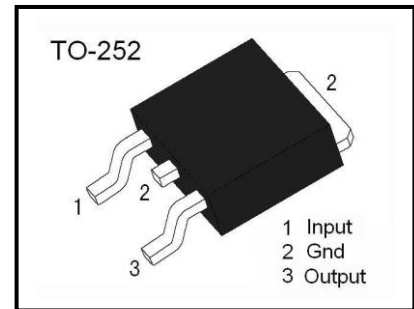


Description

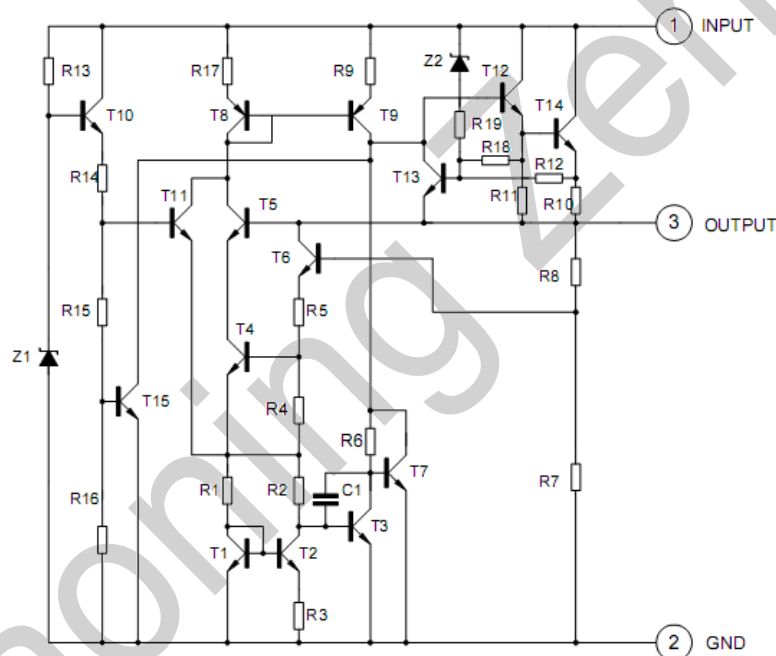
The 78M05 three-terminal positive regulators are available in the TO-252 package with several fixed output voltages making it useful in a wide range of applications.

Features

Output Current up to 0.5A
Output Voltages of 5V
Thermal Overload Protection
Short Circuit Protection
Output Transistor Safe Operating area (SOA)Protection



Equivalent Circuit



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage	V_{IN}	25	V
Out put Voltage	V_O	5	V
Power Dissipation	P_D	1.25	W
Operating Temperature Range	T_{OPR}	0 ~ + 125	°C
Storage Temperature Range	T_{STG}	-55 ~ + 150	°C

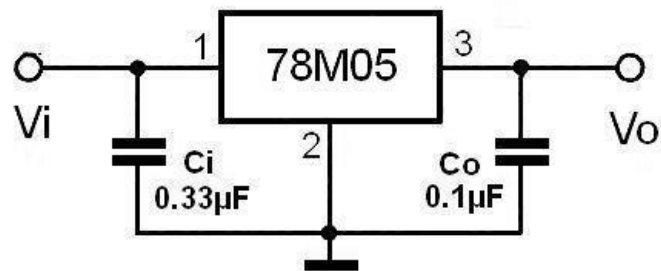
Electrical Characteristics(Refer to the test circuits, $I_O=350\text{mA}$, $V_I=10\text{V}$, $C_I=0.33\mu\text{F}$, $C_O=0.1\mu\text{F}$ unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Output Voltage	V_O	$T_j = 25^\circ\text{C}$	4.8	5.0	5.2	V
		$V_I = 7\text{V} \sim 20\text{V}$ $I_O = 5\text{mA} \sim 0.35\text{A}$	4.75	5.00	5.25	V
Line Regulation	ΔV_O	$I_O = 0.2\text{A}$ $T_j = 25^\circ\text{C}$			100	mV
		$V_I = 7.5\text{V} \sim 20\text{V}$			50	
Load Regulation	ΔV_O	$T_j = 25^\circ\text{C}$			100	mV
		$I_O = 5\text{mA} \sim 0.35\text{A}$ $I_O = 5\text{mA} \sim 0.2\text{A}$			50	
Quiescent Current	I_Q	$T_j = 25^\circ\text{C}$			6.0	mA
Quiescent Current Change	ΔI_Q	$I_O = 5\text{mA} \sim 0.35\text{A}$			0.5	mA
		$V_I = 7.5\text{V} \sim 20\text{V}$, $I_O = 0.2\text{A}$			1.0	
Output Voltage Drift	$\Delta V/\Delta T$	$I_O = 5\text{mA}$		-0.6		mV/ $^\circ\text{C}$
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$		40		μV
Ripple Rejection	RR	$V_I = 8\text{V} \sim 18\text{V}$, $f = 120\text{Hz}$, $T_j = 25^\circ\text{C}$		80		dB
Short Circuit Current	I_{SC}	$V_I = 35\text{V}$, $T_j = 25^\circ\text{C}$		250		mA
Peak Current	I_{PK}	$T_j = 25^\circ\text{C}$		800		mA
Dropout Voltage	V_D	$T_j = 25^\circ\text{C}$		2.0		V

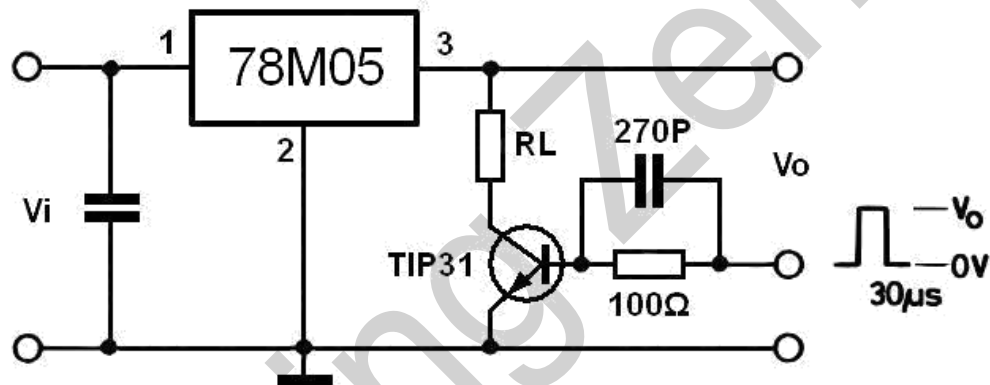
Notes:

*Load and line regulation are specified at constant junction temperature. Change in V_O due to heating effects must be taken into account separately. Pulse testing with low duty is used.

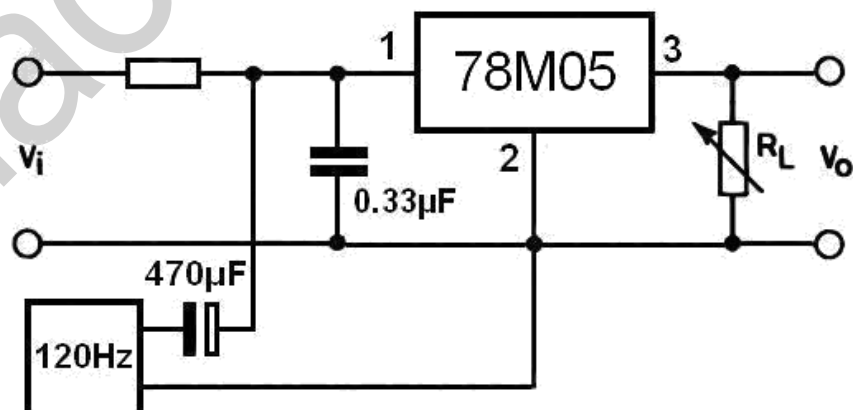
Test Circuits



DC Parameter



Load Regulation



Ripple Rejection

Package Dimensions

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.098
A1	0.00	0.12	0.000	0.005
A2	2.20	2.40	0.087	0.094
B	1.20	1.60	0.047	0.063
b	0.50	0.70	0.020	0.028
b1	0.70	0.90	0.028	0.035
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.35	6.65	0.250	0.262
D1	5.20	5.40	0.205	0.213
E	5.40	5.70	0.213	0.224
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	9.60	10.20	0.378	0.402
L1	2.70	3.10	0.106	0.122
L2	1.40	1.80	0.055	0.071
L3	0.90	1.50	0.035	0.059