

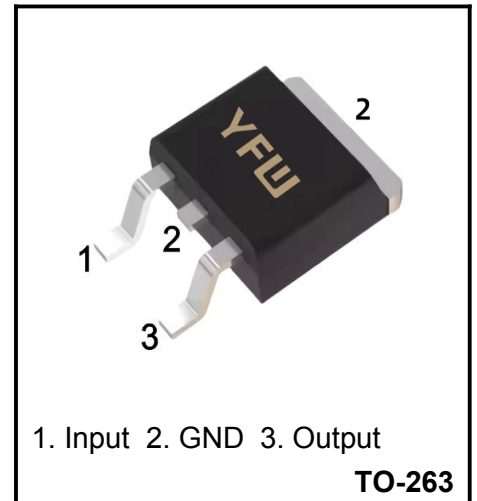
**3-terminal 5V 1.5A positive voltage regulator**

**FEATURES**

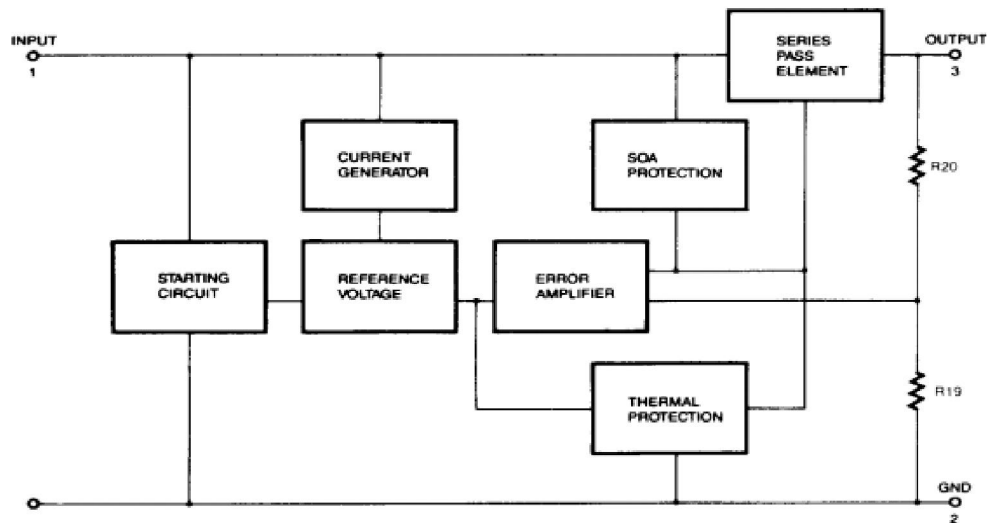
- ◆ Output Current up to 1.5A
- ◆ Output Voltages of 5V
- ◆ Thermal Overload Protection
- ◆ Short Circuit Protection
- ◆ Output Transistor Safe Operating area (SOA)Protection

**Description**

The 7805 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	$V_{IN}$	30	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**

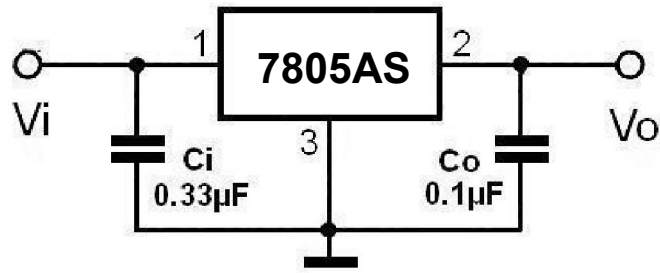
 (Refer to the test circuits,  $I_o=1.0A$ ,  $V_i=10V$ ,  $C_i = 0.33\mu F$ ,  $C_o=0.1\mu F$  unless otherwise specified)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Output Voltage	$V_o$	$T_j = 25^\circ C$	4.8		5.2	V
		$V_i = 7 \sim 20V$ $I_o = 5 \sim 1.5A$	4.75	5	5.25	
Line Regulation	$\Delta V_o$	$T_j = 25^\circ C$	$V_i = 7 \sim 25V$		120	mV
			$V_i = 8 \sim 22V$		60	
Load Regulation	$\Delta V_o$	$T_j = 25^\circ C$	$I_o = 5mA \sim 1.5A$		120	mV
			$I_o = 0.25A \sim 1.0A$		60	
Quiescent Current	$I_q$	$T_j = 25^\circ C$			8	mA
Quiescent Current Change	$\Delta I_q$	$I_o = 5mA \sim 1.5A$			0.5	mA
		$V_i = 7 \sim 25V$			1.2	
Output Voltage Drift	$\Delta V/\Delta T$	$I_o = 5mA$ $T_j = 0 \text{ to } +125^\circ C$		-0.8		mV/ $^\circ C$
Output Noise Voltage	$V_N$	$10Hz \leq f \leq 100KHz$		40		$\mu V$
Ripple Rejection	RR	$f = 120Hz$ , $I_o = 300mA$ $V_i = 8 \text{ to } 18V$	60			dB
Dropout Voltage	$V_D$	$T_j = +25^\circ C$ , $I_o = 1.0A$		2		V
Short Circuit Current	$I_{SC}$	$T_j = +25^\circ C$ , $V_i = 35V$		300		mA
Peak Current	$I_{PK}$			2.20		A

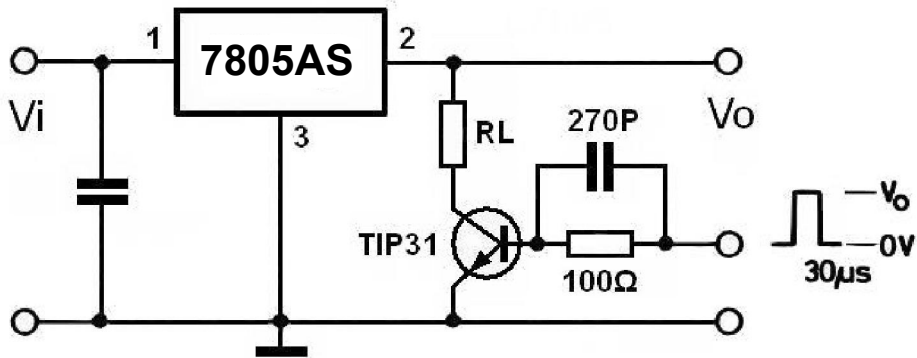
Notes:

 \*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.

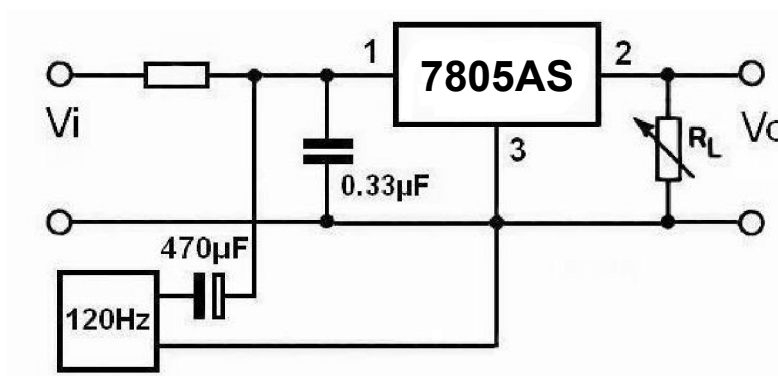
Test Circuits



DC Parameter

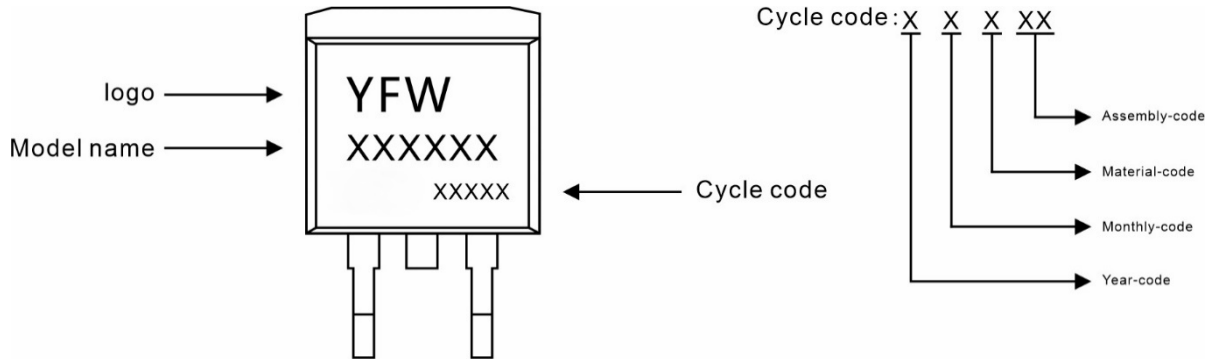


Load Regulation



Ripple Rejection

**Marking Diagram**



**Ordering information**

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
7805AS	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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