



HUIZHOU JINSANE ELECTRONICS CO., LTD

TO-252 Plastic-Encapsulate Voltage Regulators

78M05 Three-terminal positive voltage regulator

FEATURES

Maximum Output current I_{OM} : 0.5 A

Output voltage V_o : 5V

Continuous total dissipation

P_D : 1.5 W ($T_a = 25^\circ C$)

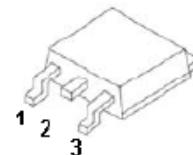
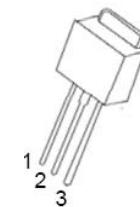
15 W($T_c = 25^\circ C$)

TO-251
TO-252

1.IN

2.GND

3.OUT



ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	66.7	°C/W
Thermal Resistance from Junction to Case	$R_{\theta JC}$	6.67	°C/W
Operating Junction Temperature Range	T_{OPR}	0-125	°C
Storage Temperature Range	T_{STG}	-65-150	°C

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=10V, I_o=500mA, C_i=0.33\mu F, C_o=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	V_o	25°C	4.8	5.0	5.2	V
		7V ≤ V_i ≤ 20V, I_o =5mA-1A, $P \leq 15W$	0-125°C	4.75	5.00	5.25
Load Regulation	ΔV_o	I_o =5mA-1.5A	25°C	9	100	mV
		I_o =250mA-750mA	25°C	4	50	mV
Line regulation	ΔV_o	7V ≤ V_i ≤ 25V	25°C	4	100	mV
		8V ≤ V_i ≤ 12V	25°C	1.6	50	mV
Quiescent Current	I_q		25°C	5	8	mA
Quiescent Current Change	ΔI_q	7V ≤ V_i ≤ 25V	0-125°C	0.3	1.3	mA
		5mA ≤ I_o ≤ 1A	0-125°C	0.03	0.5	mA
Output Noise Voltage	V_N	10Hz ≤ f ≤ 100KHz	25°C	42		uV
Output voltage drift	$\Delta V_o/\Delta T$	I_o =5mA	0-125°C	-1.1		mV/°C
Ripple Rejection	RR	8V ≤ V_i ≤ 18V, f=120Hz	0-125°C	62	73	dB
Dropout Voltage	V_d	I_o =1A	25°C	2		V
Output resistance	R_o	f=1KHz	25°C	10		mΩ
Short Circuit Current	I_{sc}		25°C	230		mA
Peak Current	I_{pk}		25°C	2.2		A