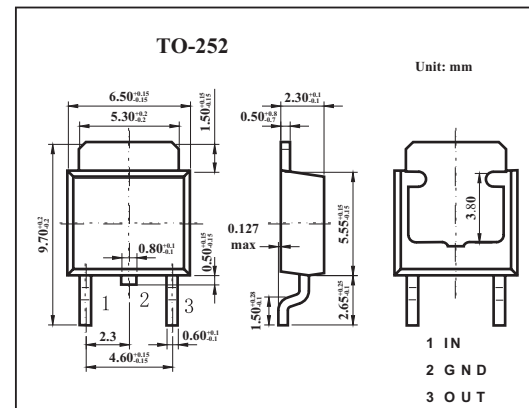


## Three-terminal Positive Voltage Regulator 78M05

### Features

- Maximum Output current  $I_{om}$ : 0.5 A
- Output voltage  $V_o$ : 5V
- Continuous total dissipation  $P_D$ : 1.25 W



### Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Input voltage	$V_i$	35	V
Operating junction temperature range	$T_{opr}$	-55 to +125	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-65 to +150	$^\circ\text{C}$

### Electrical Characteristics ( $V_i=10\text{V}, I_o=350\text{mA}, 0^\circ\text{C}<T_j<125^\circ\text{C}, C_i=0.33\ \mu\text{F}, C_o=0.1\ \mu\text{F}$ , unless otherwise specified)

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Output voltage	$V_o$	$T_j=25^\circ\text{C}$	4.8	5.0	5.2	V
		$7 \leq V_i \leq 20\text{V}, I_o=5\text{mA}-350\text{mA}, P_o \leq 15\text{W}$	4.75	5.0	5.25	V
Load regulation	$\Delta V_o$	$T_j=25^\circ\text{C}, I_o=5\text{mA}-0.5\text{A}$		15	100	mV
		$T_j=25^\circ\text{C}, I_o=5\text{mA}-200\text{mA}$		5	50	mV
Line regulation	$\Delta V_o$	$T_j=25^\circ\text{C}, 7 \leq V_i \leq 25\text{V}, I_o=200\text{mA}$		3	100	mV
		$T_j=25^\circ\text{C}, 8 \leq V_i \leq 25\text{V}, I_o=200\text{mA}$		1	50	mV
Quiescent current	$I_q$	$T_j=25^\circ\text{C}$		4.2	6	mA
Quiescent current change	$\Delta I_q$	$0^\circ\text{C} < T_j < 125^\circ\text{C}, 8\text{V} \leq V_i \leq 25\text{V}, I_o=200\text{mA}$			0.8	mA
	$\Delta I_q$	$0^\circ\text{C} < T_j < 125^\circ\text{C}, 5\text{mA} \leq I_o \leq 350\text{mA}$			0.5	mA
Output noise voltage	$V_N$	$10\text{Hz} \leq f \leq 100\text{KHz}$		40	200	$\mu\text{V}$
Ripple rejection	RR	$8\text{V} \leq V_i \leq 18\text{V}, f=120\text{Hz}, I_o=300\text{mA}$	62	80		dB
Dropout voltage	$V_d$	$T_j=25^\circ\text{C}, I_o=350\text{mA}$		2	2.5	V
Short circuit current	$I_{sc}$	$V_i=10\text{V}, T_j=25^\circ\text{C}$		300		mA
Peak current	$I_{pk}$	$T_j=25^\circ\text{C}$		0.7		A

### Typical Application

