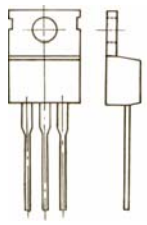
TO-220 Plastic-Encapsulate Voltage Regulator

H7810 Three-terminal positive voltage regulator

TO-220

1. IN
2. GND
3. OUT



1 2 3

FEATURES

Maximum Output current I_{OM}: 1.5 A
Output voltage V_o: 10 V
Continuous total dissipation
P_D: 2 W (T_a= 25 ℃)
15 W (T_c= 25 ℃)

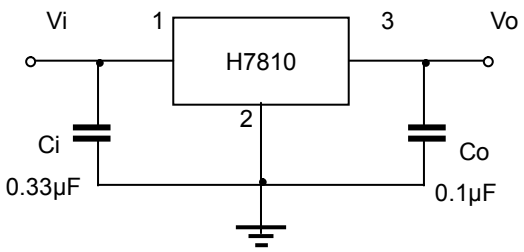
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

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

ELECTRICAL CHARACTERISTICS (Vi=17V,Io=500mA,,Ci=0.33μF, Co=0.1μF, unless otherwise specified)

Parameter	Symbol	Test conditions		MIN	TYP	MAX	UNIT
Output voltage	Vo		25℃	9.6	10	10.4	V
		12.5V≤V_i≤25V, Io=5mA-1A, P≤15W	0-125℃	9.5	10	10.5	V
Load Regulation	ΔVo	Io=5mA-1.5A	25℃		12	200	mV
		Io=250mA-750mA	25℃		4	100	mV
Line regulation	ΔVo	12.5V≤V_i≤28V	25℃		7	200	mV
		14V≤V_i≤20V	25℃		2	100	mV
Quiescent Current	Iq		25℃		4.3	8	mA
Quiescent Current Change	ΔIq	12.5V≤V_i≤28V	0-125℃			1	mA
	ΔIq	5mA≤I_O≤1A	0-125℃			0.5	mA
Output voltage drift	△Vo/△T	I_O=5mA	0-125℃		-1		mV/℃
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		70		μV
Ripple Rejection	RR	13V≤V_i≤23V,f=120Hz	0-125℃	55	71		dB
Dropout Voltage	Vd	Io=1A	25℃		2		V
Output resistance	R_O	f=1KH_Z	25℃		18		mΩ
Short Circuit Current	Isc		25℃		400		mA
Peak Current	Ipk		25℃		2.2		A

TYPICAL APPLICATION



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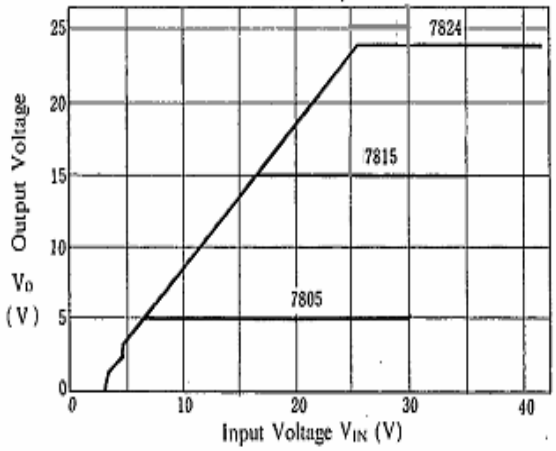
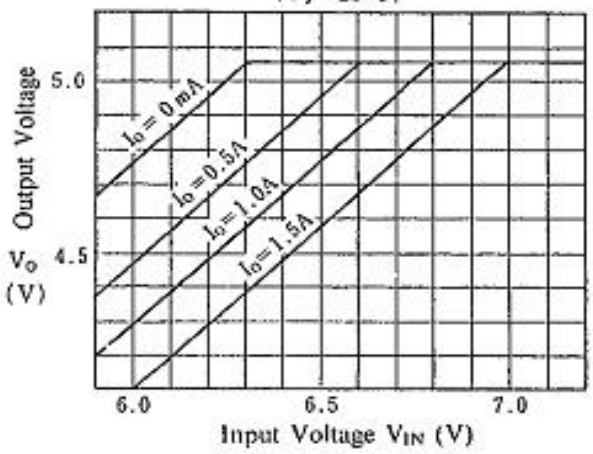
Typical Characteristics

H78XX

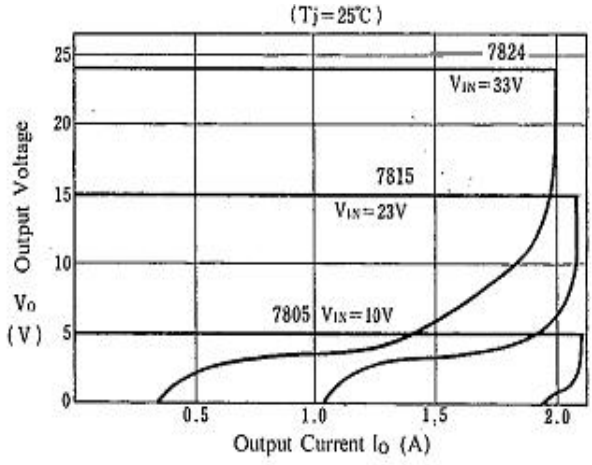
(Io=0.5A, Tj=25℃)



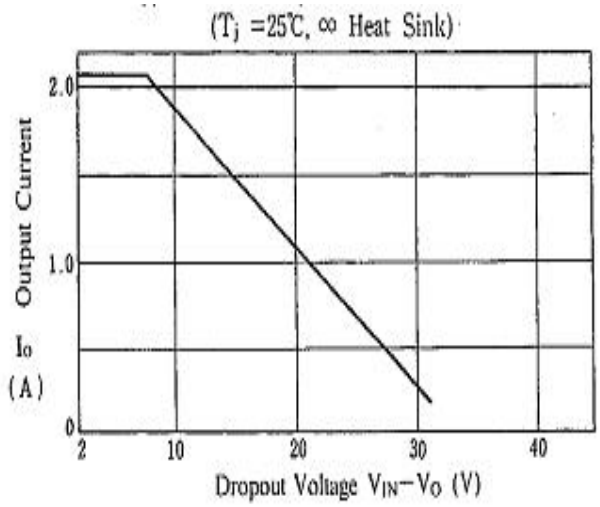
(Tj=25°C)



(Tj=25℃)



(Tj =25℃, ∞ Heat Sink)



(Tj=25℃)