

Features

Output Current up to 1.5A

Output Voltages of 5V

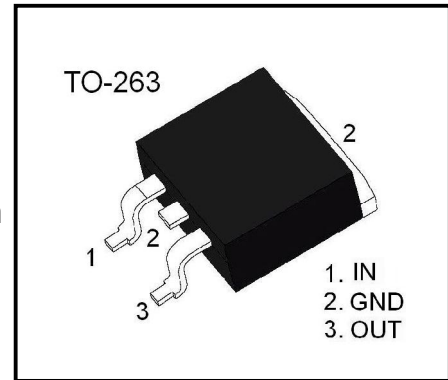
Thermal Overload Protection

Short Circuit Protection

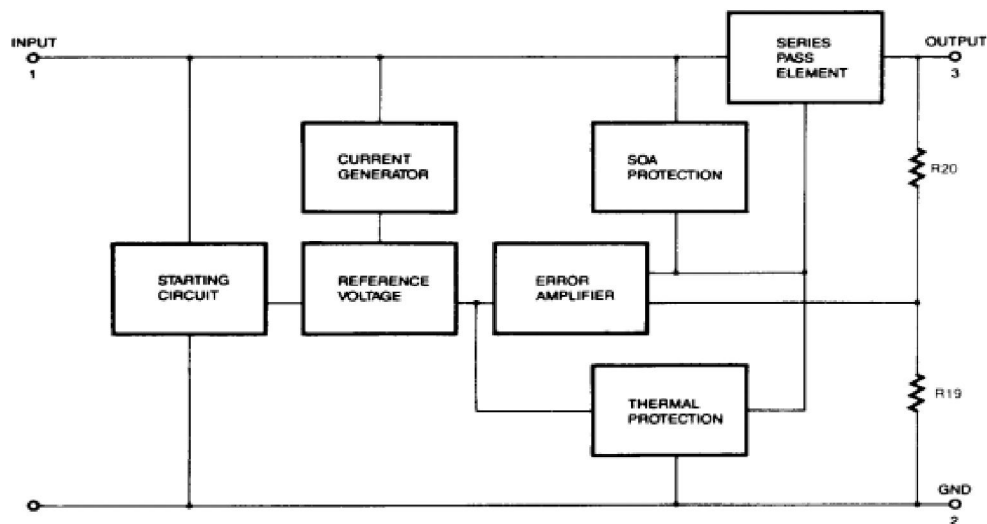
Output Transistor Safe Operating area (SOA)Protection

Description

The 7806 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}	35	V
Out put Voltage	V_O	6	V
Continuous total dissipation	P_D	Internally Limited	W
Operating Temperature Range	T_{OPR}	0 ~ + 125	°C
Storage Temperature Range	T_{STG}	-55 ~ + 150	°C

Electrical Characteristics

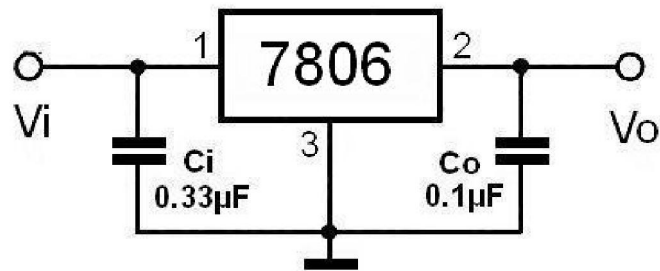
(Refer to the test circuits, $I_O=1.0A$, $V_I=11V$, $C_I=0.33\mu F$, $C_O=0.1\mu F$ unless otherwise specified)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Output Voltage	V_O	$T_j = 25^\circ C$	5.76	6.0	6.24	V
		$V_I = 8V \sim 21V$ $I_O = 5mA \sim 1.5A, P_D \leq 15W$	5.70	6.0	6.30	
Line Regulation	ΔV_O	$T_j = 25^\circ C$			60	mV
					60	
Load Regulation	ΔV_O	$T_j = 25^\circ C$			60	mV
					30	
Quiescent Current	I_Q	$T_j = 25^\circ C$			8.0	mA
Quiescent Current Change	ΔI_Q	$I_O = 5mA \sim 1.5A$			0.5	mA
		$V_I = 8.5 \sim 21V$			1.0	
Output Voltage Drift	$\Delta V/\Delta T$	$I_O = 5mA$		-0.7		mV/ $^\circ C$
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$		45		μV
Ripple Rejection	RR	$V_I = 9V \sim 19V$, $f = 120Hz, T_j = 25^\circ C$	59			dB
Short Circuit Current	I_{SC}	$T_j = +25^\circ C, V_I = 35V$		250		mA
Peak Current	I_{PK}			2.20		A
Dropout Voltage	V_D	$T_j = +25^\circ C, I_O = 1.0A$		2.0		V

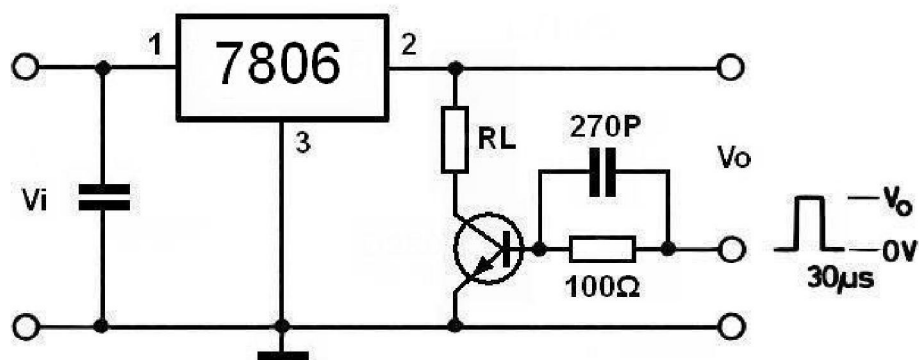
Notes:

*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.

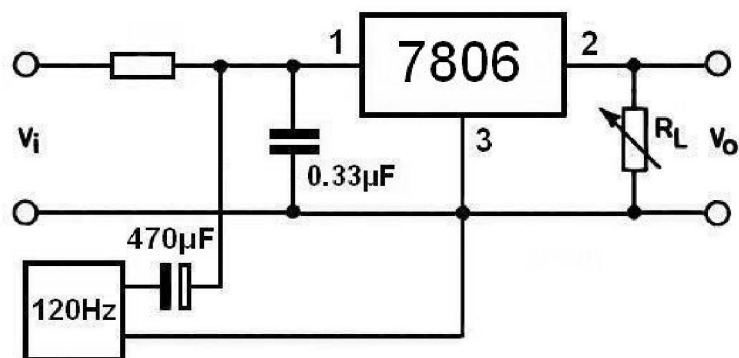
Test Circuits



DC Parameter

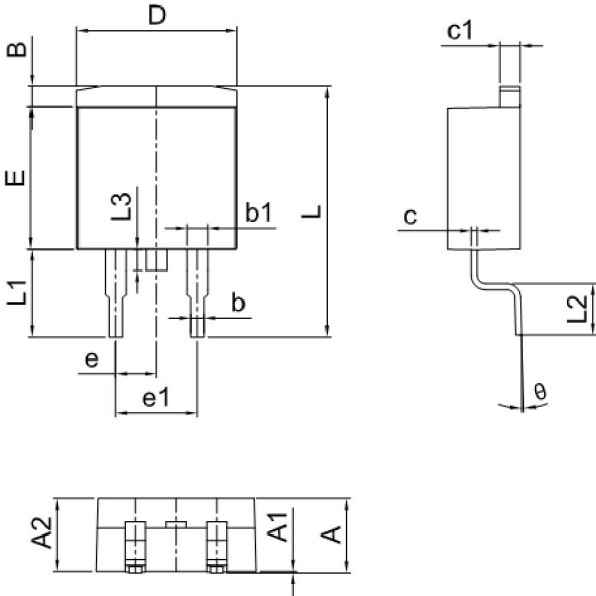


Load Regulation



Ripple Rejection

Package Dimensions

	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