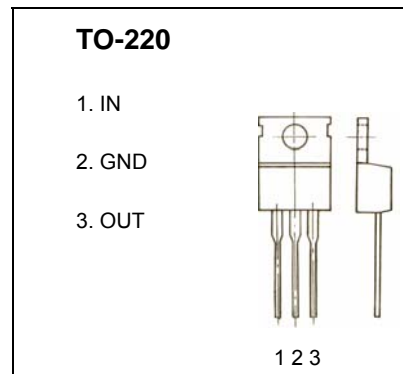


7808 Three-terminal positive voltage regulator

FEATURES

Maximum Output current I_{OM} : 1.5 A
 Output voltage V_o : 8 V
 Continuous total dissipation
 P_D : 2 W ($T_a=25^\circ\text{C}$)
 15W ($T_c=25^\circ\text{C}$)



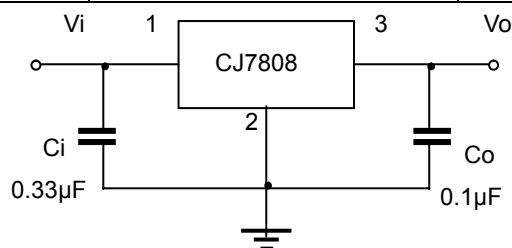
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

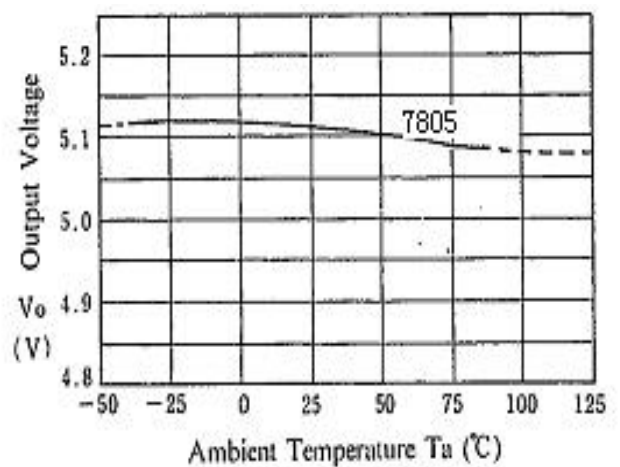
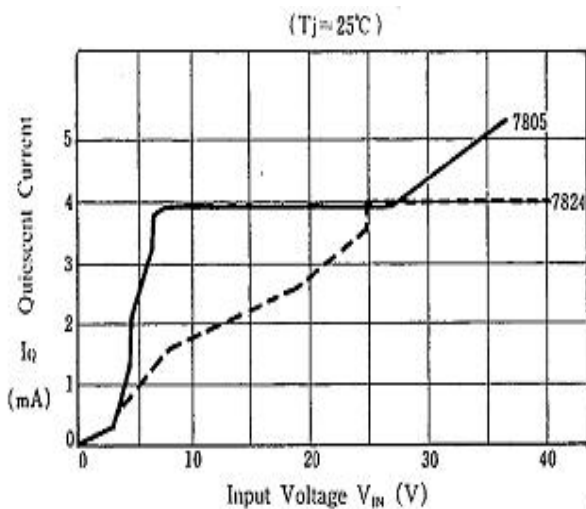
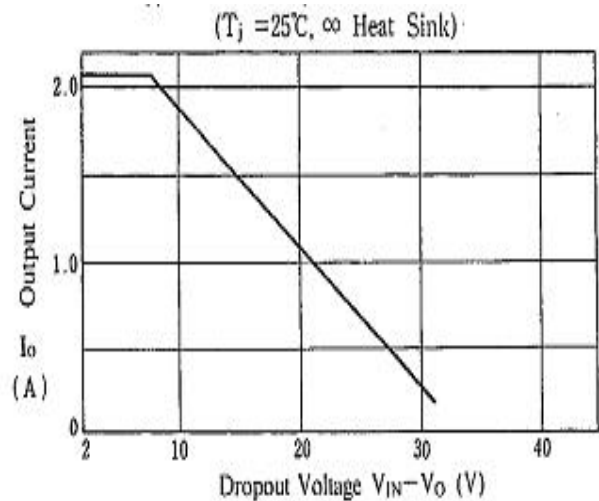
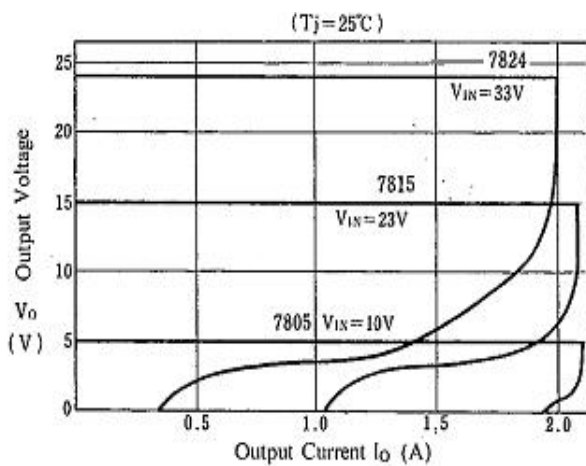
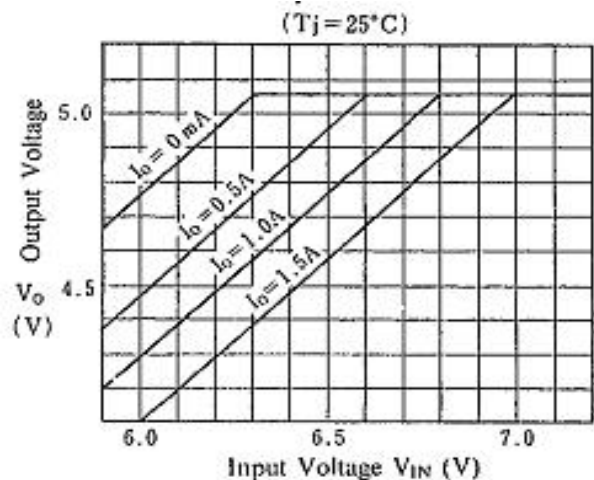
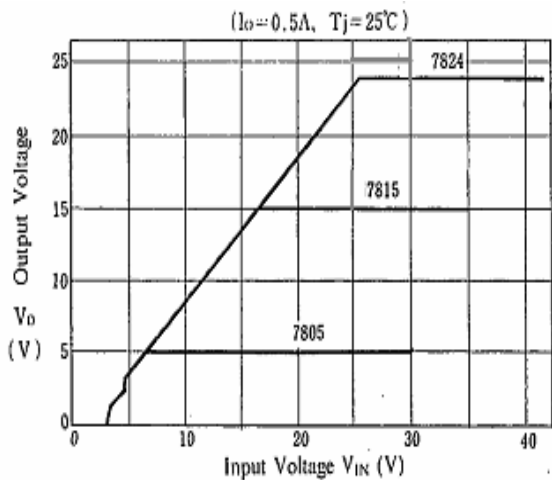
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal resistance junction-air	$R_{\theta JA}$	65	$^\circ\text{C/W}$
Thermal resistance junction-cases	$R_{\theta JC}$	5	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	0-125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65-150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

ELECTRICAL CHARACTERISTICS ($V_i=14\text{V}, I_o=500\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_o	25°C	7.7	8	8.3	V
		$10.5\text{V} \leq V_i \leq 23\text{V}, I_o=5\text{mA}-1\text{A}, P \leq 15\text{W}$ $0-125^\circ\text{C}$	7.6	8	8.4	V
Load Regulation	ΔV_o	$I_o=5\text{mA}-1.5\text{A}$ 25°C		12	160	mV
		$I_o=250\text{mA}-750\text{mA}$ 25°C		4	80	mV
Line regulation	ΔV_o	$10.5\text{V} \leq V_i \leq 25\text{V}$ 25°C		6	160	mV
		$11\text{V} \leq V_i \leq 17\text{V}$ 25°C		2	80	mV
Quiescent Current	I_q	25°C		4.3	8	mA
Quiescent Current Change	ΔI_q	$10.5\text{V} \leq V_i \leq 25\text{V}$ $0-125^\circ\text{C}$			1	mA
		$5\text{mA} \leq I_o \leq 1\text{A}$ $0-125^\circ\text{C}$			0.5	mA
Output voltage drift	$\Delta V_o/\Delta T$	$I_o=5\text{mA}$ $0-125^\circ\text{C}$		-0.8		mV/ $^\circ\text{C}$
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$ 25°C		52		μV
Ripple Rejection	RR	$11.5\text{V} \leq V_i \leq 21.5\text{V}, f=120\text{Hz}$ $0-125^\circ\text{C}$	55	72		dB
Dropout Voltage	V_d	$I_o=1\text{A}$ 25°C		2		V
Output resistance	R_o	$f=1\text{KHz}$ 25°C		10		m Ω
Short Circuit Current	I_{sc}	25°C		450		mA
Peak Current	I_{pk}	25°C		2.2		A

TYPICAL APPLICATION





IMPORTANT NOTICE – PLEASE READ CAREFULLY

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