

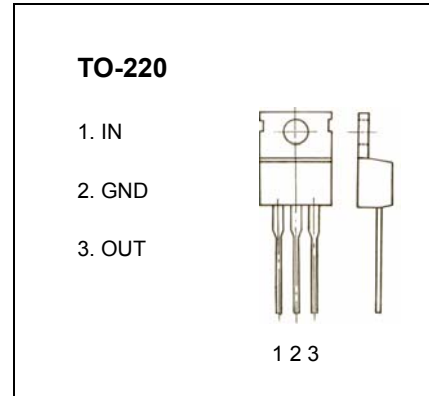


TO-220 Plastic-Encapsulate Voltage Regulator

L7806 Three-terminal positive voltage regulator

FEATURES

- Maximum Output current I_{OM} : 1.5 A
- Output voltage V_o : 6 V
- Continuous total dissipation
 - P_D : 1.5 W ($T_a=25^\circ\text{C}$)
 - 15 W ($T_c=25^\circ\text{C}$)



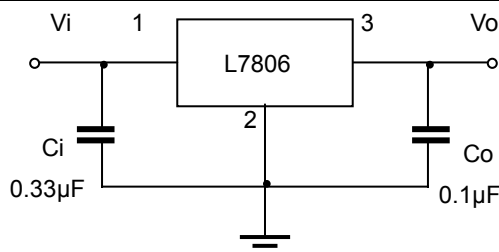
ABSOLUTE MAXIMUM RATINGS (operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal resistance junction-air	$R_{\theta JA}$	65	$^\circ\text{C/W}$
Thermal resistance junction-cases	$R_{\theta JC}$	5	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	0-125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65-150	$^\circ\text{C}$

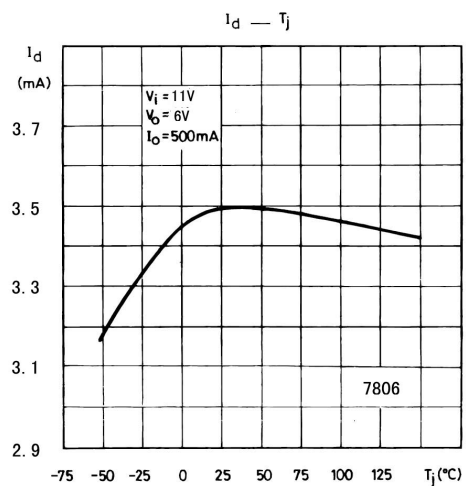
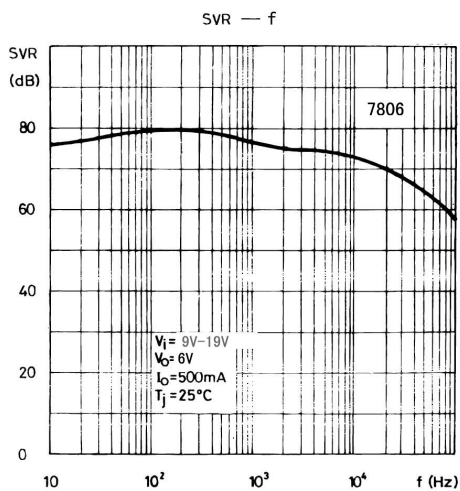
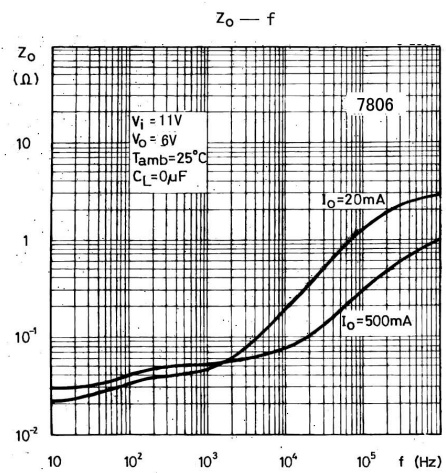
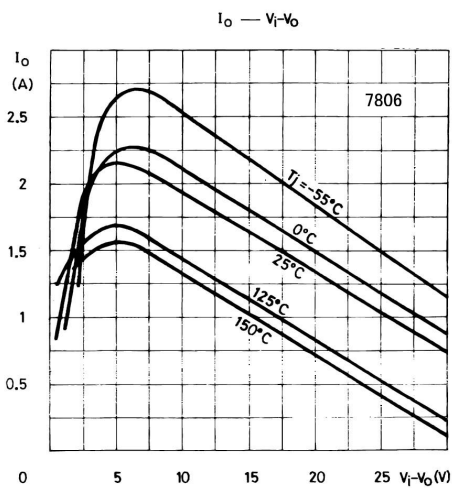
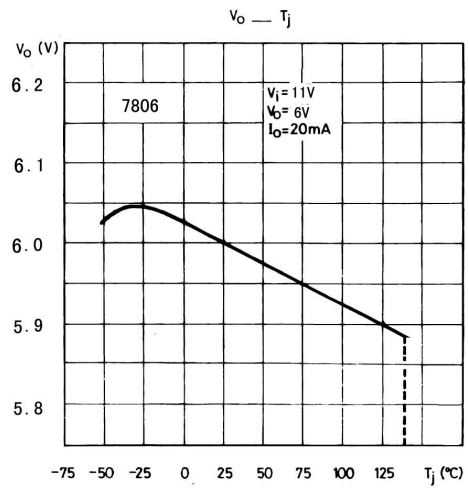
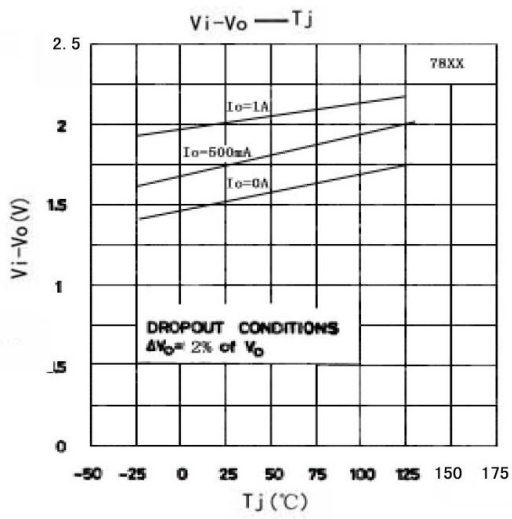
ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=11V, I_o=500mA, C_i=0.33\mu F, C_o=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_o	25°C	5.75	6	6.25	V
		$8V \leq V_i \leq 21V, I_o=5mA-1A, P \leq 15W$ $0-125^\circ\text{C}$	5.7	6	6.3	V
Load Regulation	ΔV_o	$I_o=5mA-1.5A$ 25°C		14	120	mV
		$I_o=250mA-750mA$ 25°C		4	60	mV
Line regulation	ΔV_o	$8V \leq V_i \leq 25V$ 25°C		5	120	mV
		$9V \leq V_i \leq 13V$ 25°C		1.5	60	mV
Quiescent Current	I_q	25°C		4.3	8	mA
Quiescent Current Change	ΔI_q	$8V \leq V_i \leq 25V$ $0-125^\circ\text{C}$			1.3	mA
		$5mA \leq I_o \leq 1A$ $0-125^\circ\text{C}$			0.5	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o=5mA$ $0-125^\circ\text{C}$		-0.8		mV/ $^\circ\text{C}$
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$ 25°C		45		μV
Ripple Rejection	RR	$9V \leq V_i \leq 19V, f=120Hz$ $0-125^\circ\text{C}$	59	75		dB
Dropout Voltage	V_d	$I_o=1A$ 25°C		2		V
Output resistance	R_o	$f=1KHz$ 25°C		10		m Ω
Short Circuit Current	I_{sc}	25°C		550		mA
Peak Current	I_{pk}	25°C		2.2		A

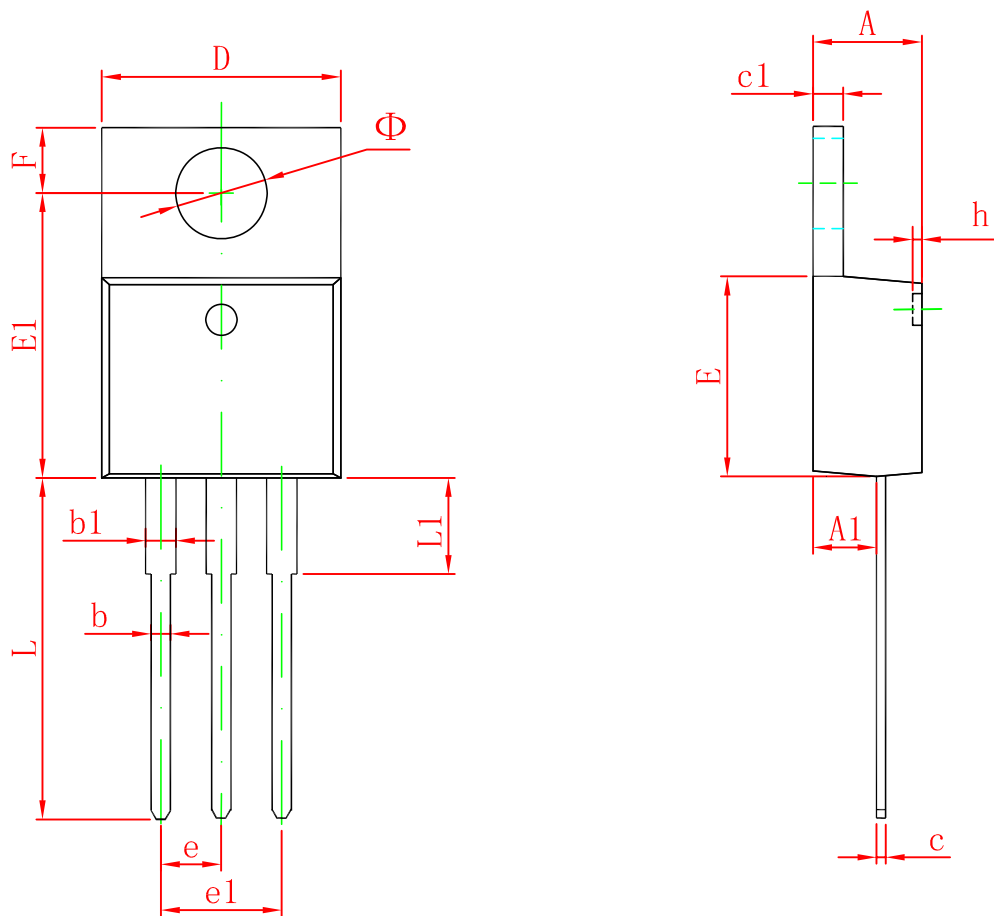
TYPICAL APPLICATION



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