TECH PUBLIC
台舟电子

TP375C Series

150mA, High Voltage Regulator

www.sot23.com.tw

Features

- 2μA Ground Current at no Load
- ±2% Output Accuracy
- 200mA Output Current
- Wide Operating Input Voltage Range: 3V to 36V
- Support Fixed Output Voltage 1.8V,2.5V, 3.0V, 3.3V, 3.6V, 4.0V, 4.2V, 5.0V
- SOT-23-5 Package Available

Applications

- Portable, Battery Powered Equipment
- Low Power Microcontrollers
- Laptop, Palmtops and PDAs
- Wireless Communication Equipment

Ordering Information

TP375C33S5

S5:SOT23-5 Package

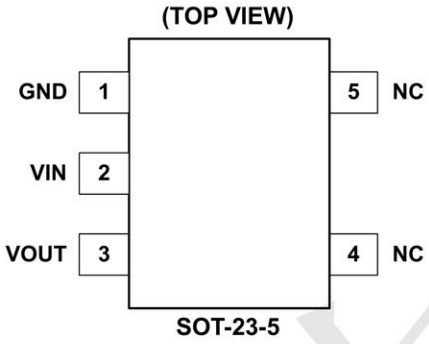
Output voltage: 12=1.2V
15=1.5V
18=1.8V
30=3.0V
33=3.3V
50=5.0V

Marking Information

P:Logo
XXX: Marking ID

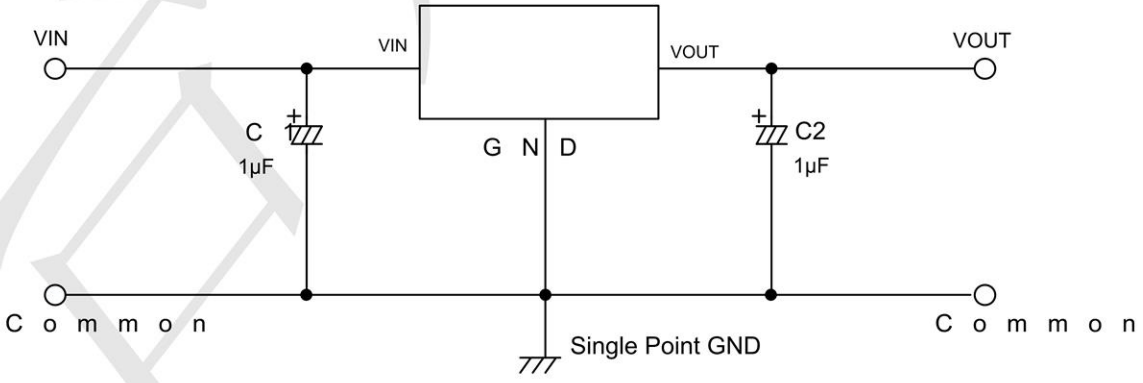
30=3.0V
33=3.3V
50=5.0V
A2=12V

PIN CONFIGURATION

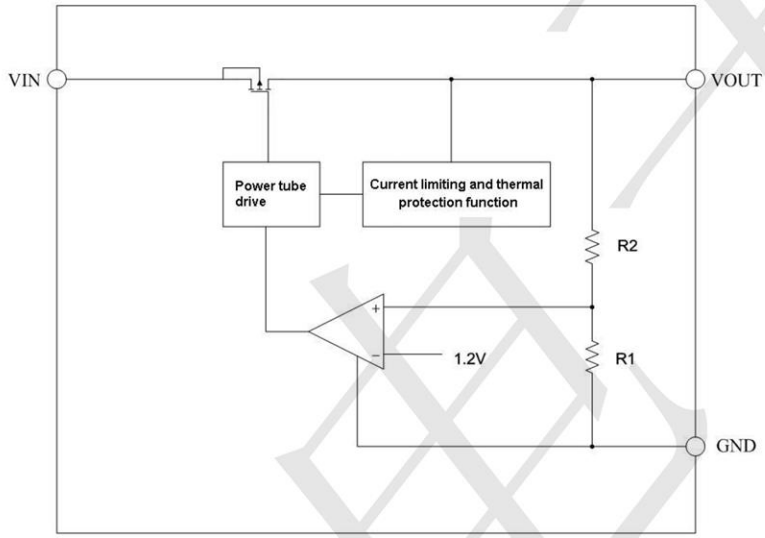


Pin Name	Pin Function
VIN	Power Input Voltage
GND	Ground
OUT	Output Voltage
NC	NO Connected
NC	NO Connected

Typical Application Circuit



BLOCK DIAGRAM



Absolute Maximum Ratings

Parameter		Value	Unit
Supply Voltage		-0.3 ~ +40	V
	SOT-23-5	400	mW
	SOT-23-5	380	°C/W
Operating Junction Temperature		-40 ~ +125	°C
Storage Temperature Range		-65 ~ +150	°C
Lead Temperature (Soldering, 10 sec)		300	°C
ESD(HBM mode, ESDA/JEDECJS-001-2017)		+2000	V

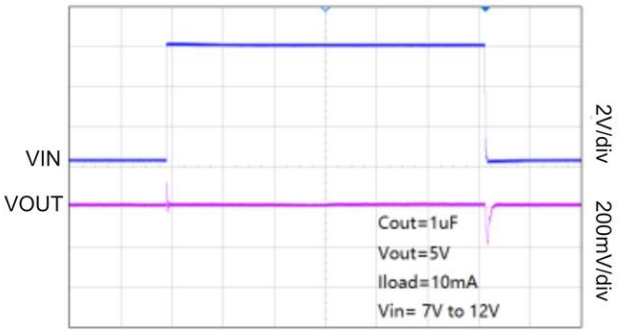
Electrical Characteristics

(V_{IN}=V_{OUT}+2, C_{IN}=1μF, C_{OUT}=1μF, T_A=25℃ , unless otherwise noted.)

Parameter	Symbol	Test Conditions		Min.	Typ.	Max.	Unit
Input Voltage	V_{IN}			3	--	36	V
Output Voltage Accuracy	ΔV_{OUT}	I_{OUT}=1mA		-2	--	+2	%
Maximum Output Current	$I_{OUT(Max)}$			150	--	--	mA
Quiescent Current	I_Q	I_{OUT}=0mA		--	2		uA
Dropout Voltage	V_{DROP}	V_{OUT}=1.8V	I_{OUT}=150mA	--	1250	1450	mV
			I_{OUT}=100mA	--	880	1050	mV
		V_{OUT}=2.5V	I_{OUT}=150mA	--	1150	1350	mV
			I_{OUT}=100mA	--	800	1000	mV
		V_{OUT}=3.0V	I_{OUT}=150mA	--	820	960	mV
			I_{OUT}=100mA	--	530	700	mV
		V_{OUT}=3.3V	I_{OUT}=150mA	--	800	950	mV
			I_{OUT}=100mA	--	520	680	mV
		V_{OUT}=3.6V	I_{OUT}=150mA	--	750	930	mV
			I_{OUT}=100mA	--	500	660	mV
		V_{OUT}=5.0V	I_{OUT}=150mA	--	670	900	mV
			I_{OUT}=100mA	--	420	600	mV
Line Regulation	ΔV_{LINE}	V_{IN}=V_{OUT}+2V to 30V I_{OUT}=10mA		--	--	0.2	%/V
Load Regulation	ΔV_{LOAD}	V_{IN}=V_{OUT}+2V, 1mA<I_{OUT}<150mA		--	25	60	mV
Short Current Protection	I_{Short}	OUT Short to GND		--	80	--	mA
Output Noise	e_N	10Hz to 100KHz I_{OUT}=30mA		--	120	--	μV_{RMS}
Power Supply Rejection Ratio	PSRR	V_{IN}=12V, I_{OUT}=1mA		--	68	--	dB

Typical Operating Characteristics

Line-Transient Response

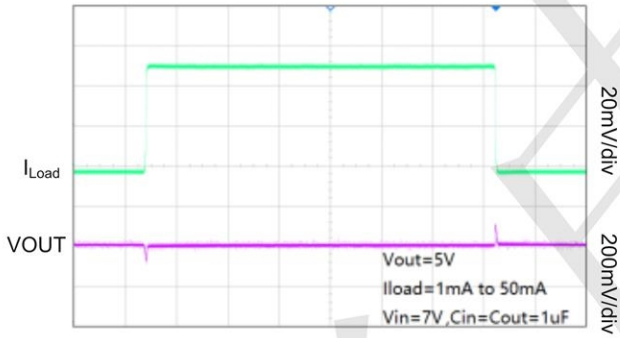


Time(1ms/div)

Line-Transient Response

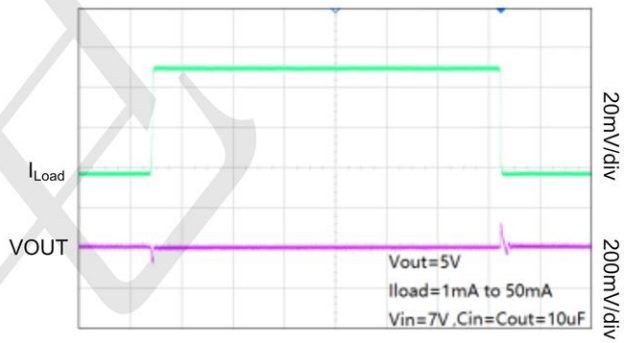
Time(1ms/div)

Load-Transient Response



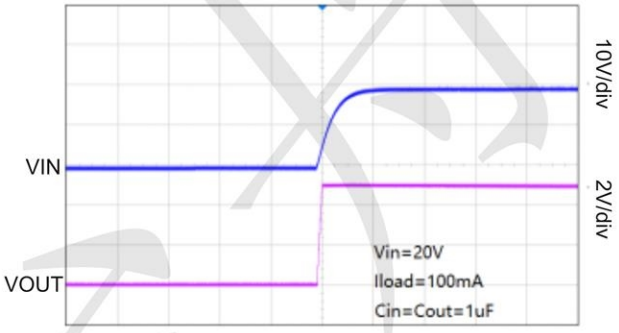
Time(5ms/div)

Load-Transient Response



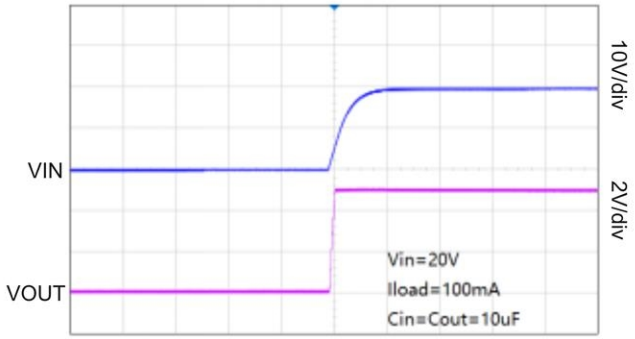
Time(5ms/div)

Start uo Response



Time(10ms/div)

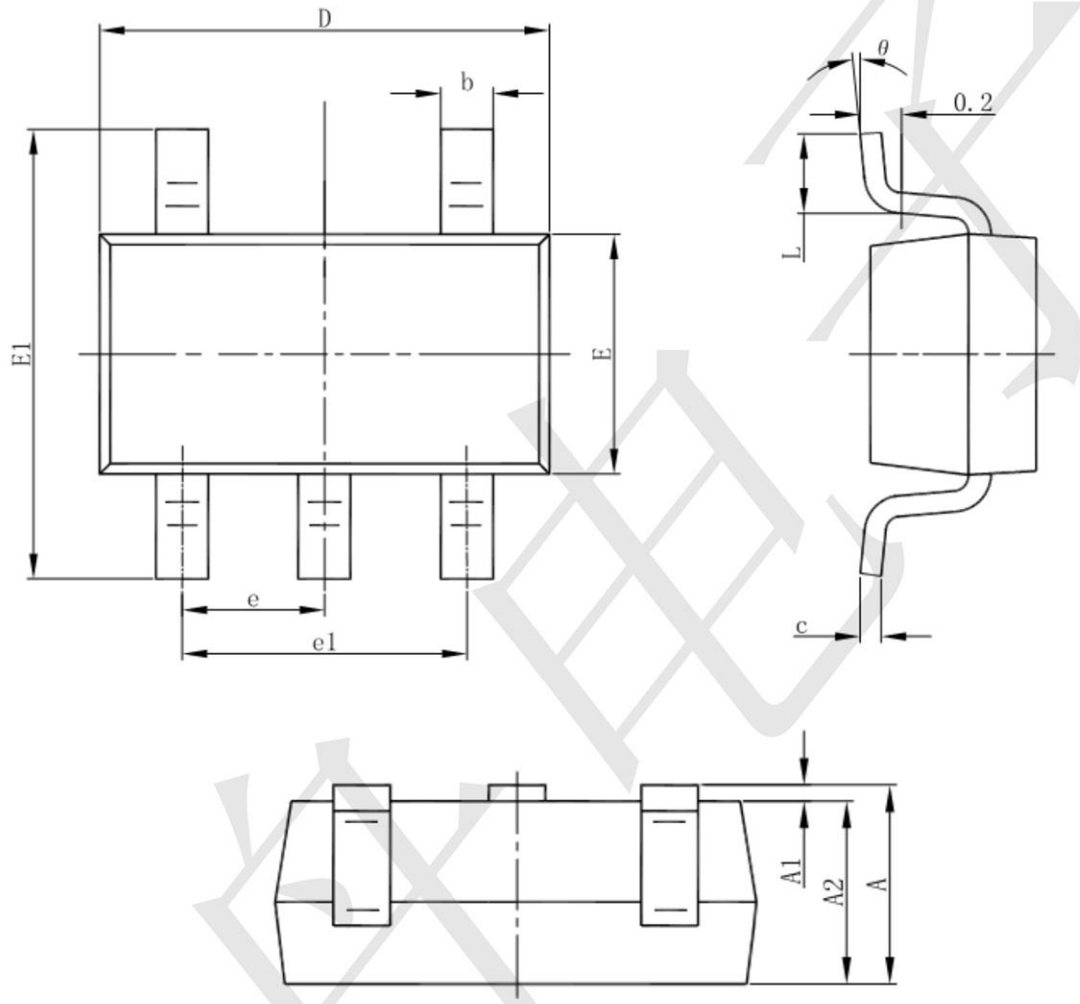
Start uo Response



Time(10ms/div)

Package information

SOT23-5



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°