

深圳市晶泰源电子有限公司

7810

Three-terminal positive voltage regulator

FEATURES

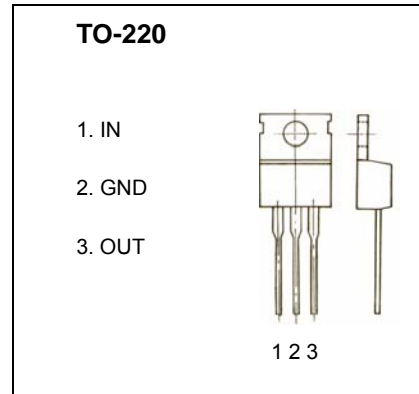
Maximum Output current I_{OM} : 1.5 A

Output voltage V_o : 10 V

Continuous total dissipation

P_D : 1.5 W ($T_a = 25^\circ\text{C}$)

15 W ($T_c = 25^\circ\text{C}$)



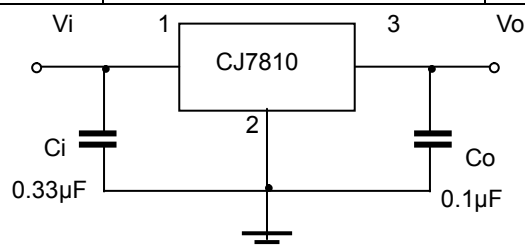
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

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 ($V_i=17\text{V}, I_o=500\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, unless otherwise specified)

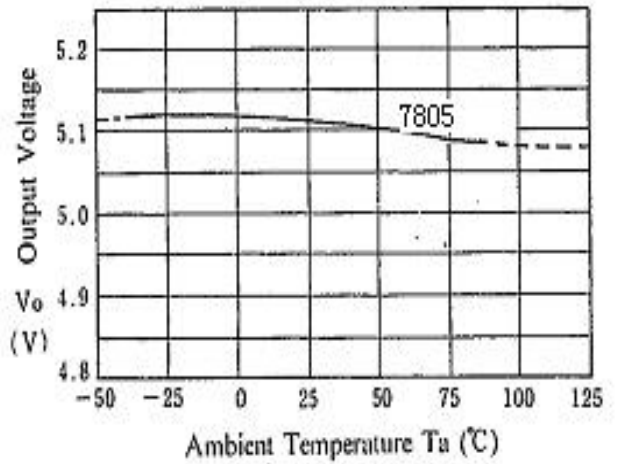
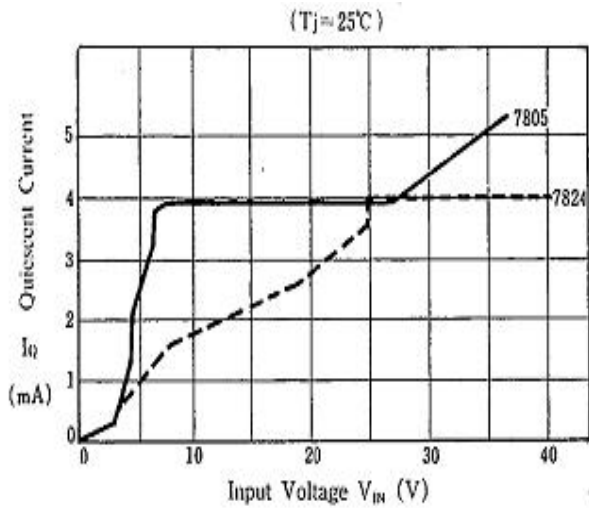
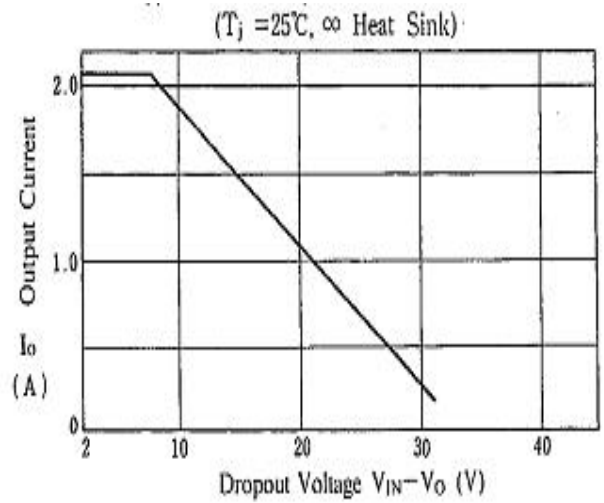
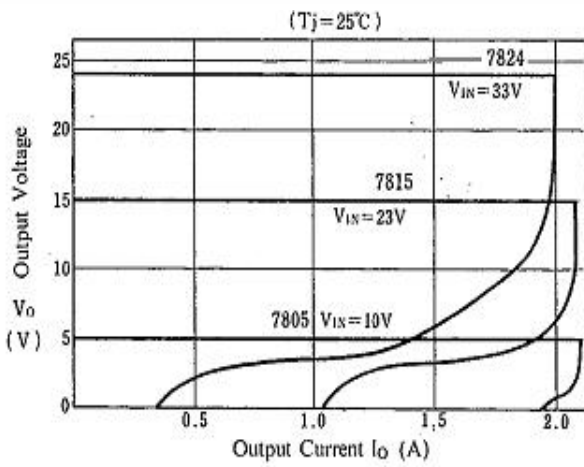
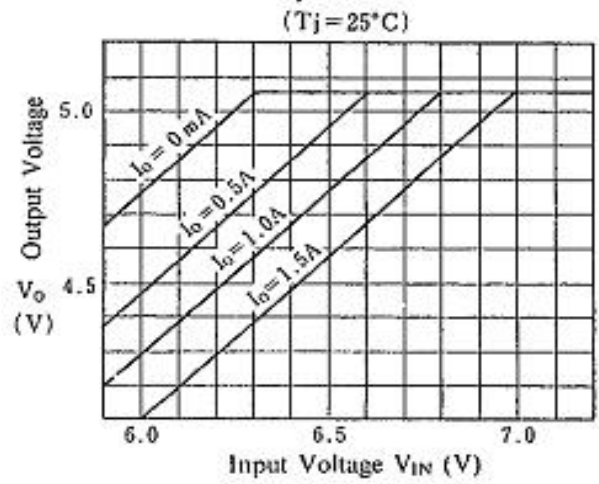
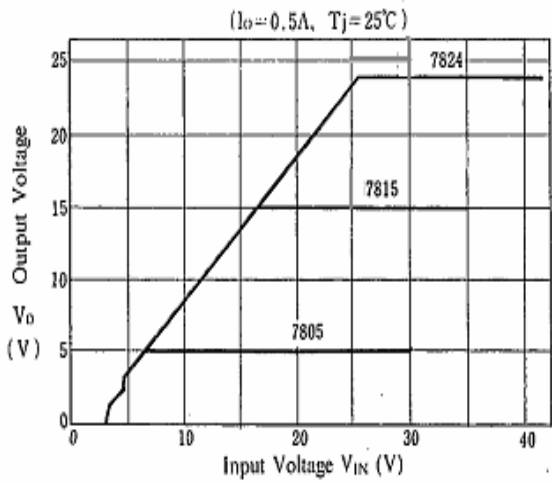
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_o	25°C	9.6	10	10.4	V
		$12.5\text{V} \leq V_i \leq 25\text{V}, I_o=5\text{mA}-1\text{A}, P \leq 15\text{W}$ $0-125^\circ\text{C}$	9.5	10	10.5	V
Load Regulation	ΔV_o	$I_o=5\text{mA}-1.5\text{A}$ 25°C		12	200	mV
		$I_o=250\text{mA}-750\text{mA}$ 25°C		4	100	mV
Line regulation	ΔV_o	$12.5\text{V} \leq V_i \leq 28\text{V}$ 25°C		7	200	mV
		$14\text{V} \leq V_i \leq 20\text{V}$ 25°C		2	100	mV
Quiescent Current	I_q	25°C		4.3	8	mA
Quiescent Current Change	ΔI_q	$12.5\text{V} \leq V_i \leq 28\text{V}$ $0-125^\circ\text{C}$			1	mA
	ΔI_q	$5\text{mA} \leq I_o \leq 1\text{A}$ $0-125^\circ\text{C}$			0.5	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o=5\text{mA}$ $0-125^\circ\text{C}$		-1		$\text{mV}/^\circ\text{C}$
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$ 25°C		70		μV
Ripple Rejection	RR	$13\text{V} \leq V_i \leq 23\text{V}, f=120\text{Hz}$ $0-125^\circ\text{C}$	55	71		dB
Dropout Voltage	V_d	$I_o=1\text{A}$ 25°C		2		V
Output resistance	R_o	$f=1\text{KHz}$ 25°C		18		$\text{m}\Omega$
Short Circuit Current	I_{sc}	25°C		400		mA
Peak Current	I_{pk}	25°C		2.2		A

TYPICAL APPLICATION



Typical Characteristics

CJ78XX



PD-TA

