

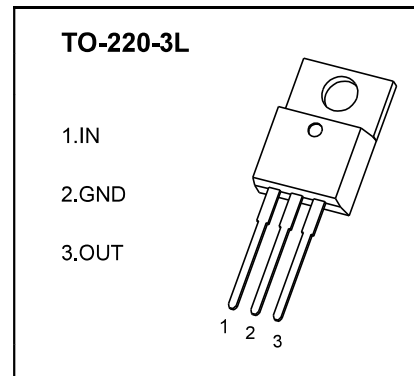


TO-220-3L Encapsulate Three-terminal Voltage Regulator

7805 Three-terminal positive voltage regulator

FEATURES

- Maximum output current
 I_{OM} : 1.5 A
- Output voltage
 V_O : 5V
- Continuous total dissipation
 P_D : 1.5 W ($T_a = 25^\circ\text{C}$)



ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

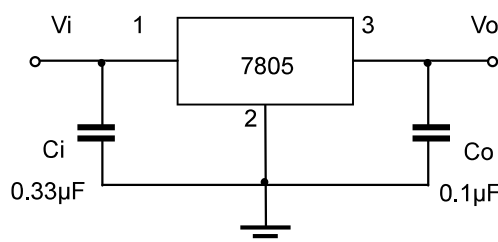
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	$^\circ\text{C/W}$
Operating Junction Temperature	T_J	150	$^\circ\text{C}$
Operating Temperature	T_{OPR}	-30~+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=10V, I_o=500mA, C_i=0.33\mu F, C_o=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	V_o	25°C	4.8	5.0	5.2	V
		$7V \leq V_i \leq 20V, I_o = 5mA-1A$	0-125 $^\circ\text{C}$	4.75	5.00	5.25
Load Regulation	ΔV_o	$I_o = 5mA-1.5A$	25°C	9	100	mV
		$I_o = 250mA-750mA$	25°C	4	50	mV
Line regulation	ΔV_o	$7V \leq V_i \leq 25V$	25°C	4	100	mV
		$8V \leq V_i \leq 12V$	25°C	1.6	50	mV
Quiescent Current	I_q	25°C		5	8	mA
Quiescent Current Change	ΔI_q	$7V \leq V_i \leq 25V$	0-125 $^\circ\text{C}$	0.3	1.3	mA
		$5mA \leq I_o \leq 1A$	0-125 $^\circ\text{C}$	0.03	0.5	mA
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$	25°C	42		$\mu\text{V}/V_o$
Output voltage drift	$\Delta V_o/\Delta T$	$I_o = 5mA$	0-125 $^\circ\text{C}$	-1.1		$\text{mV}/^\circ\text{C}$
Ripple Rejection	RR	$8V \leq V_i \leq 18V, f = 120\text{Hz}$	0-125 $^\circ\text{C}$	62	73	dB
Dropout Voltage	V_d	$I_o = 1A$	25°C	2		V
Output resistance	R_o	$f = 1\text{KHz}$	25°C	10		$\text{m}\Omega$
Short Circuit Current	I_{sc}	25°C		230		mA
Peak Current	I_{pk}	25°C		2.2		A

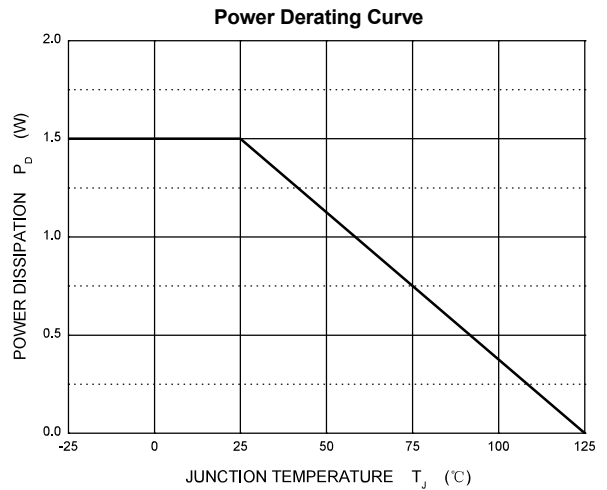
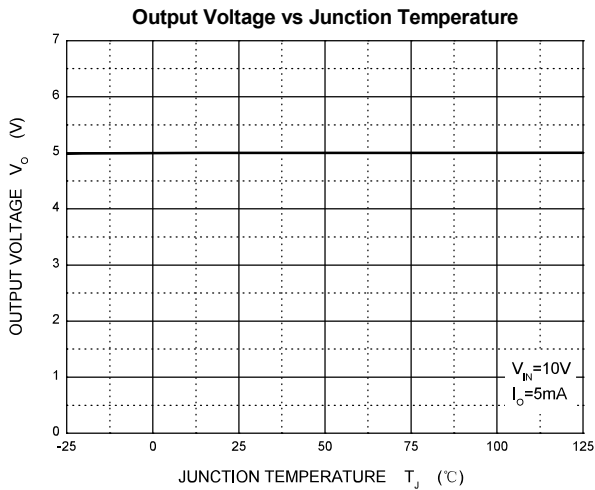
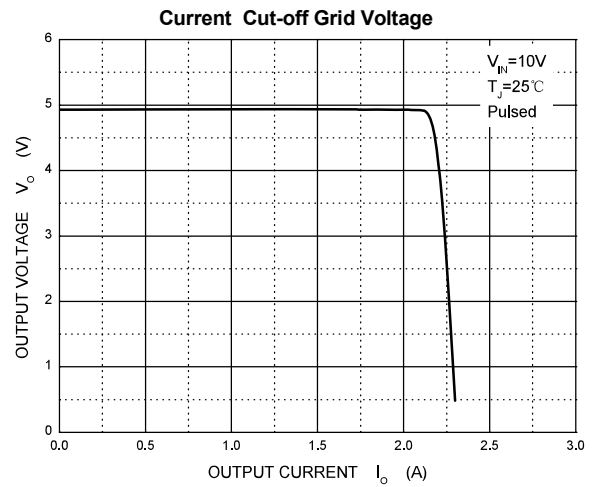
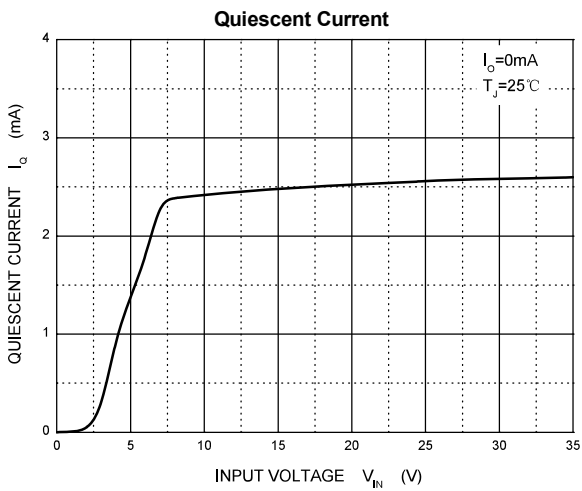
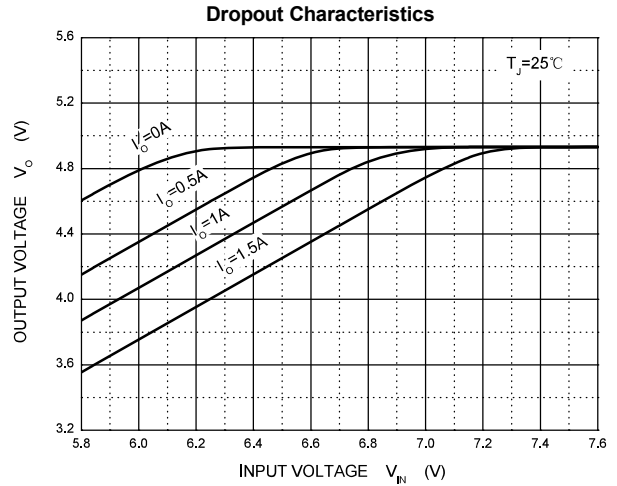
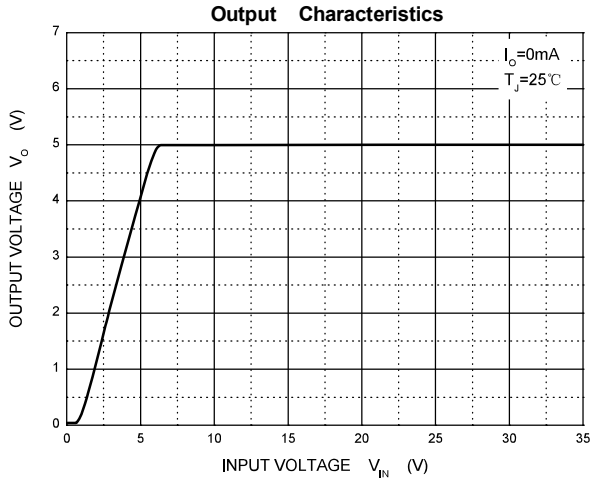
* Pulse test.

TYPICAL APPLICATION

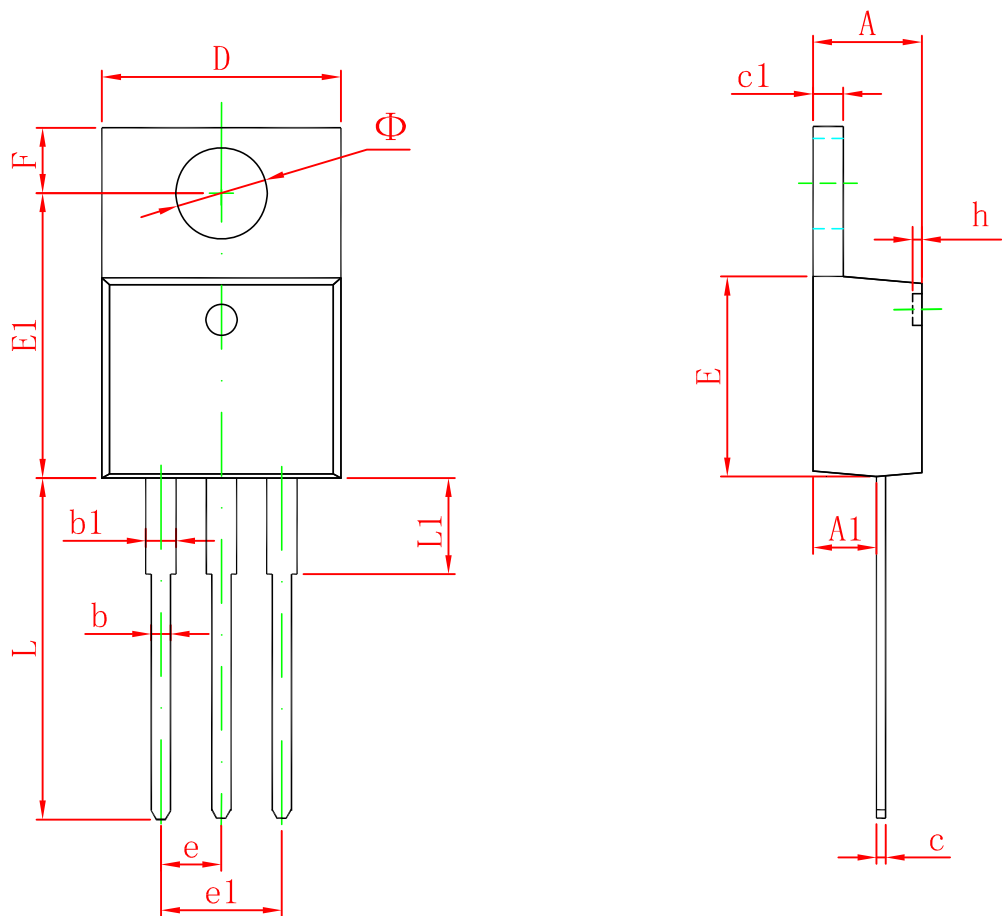


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

Typical Characteristics



TO-220-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.470	4.670	0.176	0.184
A1	2.520	2.820	0.099	0.111
b	0.710	0.910	0.028	0.036
b1	1.170	1.370	0.046	0.054
c	0.310	0.530	0.012	0.021
c1	1.170	1.370	0.046	0.054
D	10.010	10.310	0.394	0.406
E	8.500	8.900	0.335	0.350
E1	12.060	12.460	0.475	0.491
e	2.540 TYP		0.100 TYP	
e1	4.980	5.180	0.196	0.204
F	2.590	2.890	0.102	0.114
h	0.000	0.300	0.000	0.012
L	13.400	13.800	0.528	0.543
L1	3.560	3.960	0.140	0.156
Φ	3.735	3.935	0.147	0.155