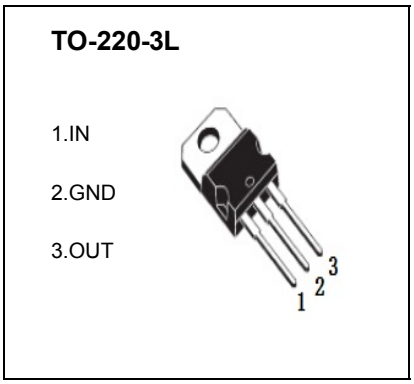
TDSEMIC

TO-220-3L Plastic-Encapsulate Voltage Regulators

L7806 Three-terminal positive voltage regulator

TO-220-3L



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℃)
15 W(T_c = 25℃)

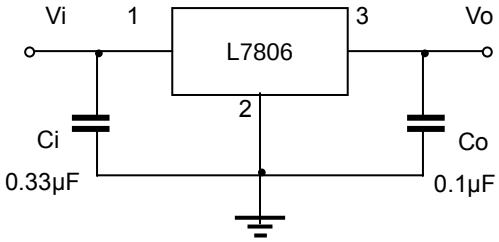
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

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

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JINCTION 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, P≤15W	0-125℃	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	0-125℃		0.3	1.3	mA
		5mA≤I_O≤1A	0-125℃		0.03	0.5	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		42		uV
Output voltage drift	△Vo/△T	I_O=5mA	0-125℃		-1.1		mV/℃
Ripple Rejection	RR	8V≤V_i≤18V,f=120Hz	0-125℃	62	73		dB
Dropout Voltage	Vd	Io=1A	25℃		2		V
Output resistance	R_O	f=1KH_Z	25℃		10		mΩ
Short Circuit Current	Isc		25℃		230		mA
Peak Current	Ipk		25℃		2		A

TYPICAL APPLICATION



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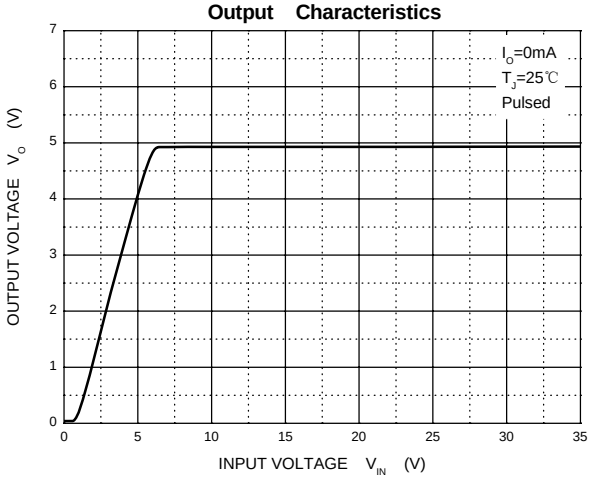
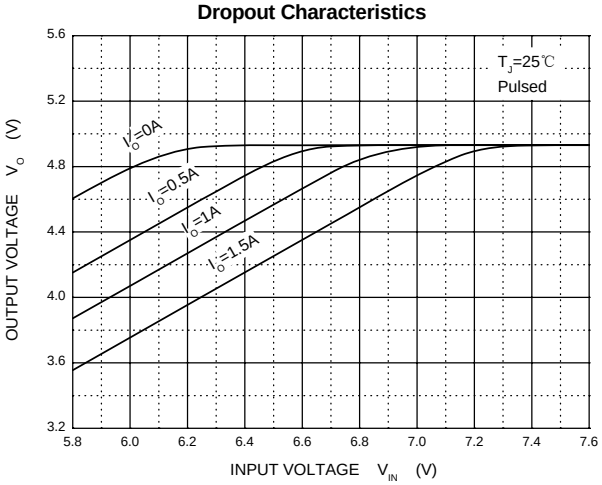
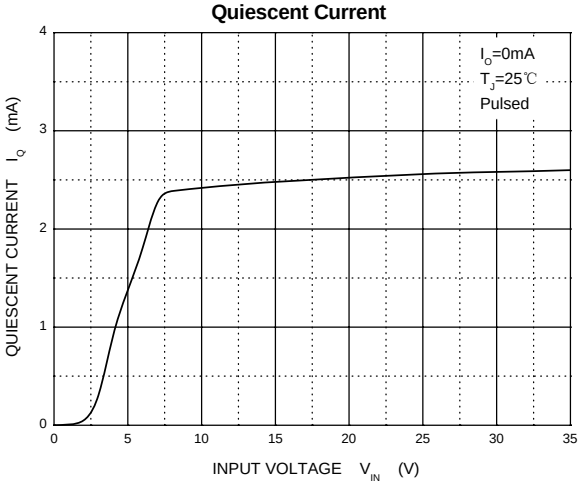
Output Characteristics



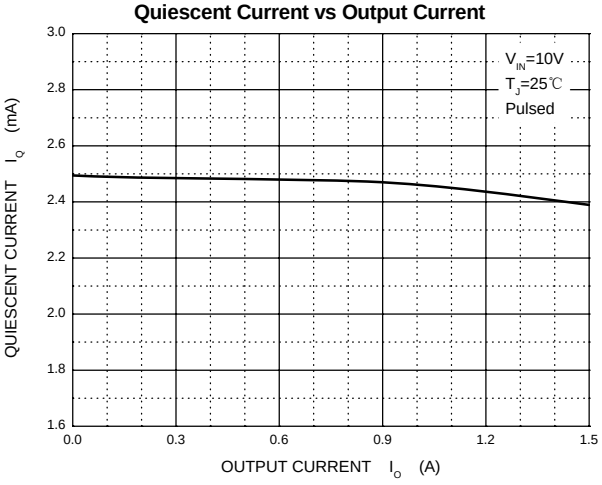
Dropout Characteristics



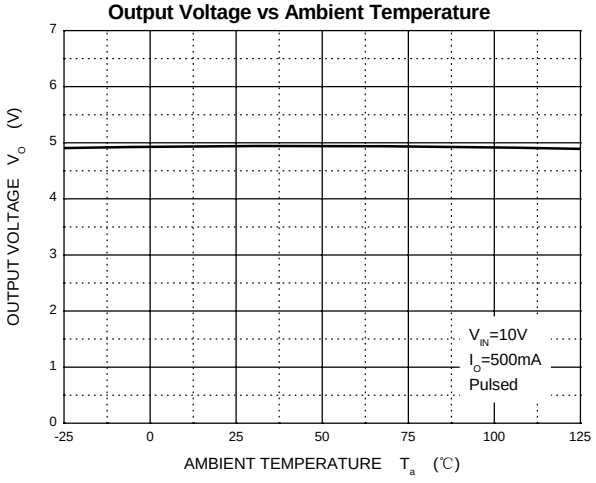
Quiescent Current



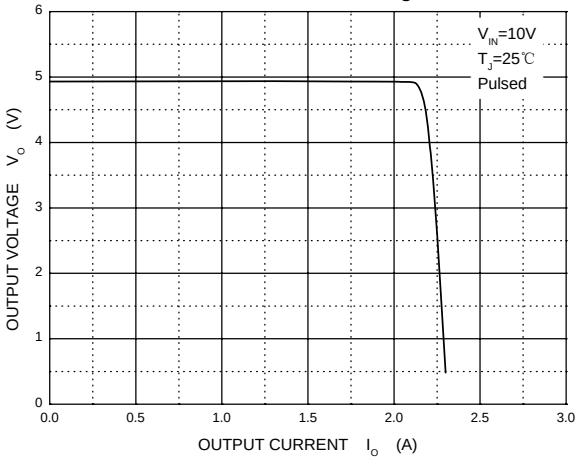
Quiescent Current vs Output Current



Output Voltage vs Ambient Temperature



Current Cut-off Grid Voltage



Power Derating Curve