

Features

- 1.5μA Ground Current at no Load
- ±2% Output Accuracy
- 200mA Output Current
- Wide Operating Input Voltage Range: 2V to 24V
- Dropout Voltage: 0.35V at 100mA ($V_{OUT}=5V$)
- Support Fixed Output Voltage : 3.3V, 5V,
- Stable with Ceramic or Tantalum Capacitor
- Current Limit Protection
- Over-Temperature Protection
- SOT89-3 Package Available

Applications

- Portable, Battery Powered Equipment
- Low Power Microcontrollers
- Laptop, Palmtops and PDAs
- Wireless Communication Equipment
- Audio/Video Equipment
- Car Navigation Systems
- Industrial Controls
- Weighting Scales
- Meters
- Home Automation

Ordering Information

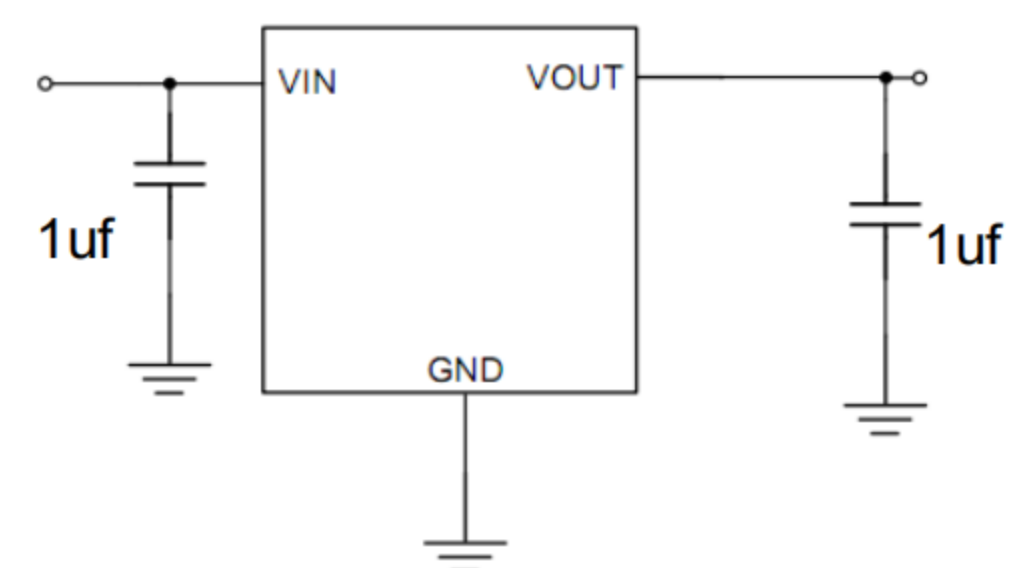
TPAP2204R-XXTRG1

OUTPUT VOLTAGE

3.3 = 3.3V

5.0 = 5.0V

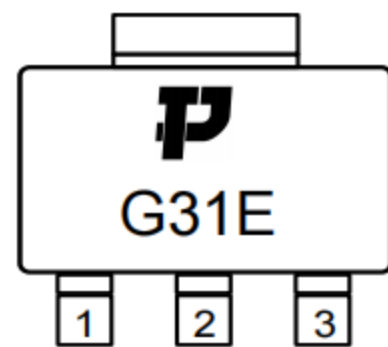
Typical Application Circuit



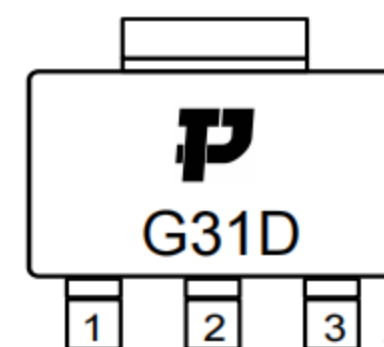
Application circuit of Fixed V_{OUT} LDO

Marking:

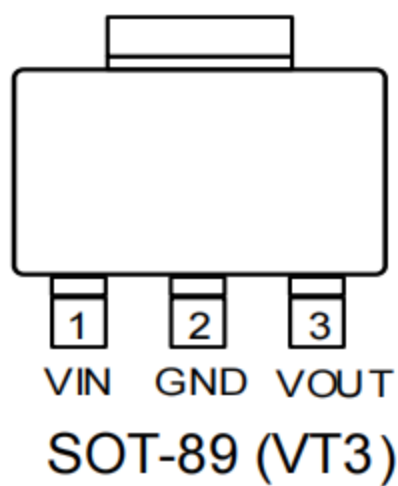
TPAP2204R-3.3TRG1



TPAP2204R-5.0TRG1



PIN CONFIGURATION



Pin No	Pin Name	Pin Function
1	VIN	Input of Supply Voltage.
2	GND	Ground
5	VOUT	Output of the Regulator

Absolute Maximum Ratings

VIN Pin to GND Pin Voltage	-0.3V to 29V
VOUT Pin to GND Pin Voltage	-0.3V to 6.0V
VOUT Pin to VIN Pin Voltage	-29V to 0.3V
Package Thermal Resistance (Note 2)	
SOT-23-5, SOT-23-3, θ_{JA}	200 °C /W
SOT-89-3, θ_{JA}	120 °C /W
Lead Temperature (Soldering, 10 sec.)	260 °C
Junction Temperature	150 °C
Storage Temperature Range	-40 °C to 150 °C
ESD Susceptibility	
HBM	2KV
MM	200V

Recommended Operating Conditions

Supply Input Voltage	-2.0V to 28V
Junction Temperature Range	-40°C to 125°C
Ambient Temperature Range	-40°C to 85°C

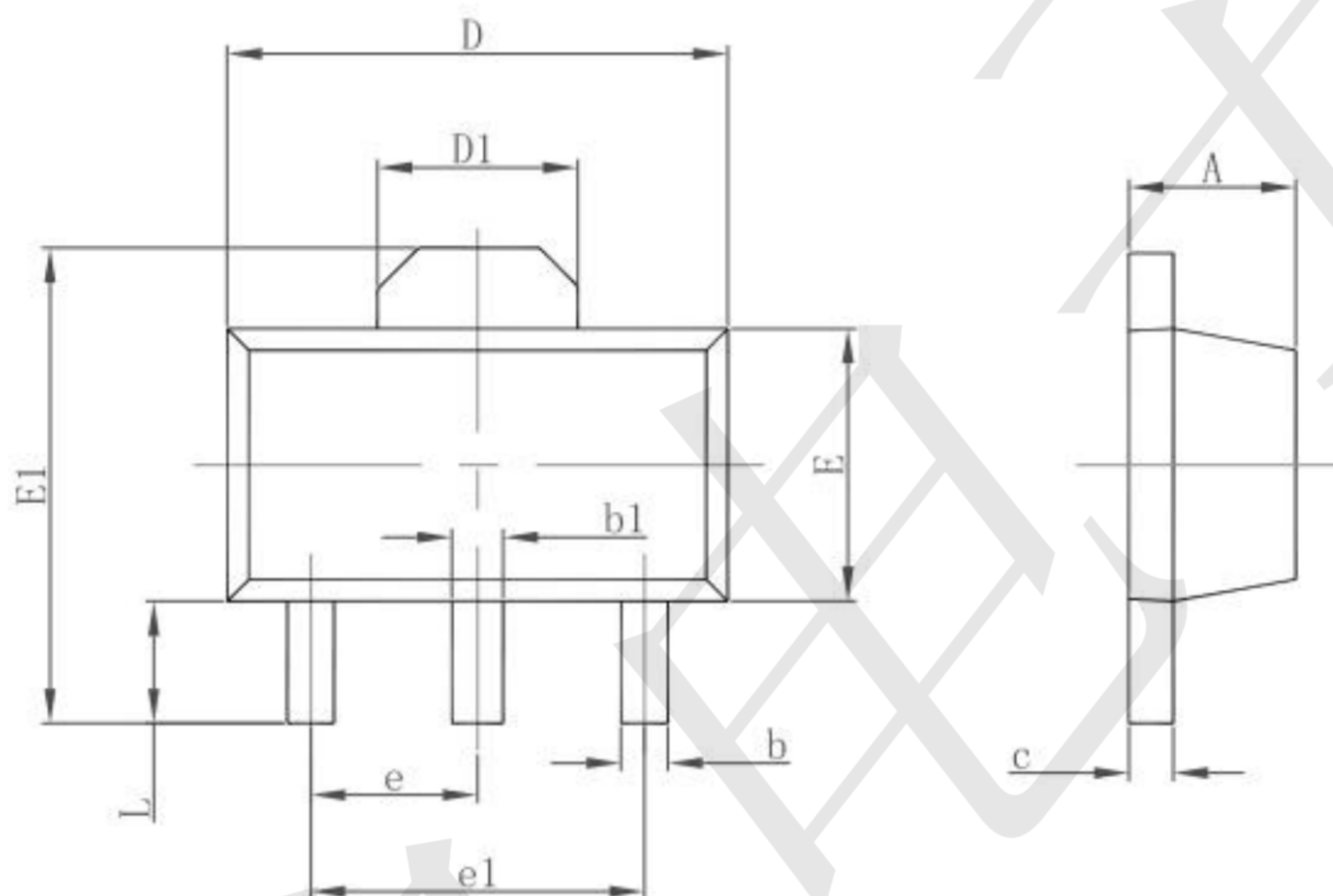
Electrical Characteristics

($V_{IN}=15V$, $V_{EN}=5V$, $T_A=25^{\circ}C$, unless otherwise specified) (Note 1)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Supply Voltage	V_{IN}		2	--	24	V
DC Output Voltage Accuracy		$I_{LOAD} = 0.1mA$	-2		2	%
Dropout Voltage ($I_{LOAD} = 100mA$)	V_{DROP}	$V_{OUT} \geq 5V$	--	0.35		V
	$V_{DROP_3.3V}$	$V_{OUT} = 3.3V$		0.42		
	$V_{DROP_1.8V}$	$V_{OUT} = 1.8V$		0.5		
Ground Current ($I_{LOAD} = 0mA$)	I_Q	$V_{OUT} \leq 5V$		3	10	μA
Shutdown Ground Current	I_{SD}	$V_{EN} = 0V$, $V_{OUT} = 0V$		0.01	0.5	μA
V_{OUT} Shutdown Leakage Current	I_{LEAK}			0.01	0.5	μA
Enable Threshold Voltage	V_{IH}	EN Rising	1.1			V
	V_{IL}	EN Falling			0.4	
EN Input Current	I_{EN}	$V_{EN} = 27V$		10	100	nA
Line Regulation	$\Delta LINE$	$I_{LOAD} = 1mA$, $10 \leq V_{IN} \leq 20V$	--	0.3		%
Load Regulation	$\Delta LOAD$	$10mA \leq I_{LOAD} \leq 0.2A$		0.3		%
Output Current Limit	I_{LIM}	$V_{OUT} = 0$	200	500		mA
Power Supply Rejection Ratio	PSRR	$V_{OUT} = 5V$, $I_{LOAD} = 30mA$, $V_{IN} = 12V$, $f = 1kHz$		70		dB
Thermal Shutdown Temperature	T_{SD}	$I_{LOAD} = 10mA$	--	160	--	$^{\circ}C$
Thermal Shutdown Hysteresis	ΔT_{SD}			15		$^{\circ}C$

Package informantion

SOT89-3



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047