7805

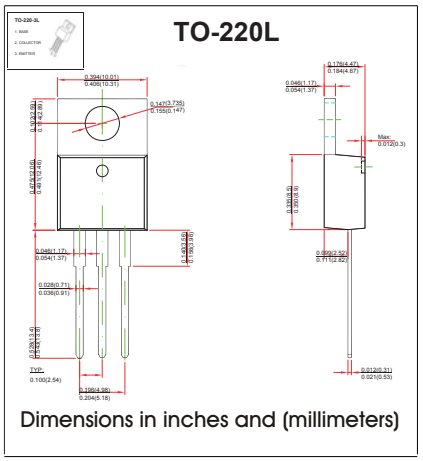
Three-terminal positive voltage regulator

FEATURES

- Maximum output current IOM: 1.5 A
- Output voltage VO: 5V
- Continuous total dissipation PD: 1.5 W (T a = 25 ℃)

MECHANICAL DATA

- Case: TO-220 Small Outline Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any



MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Air	$R_{\theta JA}$	66.7	℃/W
Operating Junction Temperature Range	T_{OPR}	-25~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

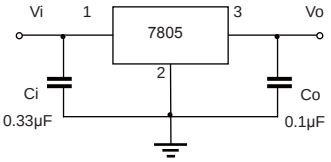
ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE
(Vi=10V,Io=500mA,Ci=0.33μF, Co=0.1μF, unless otherwise specified)

Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Output voltage	Vo		25℃	4.8	5.0	5.2	V
		7V≤V_i≤20V, Io=5mA-1A	-25-125℃	4.75	5.00	5.25	V
Load Regulation	△Vo	Io=5mA-1.5A	25℃		9	100	mV
		Io=250mA-750mA	25℃		4	50	mV
Line regulation	△Vo	7V≤V_i≤25V	25℃		4	100	mV
		8V≤V_i≤12V	25℃		1.6	50	mV
Quiescent Current	Iq		25℃		5	8	mA
Quiescent Current Change	△Iq	7V≤V_i≤25V	-25-125℃		0.3	1.3	mA
		5mA≤I_O≤1A	-25-125℃		0.03	0.5	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		42		uV
Output voltage drift	△Vo/△T	I_O=5mA	-25-125℃		-1.1		mV/℃
Ripple Rejection	RR	8V≤V_i≤18V,f=120Hz	-25-125℃	62	73		dB
Dropout Voltage	Vd	Io=1A	25℃		2		μV/Vo
Output resistance	R_O	f=1KH_Z	25℃		10		mΩ
Short Circuit Current	Isc		25℃		230		mA
Peak Current	Ipk		25℃		2.2		A

* Pulse test.

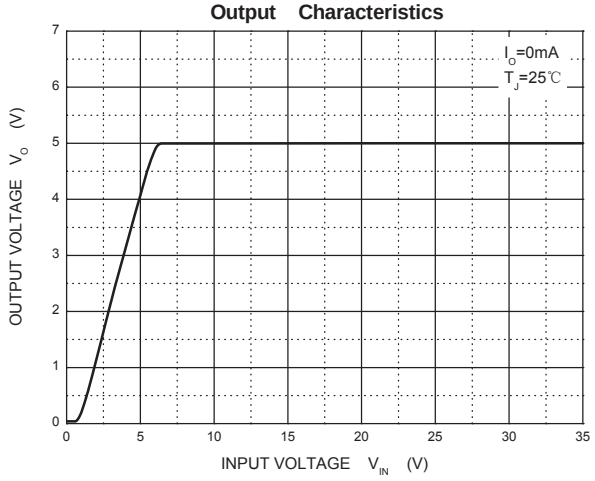
RATINGS AND CHARACTERISTIC CURVES

TYPICAL APPLICATION

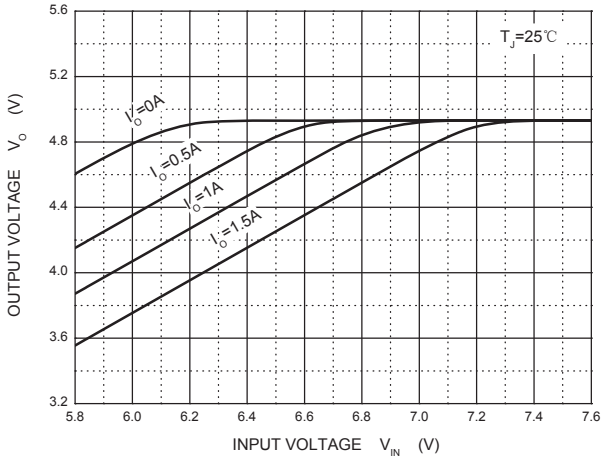


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

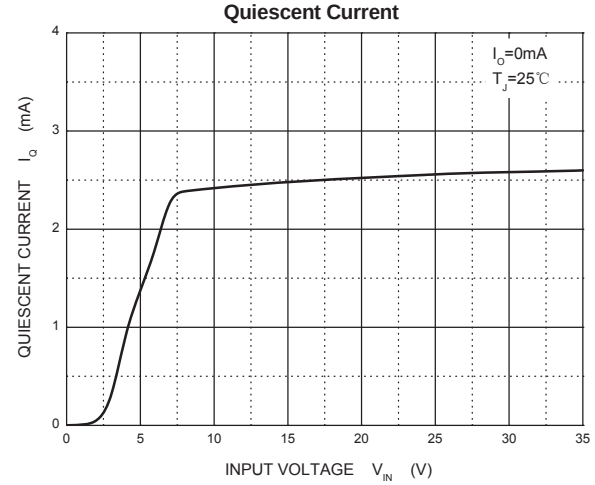
Output Characteristics



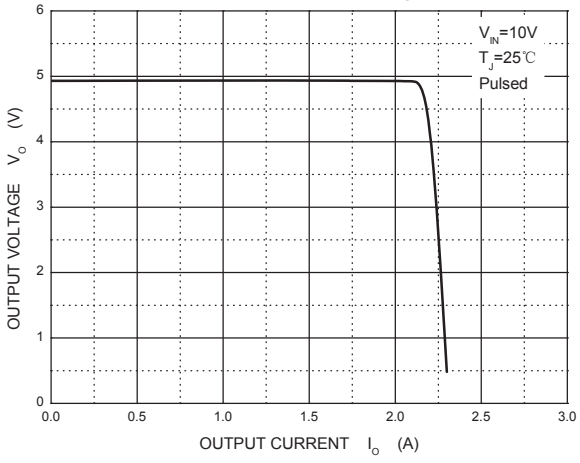
Dropout Characteristics



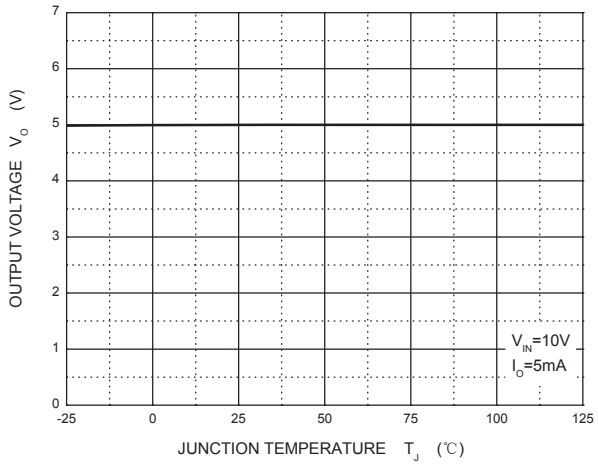
Quiescent Current



Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



Power Derating Curve