

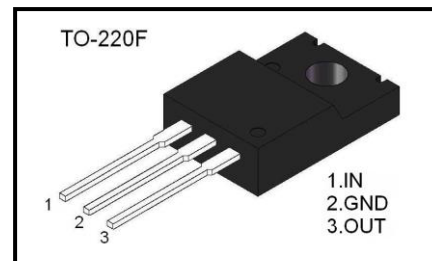
3-terminal 5V 1.0A positive voltage regulator

Description

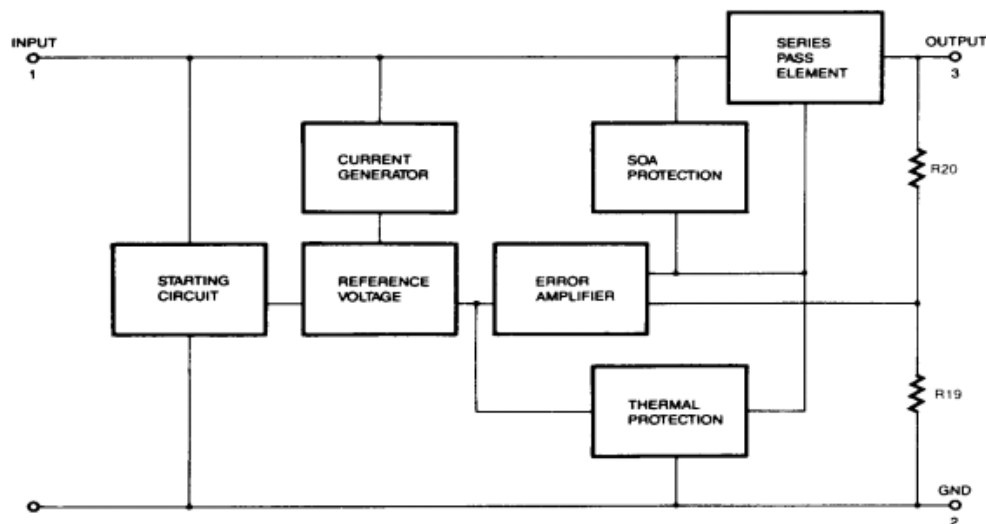
The RM7805F three-terminal positive regulators are available in the TO-220F package with several fixed output voltages making it useful in a wide range of applications.

Features

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



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}	-40 ~ 150	°C
Storage Temperature Range	T_{STG}	-55 ~ + 150	°C

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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)

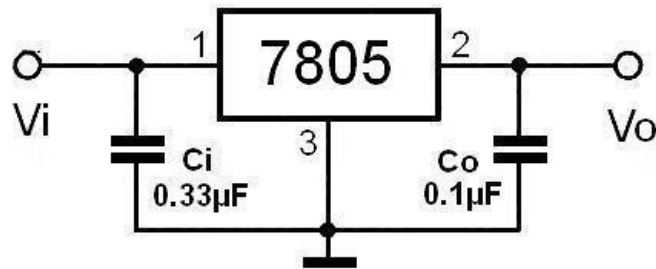
Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Output Voltage	V_o	$T_j = 25^\circ\text{C}$	4.8		5.2	V
		$V_i = 7 \sim 20\text{V}$ $I_o = 5\text{mA} \sim 1\text{A}$	4.75	5	5.25	
Line Regulation	ΔV_o	$T_j = 25^\circ\text{C}$			120	mV
					60	
Load Regulation	ΔV_o	$T_j = 25^\circ\text{C}$			120	mV
					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/ $^\circ\text{C}$
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:

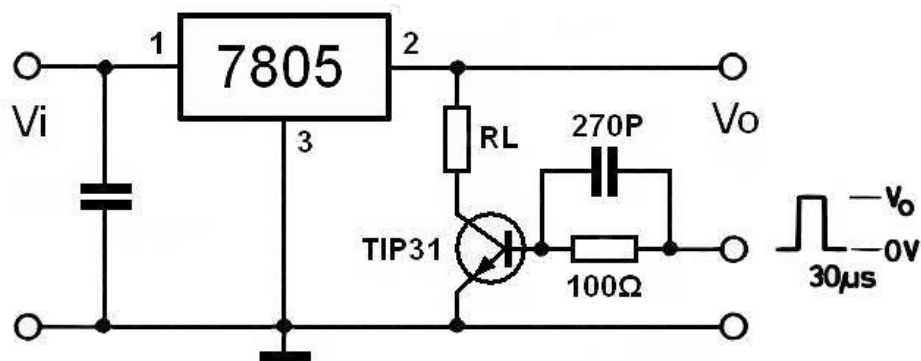
*Load and line regulation are specified at constant junction temperature. Change in V_o due to heating effects must be taken into account separately. Pulse testing with low duty is used.

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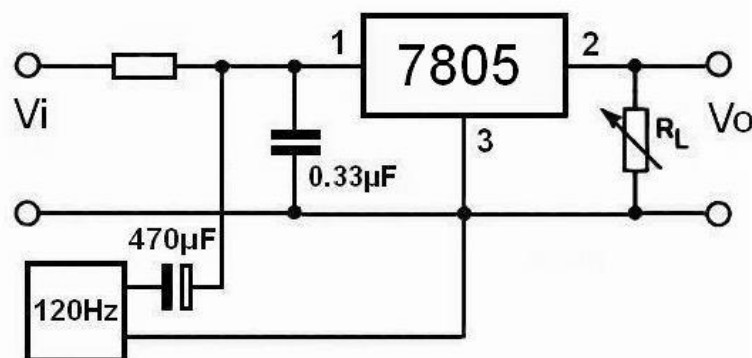
Test Circuits



DC Parameter



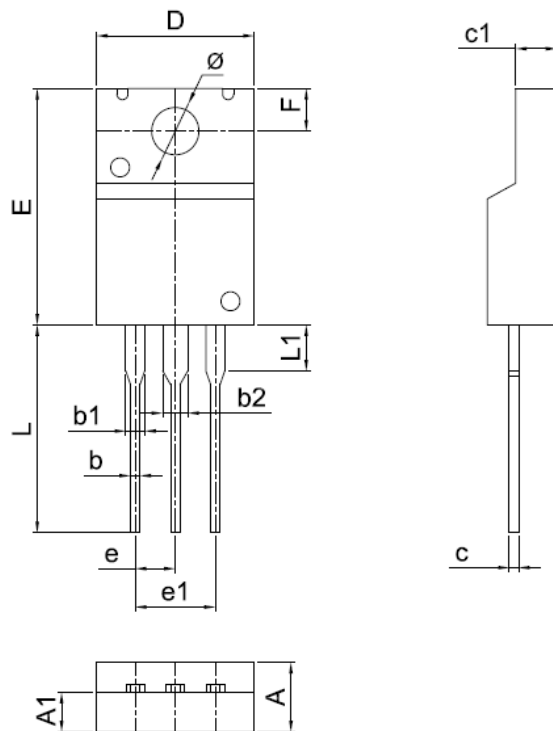
Load Regulation



Ripple Rejection

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Package Dimensions (unit:mm)



Symbol	Min.	Typ	Max.
A	4.20	4.40	4.60
A1	2.35	2.50	2.65
b	0.50	0.60	0.70
b1	1.10	1.20	1.30
b2	1.50	1.60	1.70
c	0.50	0.60	0.70
c1	2.50	2.60	2.70
D	9.80	10.00	10.20
E	14.80	15.00	15.20
e	2.44	2.54	2.64
e1	4.88	5.08	5.28
F	2.60	2.70	2.80
L	13.20	13.50	13.80
L1	2.70	2.90	3.10
Φ	3.05	3.15	3.25