

78M05 Three-terminal positive voltage regulator**FEATURES**Maximum Output current I_{OM} : 0.5 AOutput voltage V_o : 5V

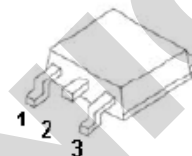
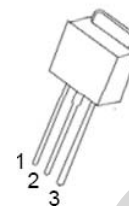
Continuous total dissipation

 P_D : 1.5 W ($T_a = 25^\circ\text{C}$)15 W ($T_c = 25^\circ\text{C}$)**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	$^\circ\text{C}/\text{W}$
Thermal Resistance from Junction to Case	$R_{\theta JC}$	6.67	$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	T_{OPR}	0-125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65-150	$^\circ\text{C}$

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

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