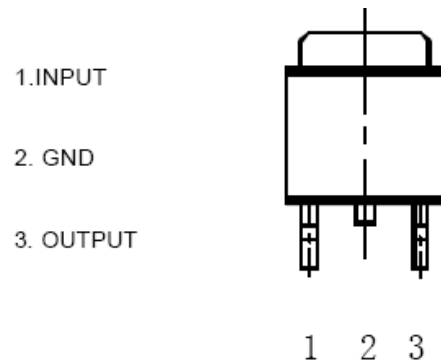


## Three-terminal positive Voltage Regulator BL78M05

### FEATURES

- Output Current in Excess of 0.5A
- Output Voltage is 5V
- Internal thermal Overload protection
- Internal Short Circuit Current Limiting

### PIN CONNECTION



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

Characteristics	Symbol	Value	Unit
Input Voltage	$V_i$	35	V
Operating Temperature	$T_{opr}$	-40 ~ 85	°C
Storage Temperature Range	$T_{stg}$	-55 ~ 150	°C

### ELECTRICAL CHARACTERISTICS

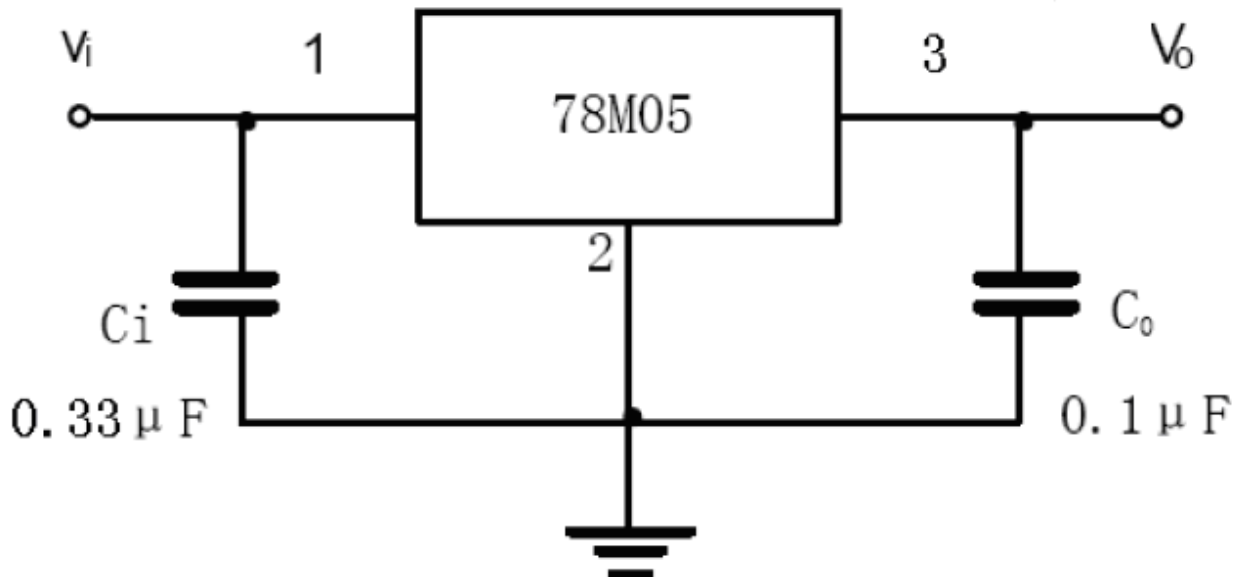
(unless otherwise noted,  $V_i=10V, I_o=350mA, -30^{\circ}C < T_j < 85^{\circ}C, C_1=0.33\mu F, C_o=0.1\mu F$ )

Characteristics	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Output Voltage	$V_o$	$T_j=25^{\circ}C$	4.8	5	5.2	V
		$7V \leq V_i \leq 20V, I_o=5mA \sim 350mA$	4.75	5	5.25	
Load Regulation	$\Delta V_o$	$T_j=25^{\circ}C, I_o=5mA \sim 500mA$		25	100	mV
		$T_j=25^{\circ}C, I_o=5mA \sim 200mA$		10	50	
Line Regulation	$\Delta V_o$	$7V \leq V_i \leq 25V, I_o=200mA, T_j=25^{\circ}C$		4	100	mV
		$8V \leq V_i \leq 25V, I_o=200mA, T_j=25^{\circ}C$		2	50	
Quiescent Current	$I_q$	$T_j=25^{\circ}C$		4	6	mA
Quiescent Current Charge	$\Delta I_q$	$8V \leq V_i \leq 25V, I_o=200mA$			0.8	mA
		$5mA \leq I_o \leq 350mA$			0.5	

Continues:

Characteristics	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Output Noise Voltage	$V_N$	$10\text{Hz} \leq f \leq 100\text{kHz}$ , $T_j = 25^\circ\text{C}$		40	200	$\mu\text{V}$
Dropout Voltage	$V_d$	$T_j = 25^\circ\text{C}$		2		V
Ripple Rejection	RR	$8\text{V} \leq V_i \leq 18\text{V}$ , $f = 120\text{Hz}$ , $I_o = 300\text{mA}$ , $T_j = 25^\circ\text{C}$	56	80		dB
Short Circuit Current Limit	$I_{sc}$	$T_j = 25^\circ\text{C}$		0.8		A

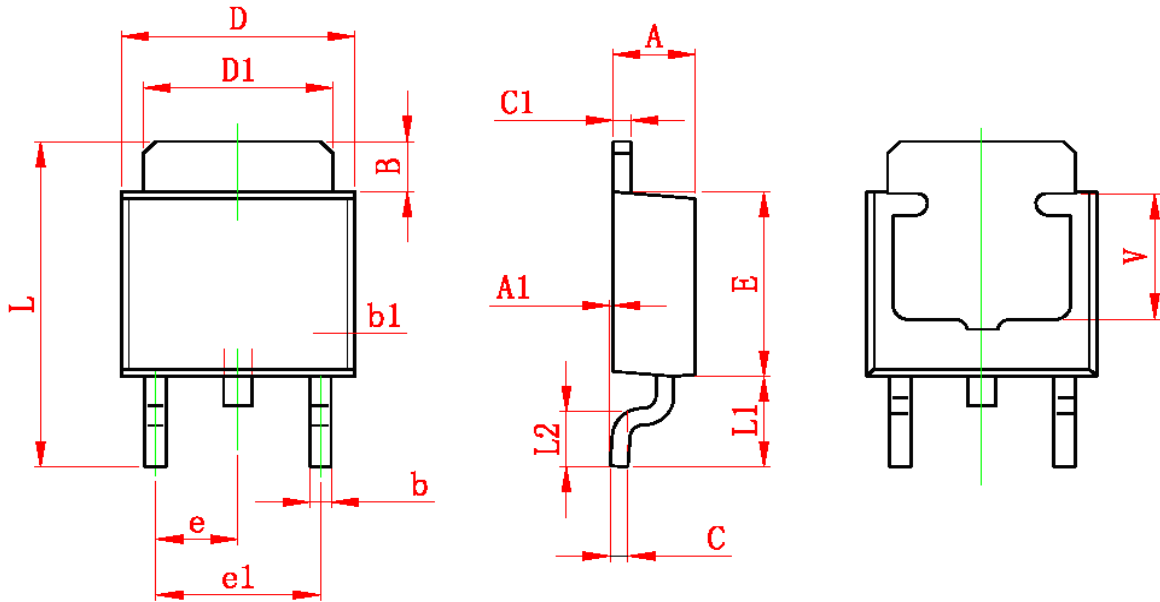
**APPLICATION CIRCUIT**



\*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	