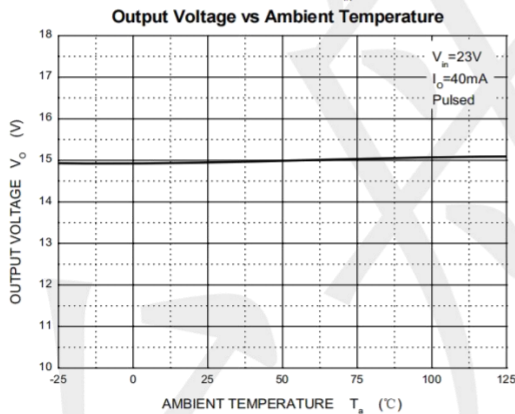
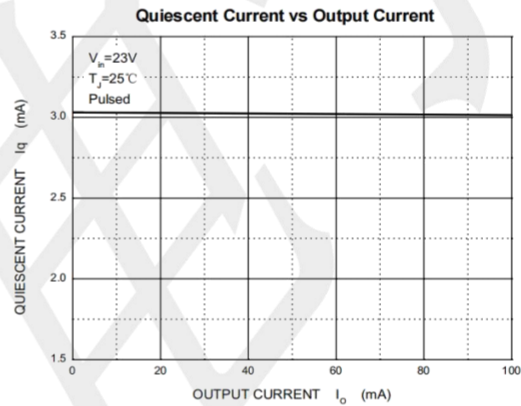
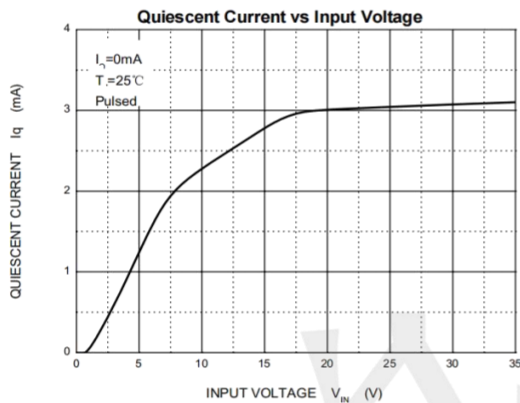
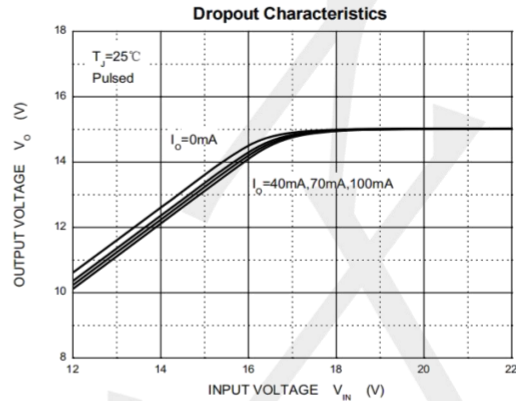
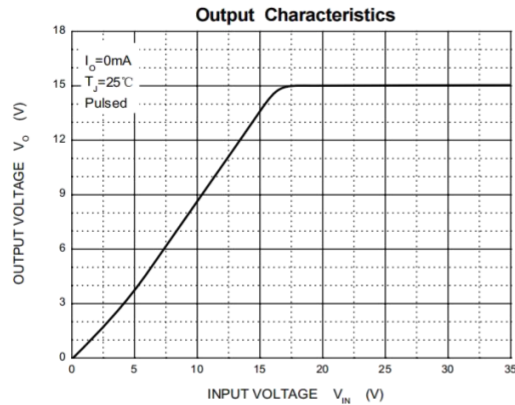
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BLOCK DIAGRAM

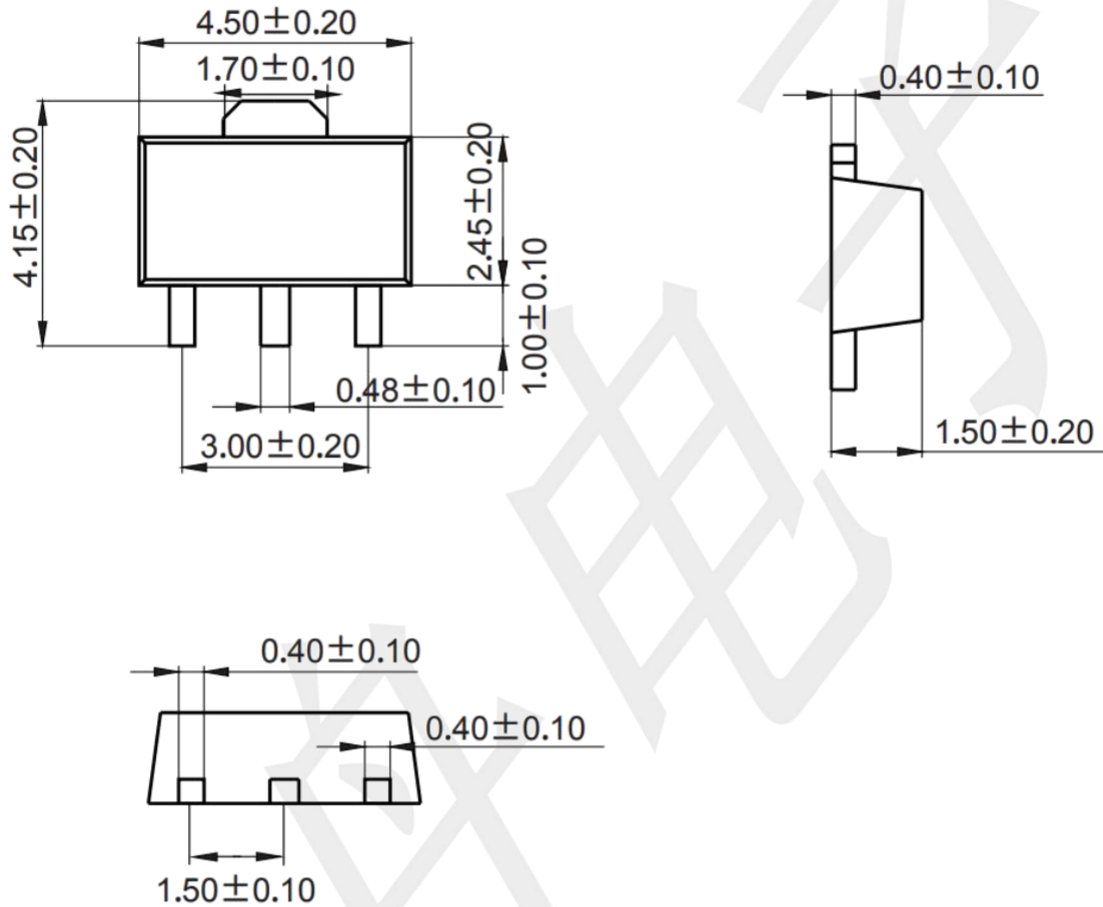


Typical Operating Characteristics



Package Outline Dimensions (unit: mm)

SOT89-3



Mounting Pad Layout (unit: mm)

