

## 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 ampere. Although designed primarily as a fixed voltage regulator, these devices can be used with external components to obtain adjustable voltages and currents.

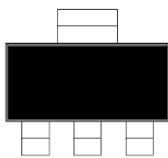
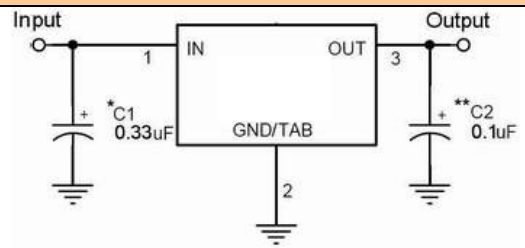
## 2、Applications

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

- Output current up to 500mA
- 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	 <p style="text-align: center;">1    2    3 SOT-223</p>	
2	Gnd/Tab		
3	Output		

## 5、Absolute Maximum Rating

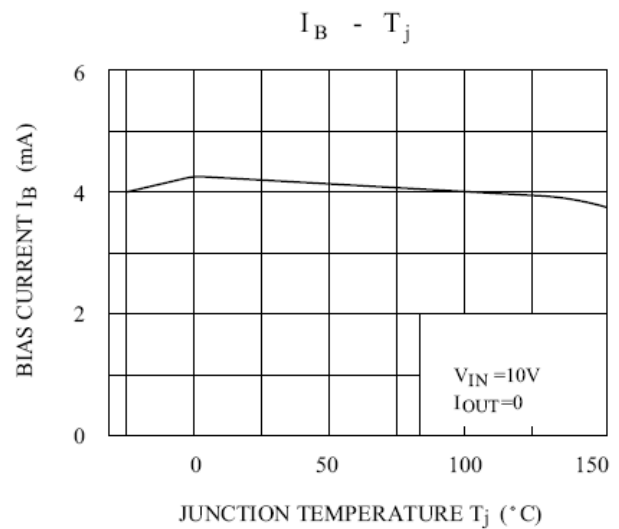
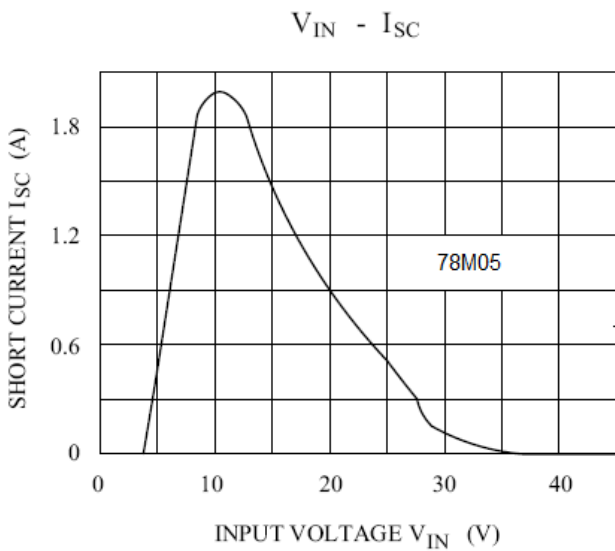
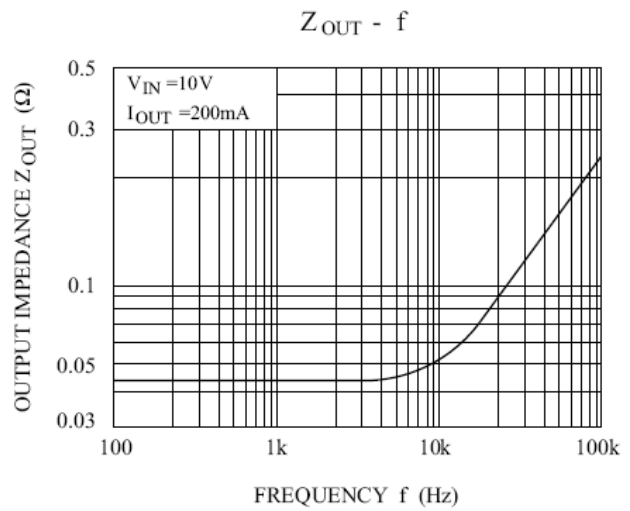
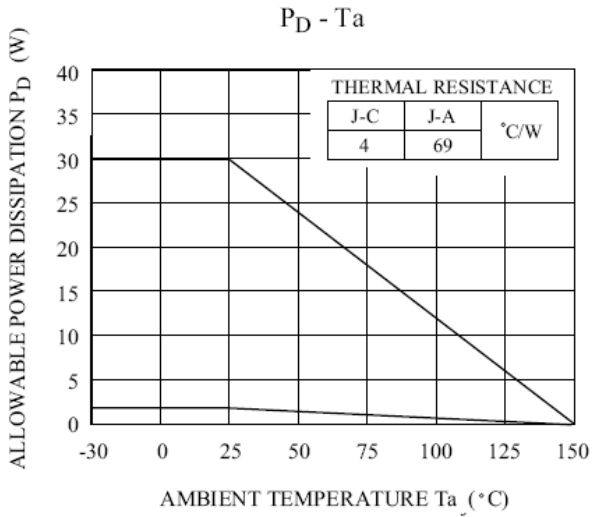
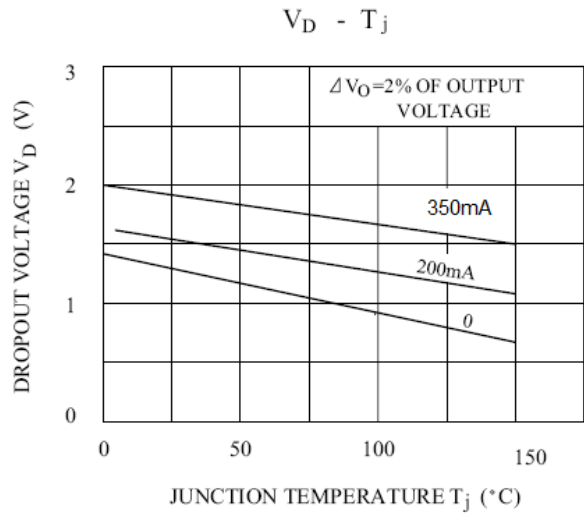
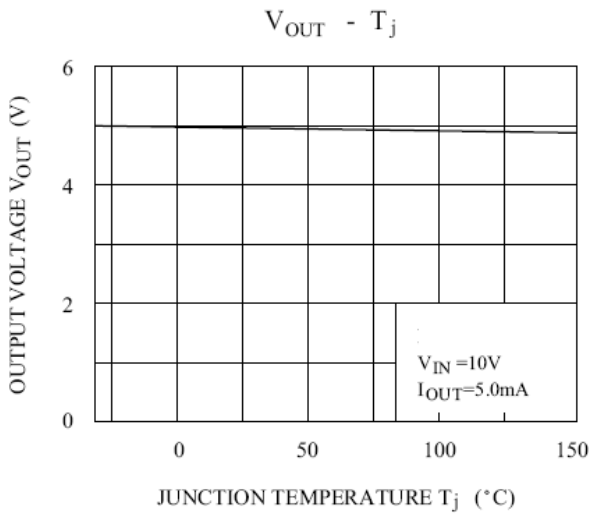
PARAMETER	SYMBOL	VALUE	UNIT
Input Voltage	V <sub>in</sub>	30	V
Thermal Resistance Junction-Air(T <sub>a</sub> = +25°C)	R <sub>θJA</sub>	95	°C/W
Operating Junction Temperature Range	T <sub>j</sub>	0~+125	°C
Storage Temperature Range	T <sub>stg</sub>	-65~+150	°C

## 6、Electrical Characteristics

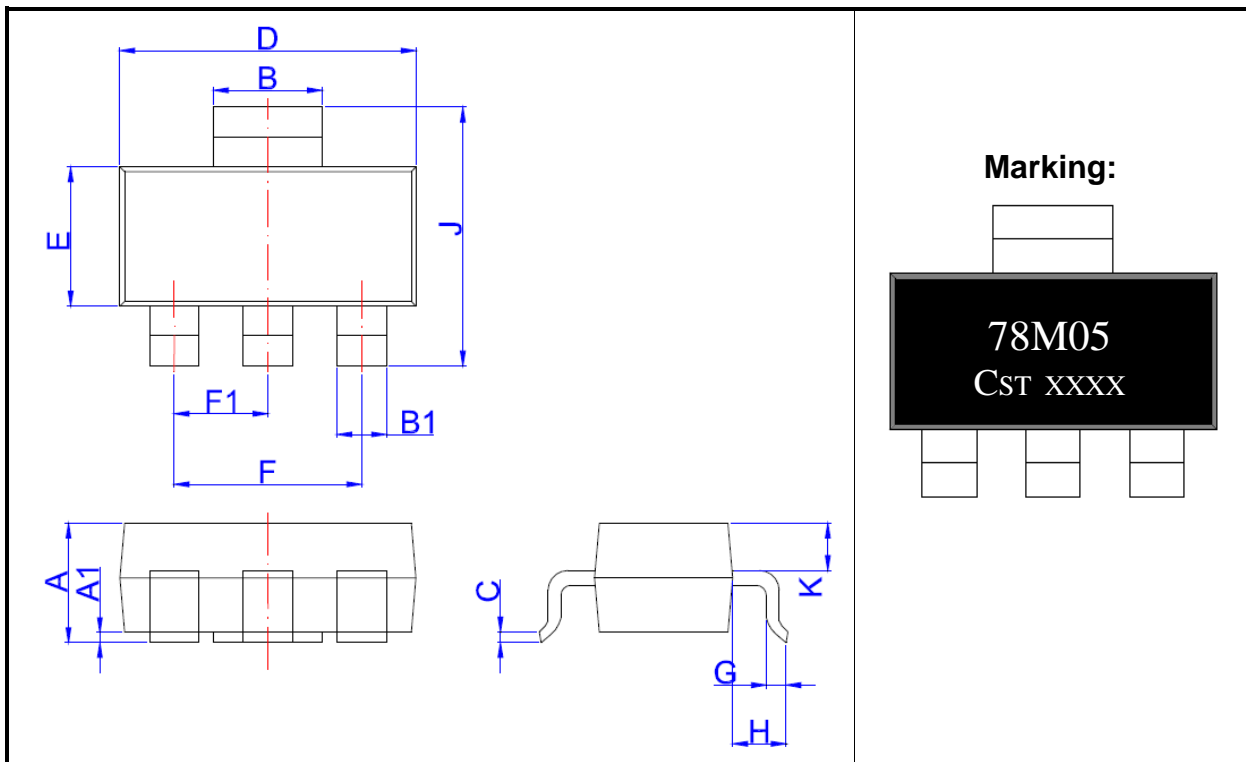
(Vin=10, Iout=350mA, 0°C&lt;Tj&lt;125°C, Cin=0.33uF, Cout=0.1uF, unless otherwise specified)

Parameter	Symbol	Test Conditions	MIN	TYPE	MAX	UNIT
Output voltage	Vout	Tj=25°C PD<15W 7.5V<Vin<20V, 10mA <Iout<0.5A	4.75	5.0	5.25	V
Line Regulation	REGline	Tj=25°C	7.5V<Vin<25V,	3	100	mV
			8V<Vin<12V,	1	50	
Load Regulation	REGload	Tj=25°C	10mA <Iout<0.5A	15	100	mV
			250mA<Iout<350mA	5	50	
Quiescent Current	Iq	Iout=0, Tj=25°C		4.2	8	mA
Quiescent Current Change	Δ Iq		7.5V<Vin<25V,		1.3	mA
			10mA <Iout<0.5A		0.5	
Output Noise Voltage	Vn	10HZ<f<100KHZ, Tj=25°C			40	uV
Ripple Rejection Ratio	RR	F=120HZ,8V<Vin<18V	62	78		dB
Voltage Drop	Vdrop	Iout=0.35A, Tj=25°C		2		V
Output Resistance	Rout	f=1KHZ		17		mΩ
Output Short Circuit Current	Ios	Tj=25°C		750		mA
Peak Output Current	I <sub>o peak</sub>	Tj=25°C		2.2		A
Temperature Coefficient of Output Voltage	Δ Vout/ Δ Tj	Iout=10mA, 0°C<Tj<125°C		-0.6		mV/°C

7、Electrical Characteristics Curve



## 8、Package outline(SOT-223)



DIM	Inches			Millimeters		
	Min	Type	Max	Min	Type	Max
A	0.061	0.063	0.071	1.55	1.6	1.8
A1	0	0.002	0.004	0	0.06	0.10
B	0.114	0.118	0.122	2.9	3.0	3.1
B1	0.024	0.028	0.031	0.6	0.7	0.8
C	0.009		0.013	0.22		0.32
D	0.248	0.256	0.264	6.3	6.5	6.7
E	0.130	0.138	0.146	3.3	3.5	3.7
F		0.181			4.6	
F1		0.091			2.3	
G	0.028	0.035	0.043	0.7	0.9	1.1
H	0.063	0.069	0.083	1.6	1.75	2.1
J	0.264	0.276	0.285	6.7	7.0	7.25
K		0.035			0.9	

CST