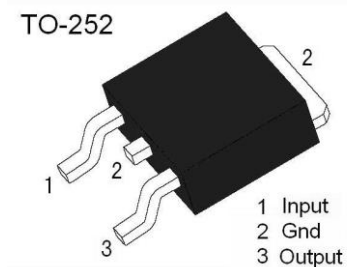


Features

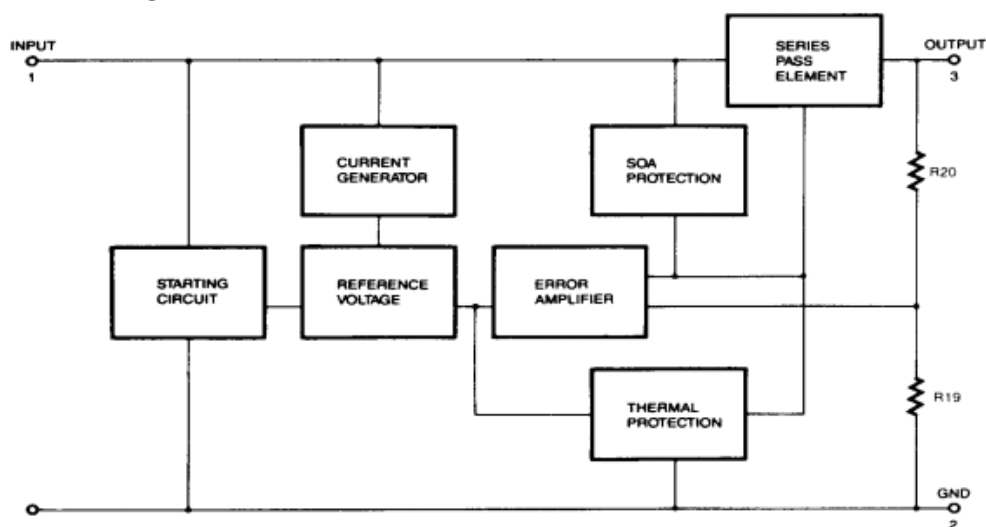
Output Current up to 1.5A
Output Voltages of 5V
Thermal Overload Protection
Short Circuit Protection
Output Transistor Safe Operating area (SOA)Protection

Description

The 7805 three-terminal positive regulators are available in the TO-252 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

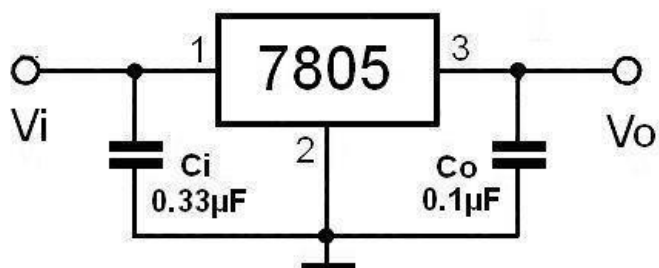
(Refer to the test circuits, $I_O=1.0A$, $V_I=10V$, $C_I = 0.33\mu F$, $C_O=0.1\mu F$ unless otherwise specified)

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	ΔV_O	$T_j = 25^\circ C$			120	mV
		$V_I = 7 \sim 25V$ $V_I = 8 \sim 22V$			60	
Load Regulation	ΔV_O	$T_j = 25^\circ C$			120	mV
		$I_O = 5mA \sim 1.5A$ $I_O = 0.25A \sim 1.0A$			60	
Quiescent Current	I_Q	$T_j = 25^\circ C$			8	mA
Quiescent Current Change	ΔI_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		μV
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

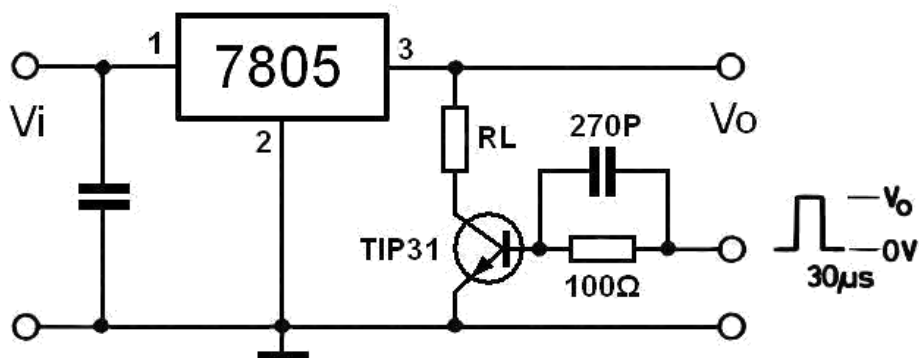
Notes:

*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.

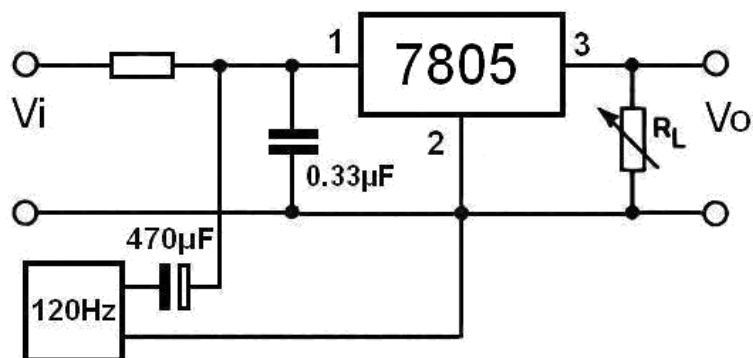
Test Circuits



DC Parameter

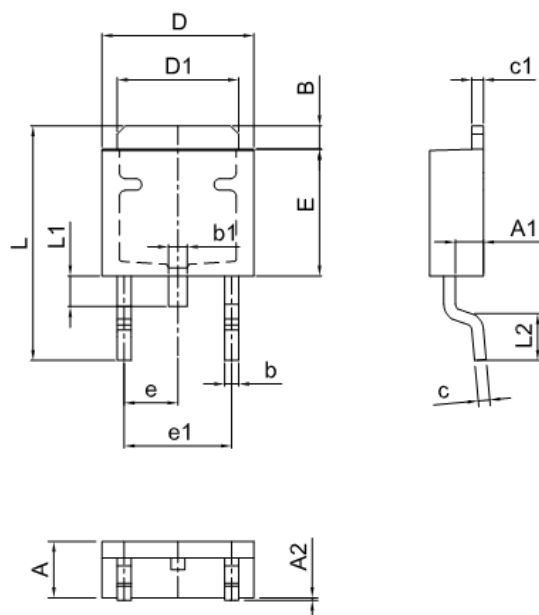


Load Regulation



Ripple Rejection

Package Dimensions



Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.094
A1	1.00	1.40	0.039	0.055
A2	0.00	0.15	0.000	0.006
B	1.30	1.70	0.051	0.067
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	6.30	6.70	0.248	0.264
D1	5.10	5.50	0.201	0.217
E	5.30	6.00	0.209	0.236
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	9.60	10.40	0.378	0.409
L1	0.60	1.00	0.024	0.039
L2	1.40	1.70	0.055	0.063