

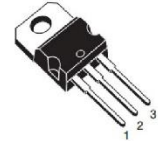
L7805 Three-terminal positive voltage regulator

FEATURES

- Maximum Output Current I_{OM} : 1.5A
- Output Voltage V_O : 5V
- Continuous total dissipation
 P_D : 1.5W($T_A=25^\circ\text{C}$)
 15W($T_C=25^\circ\text{C}$)

TO-220

1.IN
2.GND
3.OUT



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

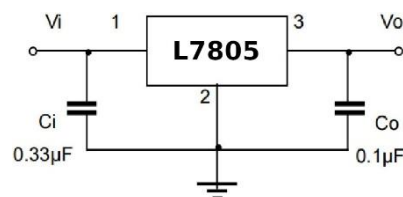
Parameter	Symbol	Value	UNIT
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	83.3	$^\circ\text{C}/\text{W}$
Thermal Resistance from Junction to Case	$R_{\theta JC}$	8.3	$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	T_{OPR}	0 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

($V_i=10\text{V}$, $I_o=500\text{mA}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise specified)

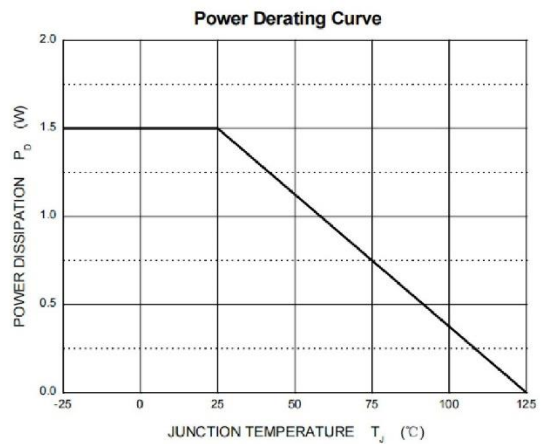
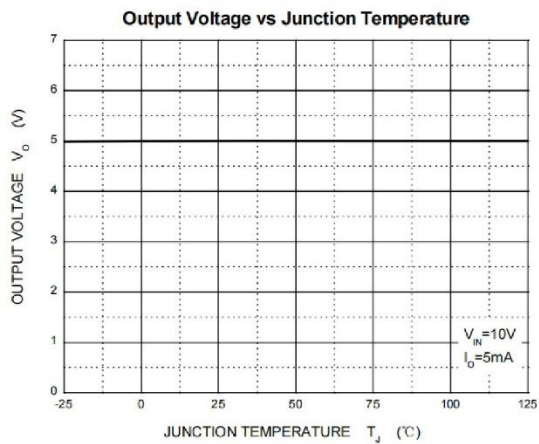
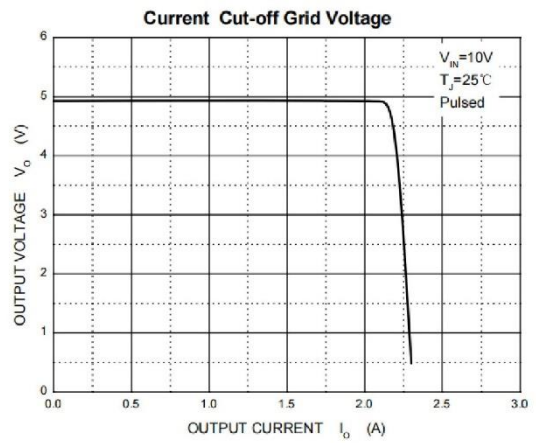
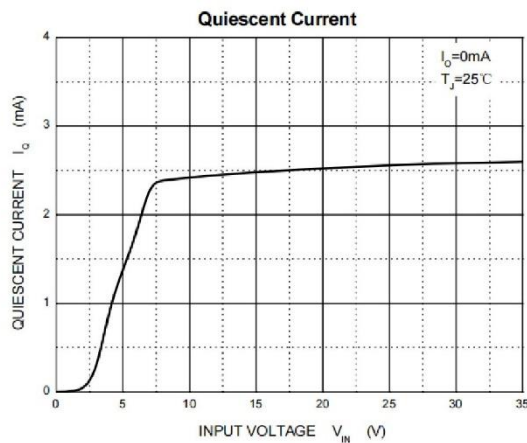
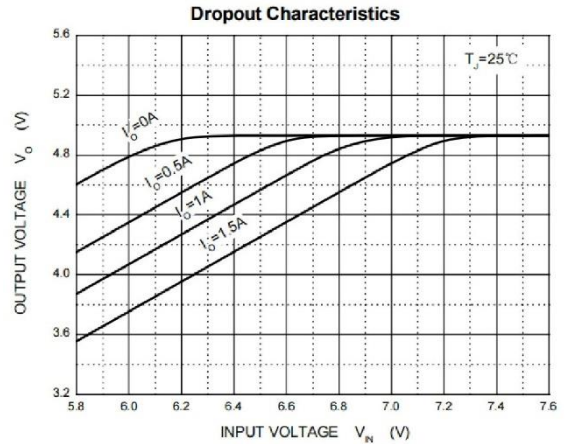
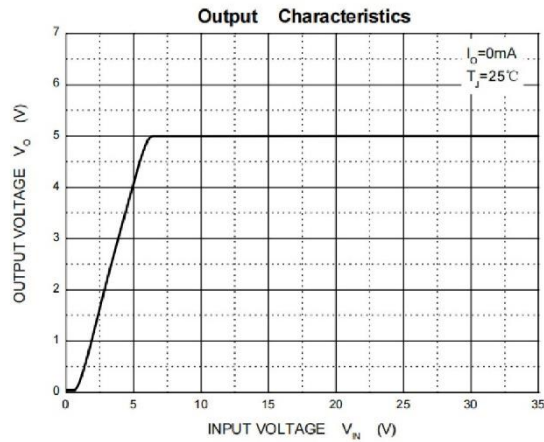
Parameter	Symbol	Test conditions		MIN	TYP	MAX	UNIT
Output Voltage	V_O		25 $^\circ\text{C}$	4.8	5.0	5.2	V
		$7\text{V} \leq V_i \leq 20\text{V}$, $I_o=5\text{mA}-1\text{A}$, $P \leq 15\text{W}$	0~125 $^\circ\text{C}$	4.75	5.00	5.25	
Load Regulation	ΔV_O	$I_o=5\text{mA}-1.5\text{A}$	25 $^\circ\text{C}$		9	100	mV
		$I_o=250\text{mA}-750\text{mA}$	25 $^\circ\text{C}$		4	50	
Line Regulation	ΔV_O	$7\text{V} \leq V_i \leq 25\text{V}$	25 $^\circ\text{C}$		4	100	mV
		$8\text{V} \leq V_i \leq 12\text{V}$	25 $^\circ\text{C}$		1.6	50	
Quiescent Current	I_Q		25 $^\circ\text{C}$		5	8	mA
Quiescent Current Change	ΔI_Q	$7\text{V} \leq V_i \leq 25\text{V}$	0~125 $^\circ\text{C}$		0.3	1.3	mA
		$5\text{mA} \leq I_o \leq 1\text{A}$	0~125 $^\circ\text{C}$		0.03	0.5	
Output Noise Voltage	V_N	$10\text{Hz} \leq F \leq 100\text{KHz}$	25 $^\circ\text{C}$		42		μV
Output Voltage Drift	$\Delta V_O/\Delta T$	$I_o=5\text{mA}$	0~125 $^\circ\text{C}$		-1.1		mV/ $^\circ\text{C}$
Ripple Rejection	RR	$8\text{V} \leq V_i \leq 18\text{V}$, $F=120\text{Hz}$	0~125 $^\circ\text{C}$	62	73		dB
Dropout Voltage	V_D	$I_o=1\text{A}$	25 $^\circ\text{C}$		2		V
Output Resistance	R_O	$F=1\text{KHz}$	25 $^\circ\text{C}$		10		m Ω
Short Circuit Current	I_{SC}		25 $^\circ\text{C}$		230		mA
Peak Current	I_{PK}		25 $^\circ\text{C}$		2.2		A

TYPICAL APPLICATION



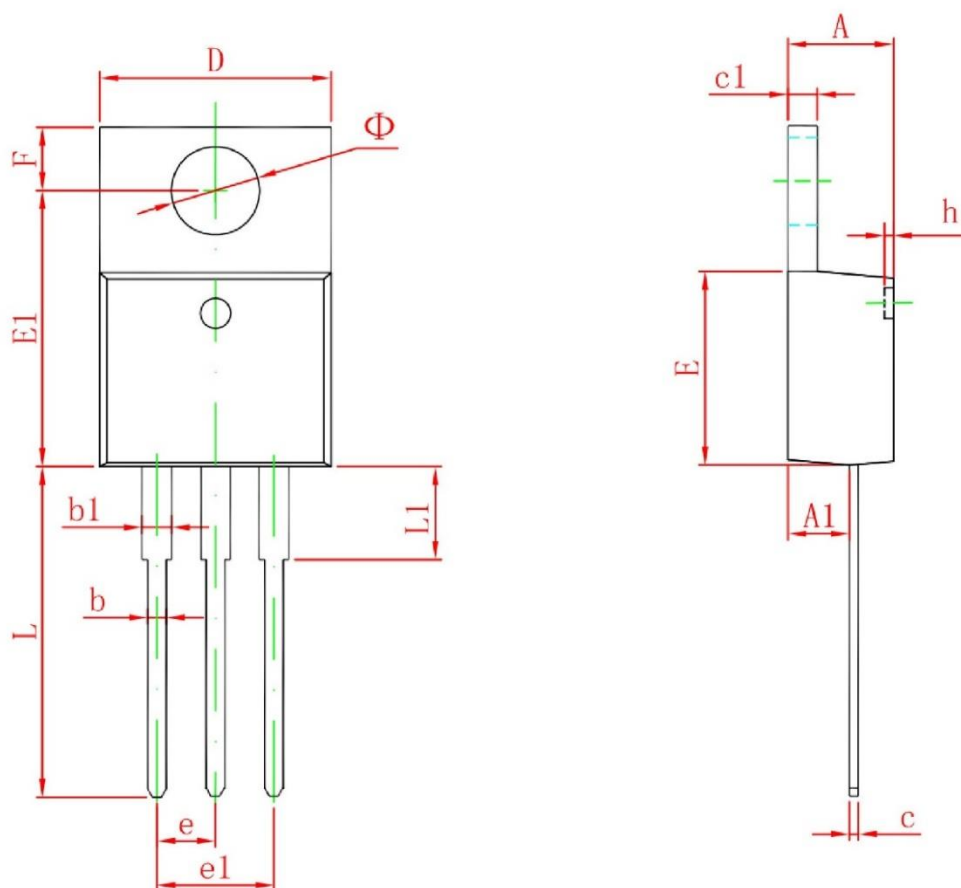
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TYPICAL CHARACTERISTICS



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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

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