

## Three-terminal positive Voltage Regulator

### 78M05

**FEATURES**

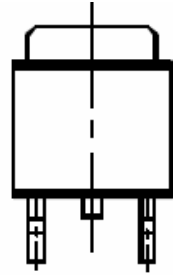
- Output Current in Excess of 1.0A
- Output Voltage is 5V
- Internal thermal Overload protection
- Internal Short Circuit Current Limiting

**PIN CONNECTION**

1.INPUT

2. GND

3. OUTPUT



1 2 3

**ABSOLUTE MAXIMUM RATINGS (Ta=25°C)**

Characteristics	Symbol	Value	Unit
Input Voltage	$V_i$	35	V
Storage Temperature Range	$T_{stg}$	-65 ~ 150	°C

**ELECTRICAL CHARACTERISTICS**

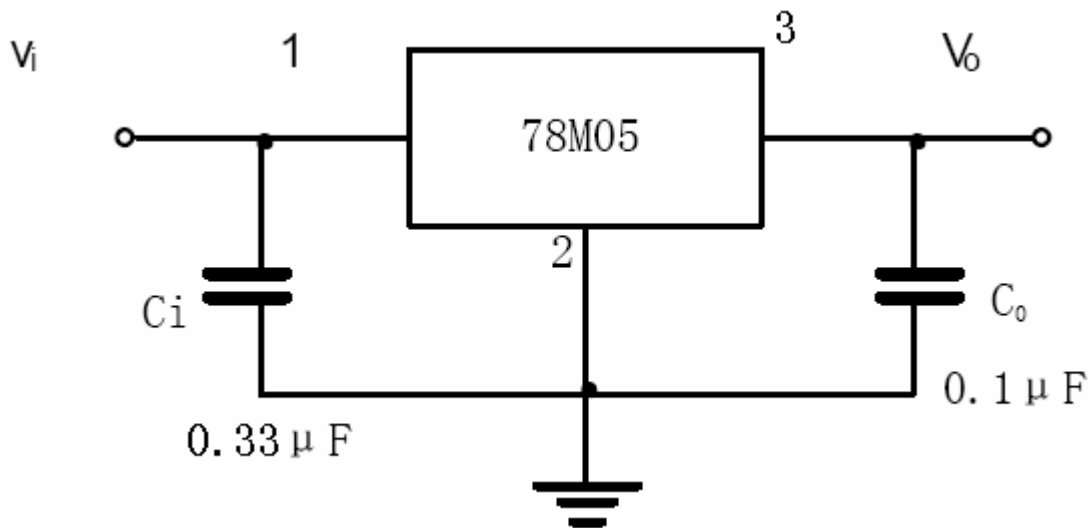
 (unless otherwise noted,  $V_i=10V, I_o=500mA, 0^\circ C < T_j < 125^\circ C, C_I \cong 0.33\mu F, C_o=0.1\mu F$  )

Characteristics	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Output Voltage	$V_o$	$T_j=25^\circ C$	4.8	5.0	5.2	V
		$V_i=10V, I_o=1.0A$	4.7	5.0	5.25	
Load Regulation	$\Delta V_o$	$T_j=25^\circ C, I_o=5mA \sim 1.0A$			100	mV
		$T_j=25^\circ C, I_o=5mA \sim 500mA$			50	
Line Regulation	$\Delta V_o$	$7V \leq V_i \leq 20V, T_j=25^\circ C$			100	mV
		$8V \leq V_i \leq 12V, T_j=25^\circ C$			50	
Quiescent Current	$I_q$	$T_j=25^\circ C$			8	mA
Quiescent Current Charge	$\Delta I_q$	$8V \leq V_i \leq 20V,$			1.3	mA
		$5mA \leq I_o \leq 1.0A$			0.5	

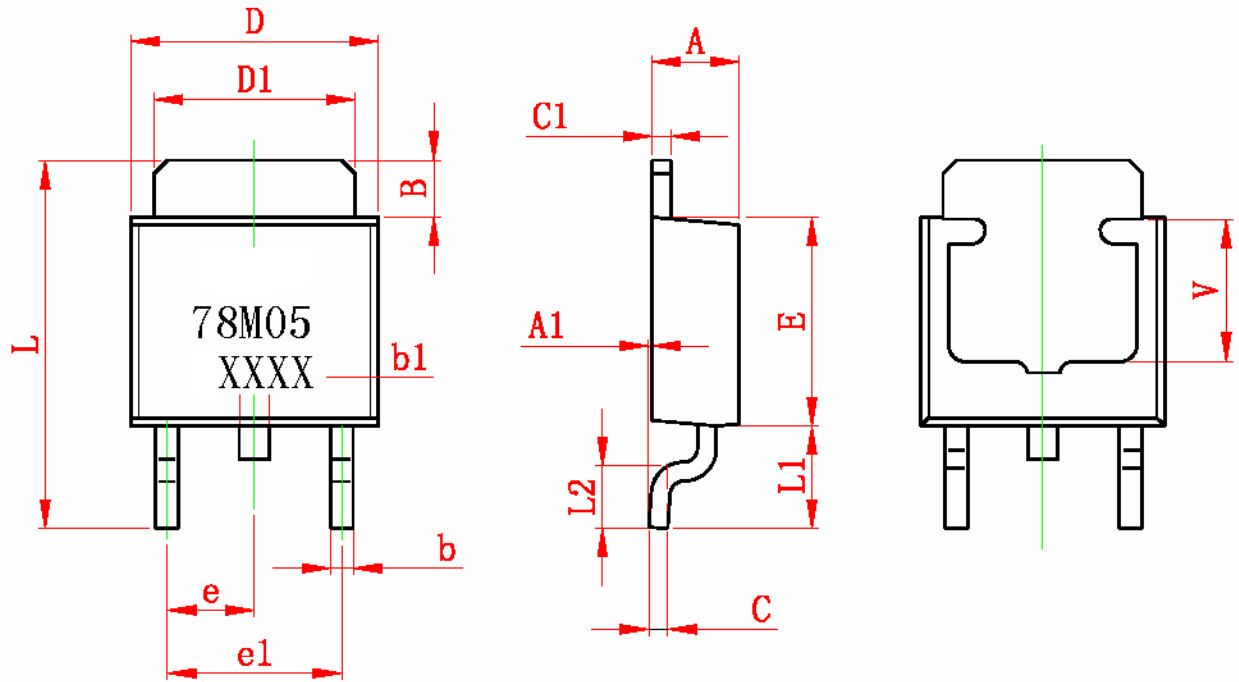
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Characteristics	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Output Noise Voltage	$V_N$	$10\text{Hz} \leq f \leq 100\text{kHz}$ , $T_j = 25^\circ\text{C}$		42		$\mu\text{V}$
Dropout Voltage	$V_d$	$T_j = 25^\circ\text{C}$		2		V
Ripple Rejection	RR	$8\text{V} \leq V_i \leq 18\text{V}$ , $f = 120\text{Hz}$ , $T_j = 25^\circ\text{C}$	62	73		dB
Short Circuit Current Limit	$I_{sc}$	$T_j = 25^\circ\text{C}$ $v_i = 30\text{v}$		250		mA

## APPLICATION CIRCUIT



\*Bypass capacitors are recommended for optimum stability and transient response and should be located as close as Possible to the regulators.

**OUTLINE DRAWING**
**TO-252-2L**


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
B	1.350	1.650	0.053	0.065
b	0.500	0.700	0.020	0.028
b1	0.700	0.900	0.028	0.035
c	0.430	0.580	0.017	0.023
c1	0.430	0.580	0.017	0.023
D	6.350	6.650	0.250	0.262
D1	5.200	5.400	0.205	0.213
E	5.400	5.700	0.213	0.224
e	2.300 TYP		0.091 TYP	
e1	4.500	4.700	0.177	0.185
L	9.500	9.900	0.374	0.390
L1	2.550	2.900	0.100	0.114
L2	1.400	1.780	0.055	0.070
V	3.80 REF		0.150 REF	