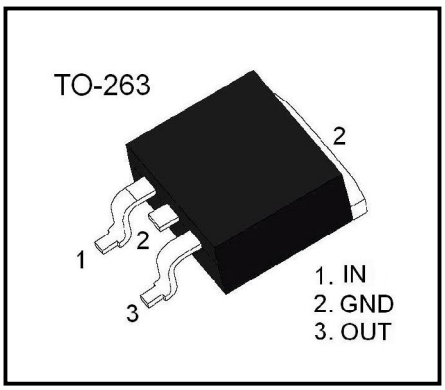
3-terminal 5V 1.5A positive voltage regulator

FEATURES

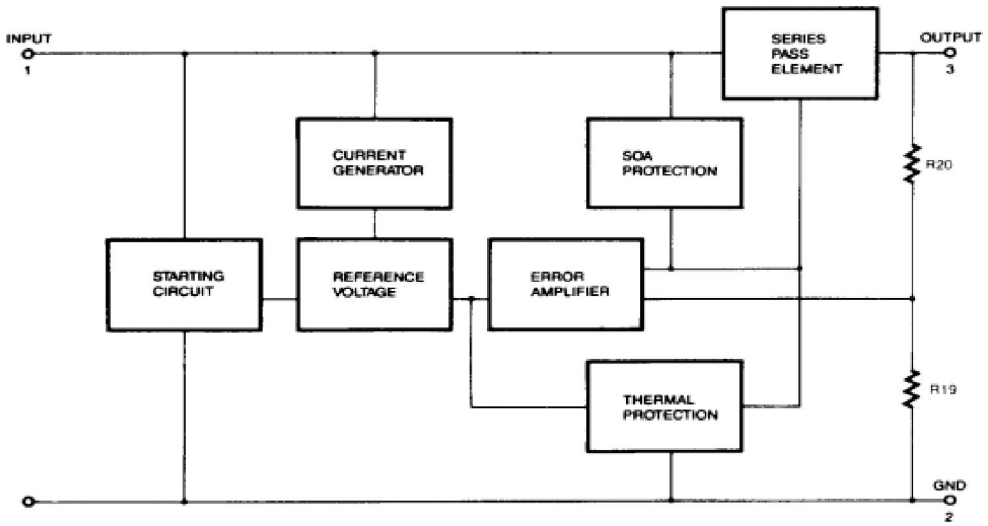
- Output Current up to 1.5A
- Output Voltages of 5V
- Thermal Overload Protection
- Short Circuit Protection
- Output Transistor Safe Operating area (SOA)Protection



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 Digram



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	℃
Storage Temperature Range	T_{STG}	-55 ~ + 150	℃

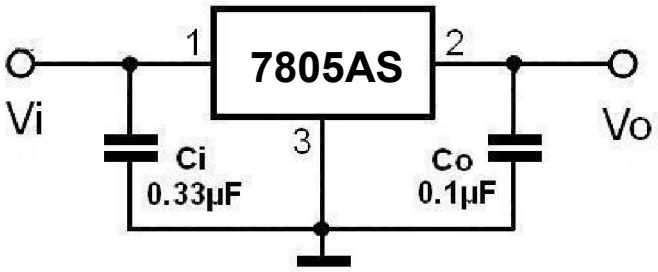
Electrical Characteristics

(Refer to the test circuits, I_O=1.0A, V_I=10V, C_I = 0.33μF, C_O=0.1μF unless otherwise specified)

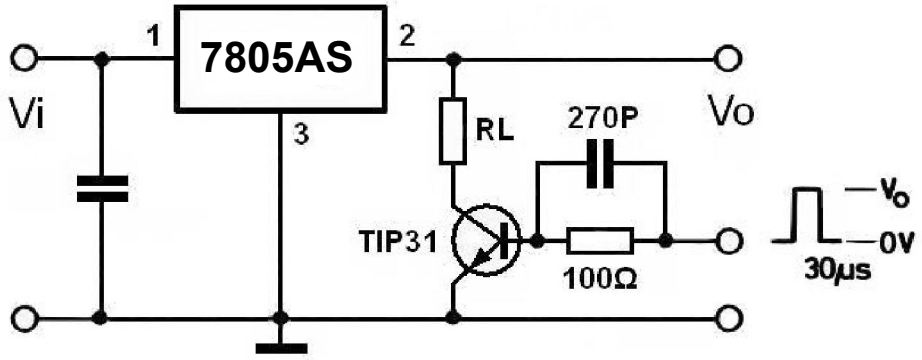
Parameter	Symbol	Conditions		Value			Unit
				Min	Typ	Max	
Output Voltage	V_O	T_j = 25°C		4.8		5.2	
		V_I = 7 ~ 20V I_O=5 ~ 1.5A		4.75	5	5.25	V
Line Regulation	ΔV_O	T_j = 25℃	V_I = 7 ~ 25V			120	mV
			V_I = 8 ~ 22V			60	
Load Regulation	ΔV_O	T_j = 25℃	I_O=5mA ~ 1.5A			120	mV
			I_O=0.25A~1.0A			60	
Quiescent Current	I_Q	T_j = 25℃				8	mA
Quiescent Current Change	ΔI_Q	I_O=5mA ~ 1.5A				0.5	mA
		V_I = 7 ~ 25V				1.2	
Output Voltage Drift	$\Delta V/\Delta T$	I_O = 5mA T_j = 0 to +125℃			-0.8		mV/℃
Output Noise Voltage	V_N	$10Hz \le f \le 100KHz$			40		μV
Ripple Rejection	RR	f = 120Hz, I_O = 300mA V_I = 8 to 18V		60			dB
Dropout Voltage	V_D	T_j =+25℃ , I_O = 1.0A			2		V
Short Circuit Current	I_{SC}	T_j `=+25℃ , 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 Vo due to heating effects must be taken into account separately. Pulse testing with low duty is used.

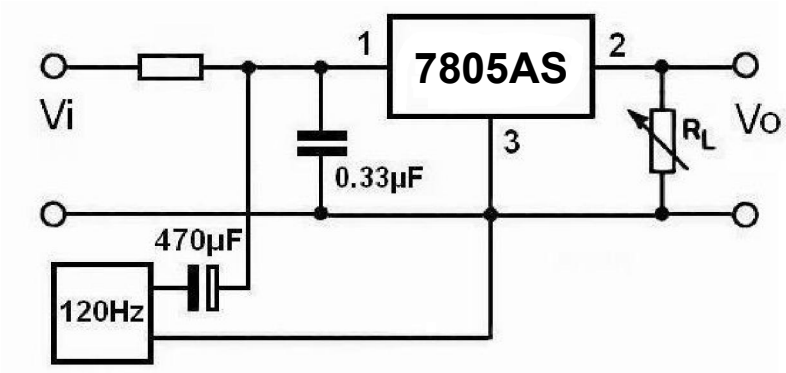
Test Circuits



DC Parameter



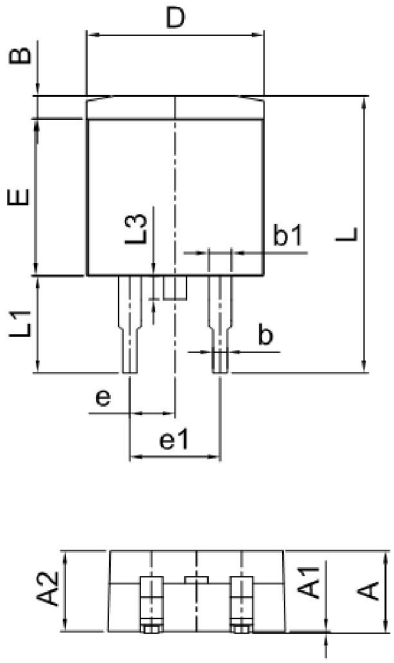
Load Regulation



Ripple Rejection

Package Dimensions

TO-263



Symbol	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
θ	0°	8°	0°	8°

ORDERING INFORMATION

Part Number	Package	Marking	Pack
7805AS	TO-263	7805AS XXXXX	800PCS/Tape