

1、Description

These voltage regulators are monolithic integrated circuits designed as fixed-voltage regulators for a wide variety of applications including local, on-card regulation. These regulators employ internal current limiting, thermal shutdown, and safe-area compensation. With adequate heatsink they can deliver output currents up to 1.0 ampere. Although designed primarily as a fixed voltage regulator, these devices can be used with external components to obtain adjustable voltages and currents.


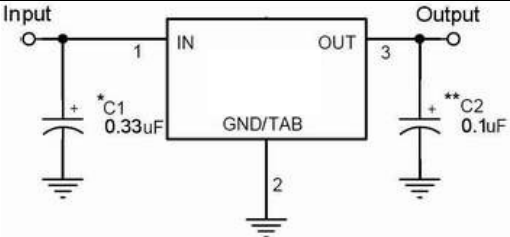
2、Applications

A common ground is required between the input and the output voltages. The input voltage must remain typically 2.0V above the output voltage even during the low point on the input ripple voltage.

3、Features

- MAX Output current up to 1.0A
- No external components required
- Internal thermal overload protection
- Internal short-circuit current limiting
- Output transistor safe-area compensation
- Output voltage offered in 4% tolerance

4、Pinning information

PIN	Description	Simplified outline	Symbol
1	Input	 TO-220	
2	Gnd/Tab		
3	Output		

5、Absolute Maximum Rating

PARAMETER	SYMBOL	MAX	UNIT
Input Voltage	V _{in}	30	V
Thermal resistance junction-case	R _{thJC}	5	°C/W
Thermal resistance junction-ambient	R _{thJA}	50	°C/W
Operating Junction Temperature Range	T _j	0~+125	°C
Storage Temperature Range	T _{stg}	-65~+150	°C

6、Electrical Characteristics

($V_{in}=16V$, $I_{out}=500mA$, $0^{\circ}C < T_j < 125^{\circ}C$, $C_{in}=0.33\mu F$, $C_{out}=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test Conditions		MIN	TYPE	MAX	UNIT
Output voltage	V_{out}	$T_j=25^{\circ}C$ PD<15W $12.5V < V_{in} < 25V$, $10mA < I_{out} < 1.0A$		9.5	10	10.5	V
Line Regulation	REG _{line}	$T_j=25^{\circ}C$	$13.5V < V_{in} < 25V$,		10	200	mV
			$13V < V_{in} < 20V$,		3	100	
Load Regulation	REG _{load}	$T_j=25^{\circ}C$	$10mA < I_{out} < 1.0A$		12	200	mV
			$250mA < I_{out} < 750mA$		4	100	
Quiescent Current	I_q	$I_{out}=0$, $T_j=25^{\circ}C$			5	8	mA
Quiescent Current Change	ΔI_q	$13V < V_{in} < 25V$,				0.8	mA
		$10mA < I_{out} < 1.0A$				0.5	
Output Noise Voltage	V_n	$10HZ < f < 100KHZ$, $T_j=25^{\circ}C$			58		μV
Ripple Rejection Ratio	RR	$F=120HZ$, $8V < V_{in} < 18V$		56	71		dB
Voltage Drop	V_{drop}	$I_{out}=1.0A$, $T_j=25^{\circ}C$			2		V
Output Resistance	R_{out}	$f=1KHZ$			17		$m\Omega$
Output Short Circuit Current	I_{os}	$T_j=25^{\circ}C$			250		mA
Peak Output Current	$I_{o peak}$	$T_j=25^{\circ}C$			2.2		A
Temperature Coefficient of Output Voltage	$\Delta V_{out} / \Delta T_j$	$I_{out}=10mA$, $0^{\circ}C < T_j < 125^{\circ}C$			0.8		$mV/^{\circ}C$

7、Package outline(TO-220)

