

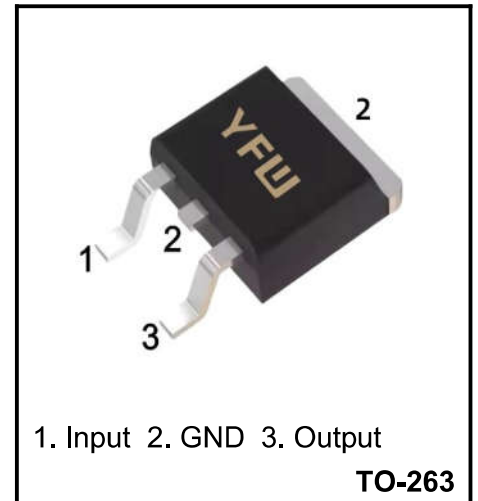
3-terminal 5V 1.0A positive voltage regulator

Features

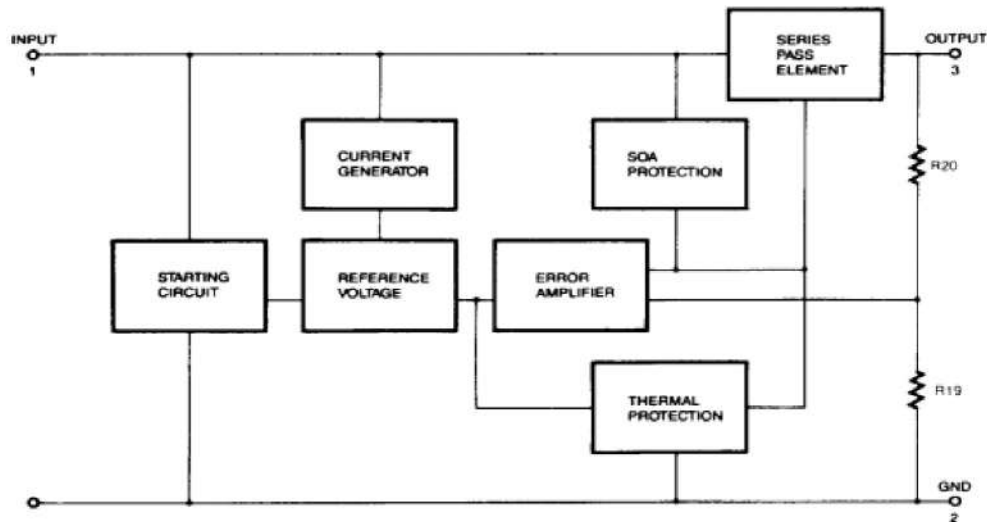
- ◆ Output Current up to 1.0A
- ◆ Output Voltages of 5V
- ◆ Thermal Overload Protection
- ◆ Short Circuit Protection
- ◆ Output Transistor Safe Operating area (SOA)Protection

Description

The 78M05AS three-terminal positive regulators are available in the TO-263 package with several fixed output voltages making it useful in a wide range of applications.



Internal Block Diagram



Absolute Maximum Ratings

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

Electrical Characteristics

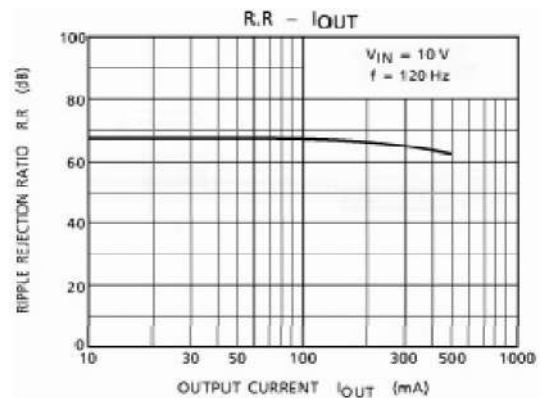
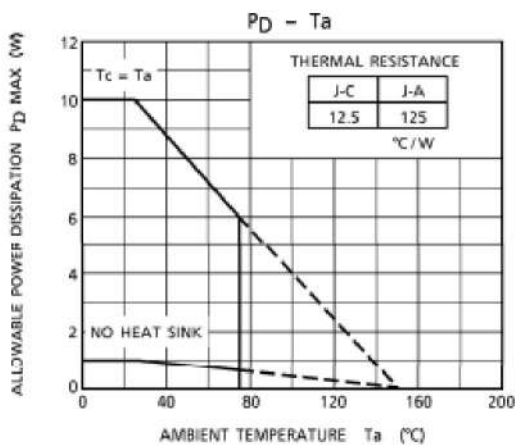
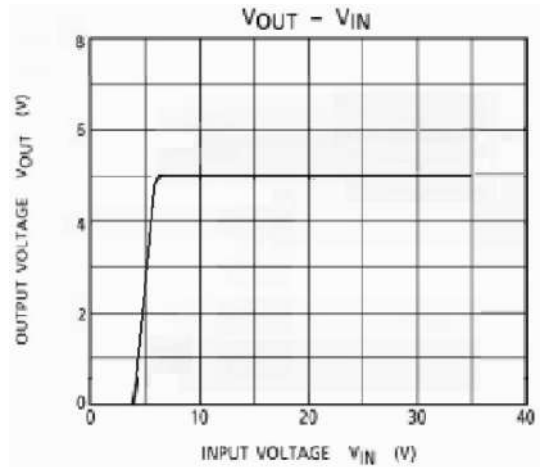
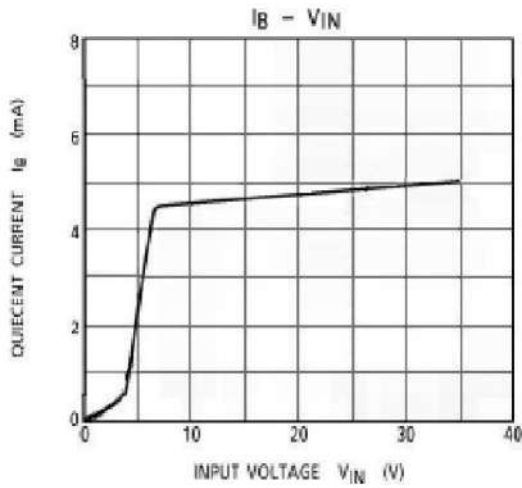
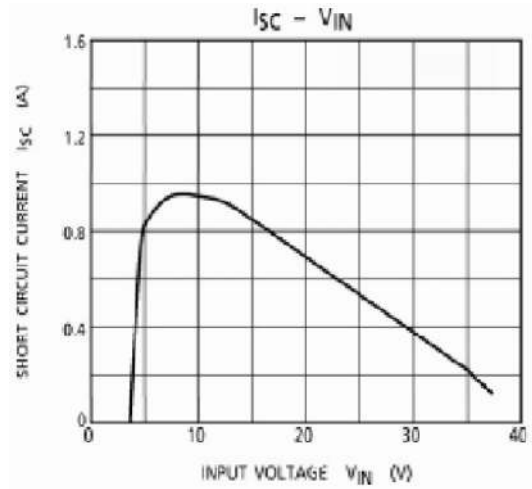
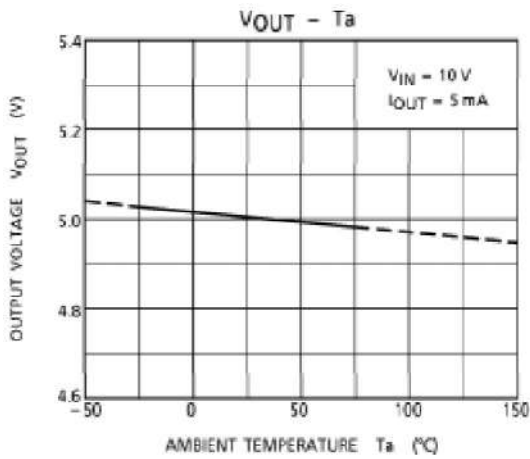
 (Refer to the test circuits, $I_o=750\text{mA}$, $V_I=10\text{V}$, $C_i = 0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$ unless otherwise specified)

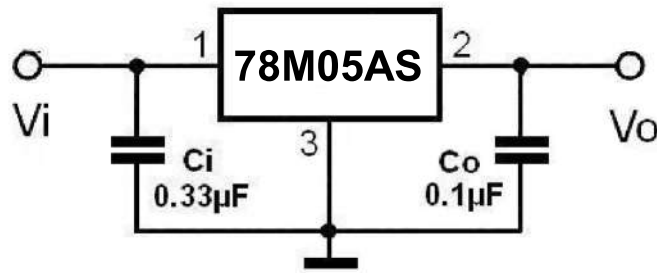
Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Output Voltage	V_o	$T_j = 25^\circ\text{C}$	4.8		5.2	V
		$V_I = 7 \sim 20\text{V}$ $I_o = 5\text{mA} \sim 1\text{A}$	4.75	5	5.25	
Line Regulation	ΔV_o	$T_j = 25^\circ\text{C}$	$V_I = 7 \sim 25\text{V}$		120	mV
			$V_I = 8 \sim 22\text{V}$		60	
Load Regulation	ΔV_o	$T_j = 25^\circ\text{C}$	$I_o = 5\text{mA} \sim 1\text{A}$		120	mV
			$I_o = 0.25\text{A} \sim 0.75\text{A}$		60	
Quiescent Current	I_q	$T_j = 25^\circ\text{C}$			8	mA
Quiescent Current Change	ΔI_q	$I_o = 5\text{mA} \sim 1\text{A}$			0.5	mA
		$V_I = 7 \sim 25\text{V}$			1.2	
Output Voltage Drift	$\Delta V/\Delta T$	$I_o = 5\text{mA}$ $T_j = 0 \text{ to } +125^\circ\text{C}$		-0.8		mV/°C
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$		40		μV
Ripple Rejection	RR	$f = 120\text{Hz}$, $I_o = 300\text{mA}$ $V_I = 8 \text{ to } 18\text{V}$	60			dB
Dropout Voltage	V_D	$T_j = +25^\circ\text{C}$, $I_o = 1\text{A}$		2		V
Short Circuit Current	I_{SC}	$T_j = +25^\circ\text{C}$, $V_I = 35\text{V}$		300		mA
Peak Current	I_{PK}			1.50		A

Notes:

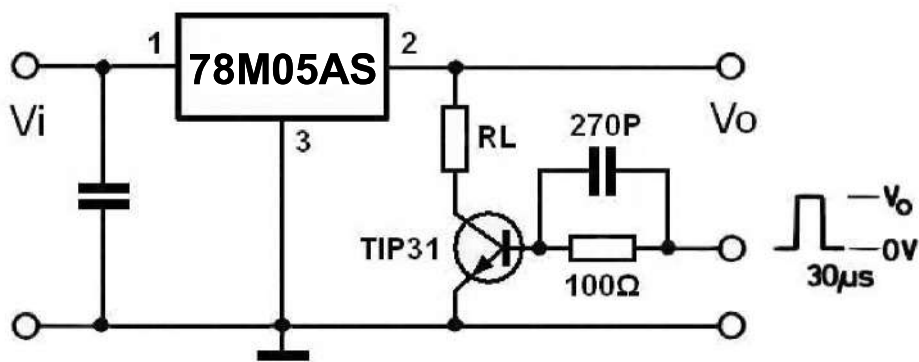
 *Load and line regulation are specified at constant junction temperature. Change in V_o due to heating effects must be taken into account separately. Pulse testing with low duty is used.

Typical Characteristics

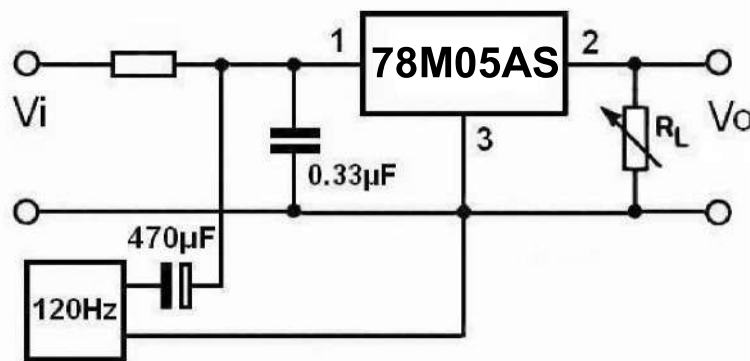




DC Parameter

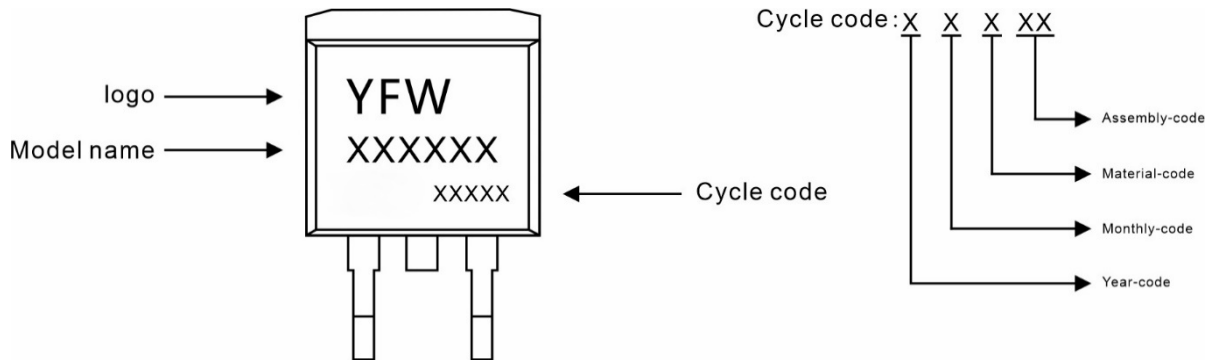


Load Regulation



Ripple Rejection

Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
78M05AS	TO-263	0.04oz(1.16g)	800pcs/reel	1600pcs/box 8000pcs/Carton

Package Dimensions

TO-263

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.30	4.70	0.169	0.185
A1	0.00	0.15	0.000	0.006
A2	4.30	4.55	0.169	0.179
B	1.10	1.50	0.043	0.059
b	0.70	0.90	0.028	0.035
b1	1.20	1.50	0.047	0.059
c	0.30	0.60	0.012	0.024
c1	1.17	1.37	0.046	0.054
D	9.90	10.20	0.390	0.402
E	8.50	8.90	0.335	0.350
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
L	15.00	15.30	0.591	0.602
L1	5.20	5.40	0.205	0.213
L2	2.40	2.60	0.094	0.102
L3	1.60	1.80	0.063	0.071

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