

7818 Three-terminal positive voltage regulator

FEATURES

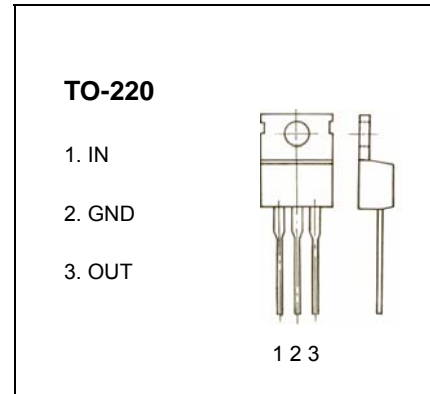
Maximum Output current I_{OM} : 1.5 A

Output voltage V_o : 18 V

Continuous total dissipation

P_D : 2 W ($T_a = 25^\circ\text{C}$)

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



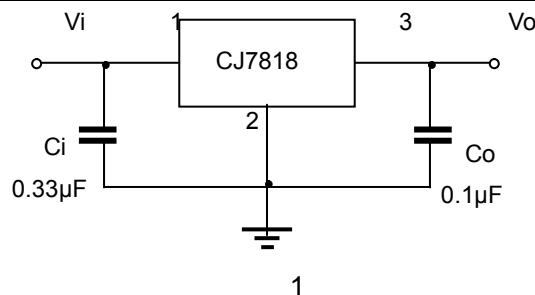
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

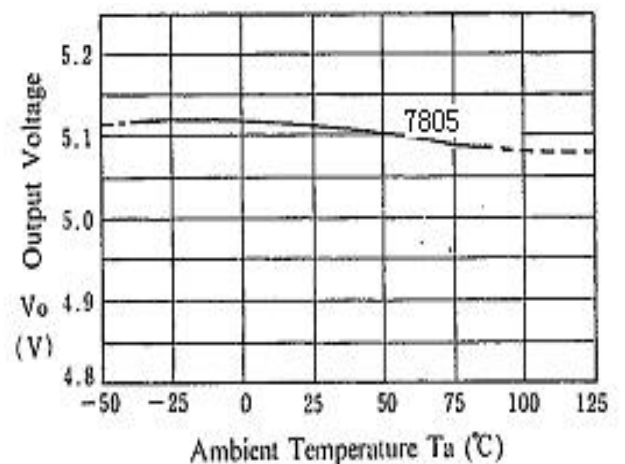
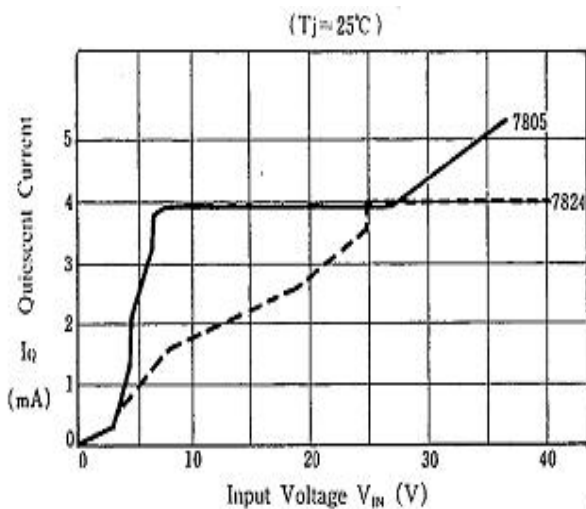
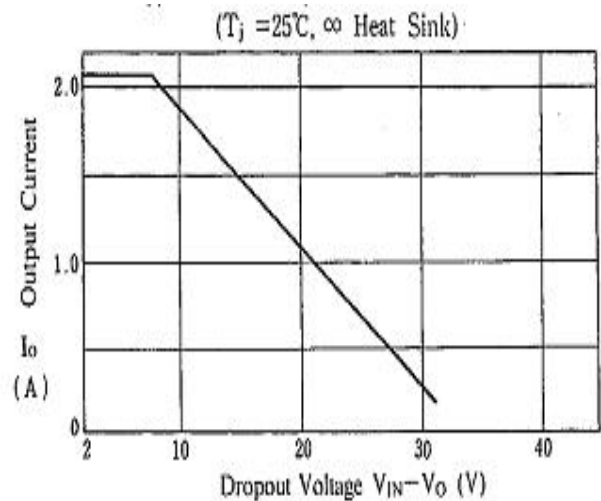
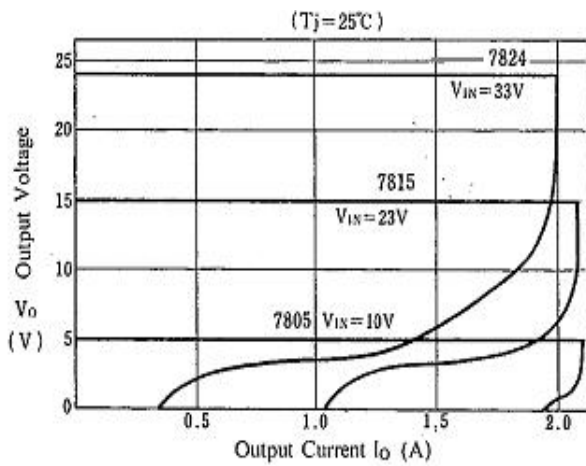
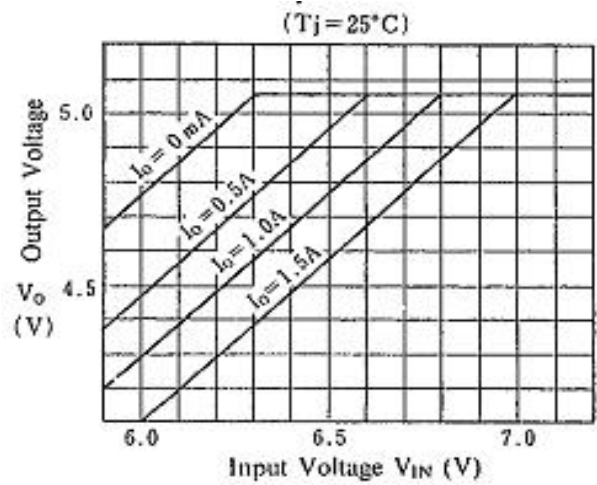
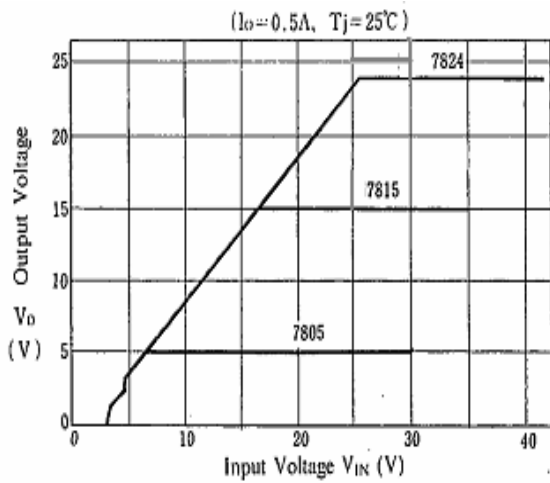
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal resistance junction-air	$R_{\theta JA}$	65	$^\circ\text{C/W}$
Thermal resistance junction-cases	$R_{\theta JC}$	5	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	0-125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65-150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

ELECTRICAL CHARACTERISTICS ($V_i=27\text{V}$, $I_o=500\text{mA}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT	
Output voltage	V_o		25 $^\circ\text{C}$	17.3	18	18.7	V
		$21\text{V} \leq V_i \leq 33\text{V}$, $I_o=5\text{mA}-1\text{A}$ $P \leq 15\text{W}$	0-125 $^\circ\text{C}$	17.1	18	18.9	V
Load Regulation	ΔV_o	$I_o=5\text{mA}-1.5\text{A}$	25 $^\circ\text{C}$		12	360	mV
		$I_o=250\text{mA}-750\text{mA}$	25 $^\circ\text{C}$		4	180	mV
Line regulation	ΔV_o	$21\text{V} \leq V_i \leq 33\text{V}$	25 $^\circ\text{C}$		15	360	mV
		$24\text{V} \leq V_i \leq 30\text{V}$	25 $^\circ\text{C}$		5	180	mV
Quiescent Current	I_q		25 $^\circ\text{C}$		4.5	8	mA
Quiescent Current Change	ΔI_q	$21\text{V} \leq V_i \leq 33\text{V}$	0-125 $^\circ\text{C}$			1	mA
	ΔI_q	$5\text{mA} \leq I_o \leq 1\text{A}$				0.5	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o=5\text{mA}$	0-125 $^\circ\text{C}$		-1		mV/ $^\circ\text{C}$
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$	25 $^\circ\text{C}$		110		μV
Ripple Rejection	RR	$22\text{V} \leq V_i \leq 32\text{V}$, $f=120\text{Hz}$	0-125 $^\circ\text{C}$	53	69		dB
Dropout Voltage	V_d	$I_o=1\text{A}$	25 $^\circ\text{C}$		2		V
Output resistance	R_o	$f=1\text{KHz}$	25 $^\circ\text{C}$		22		$\text{m}\Omega$
Short Circuit Current	I_{sc}	$V_i=35\text{V}$	25 $^\circ\text{C}$		200		mA
Peak Current	I_{pk}		25 $^\circ\text{C}$		2.1		A

TYPICAL APPLICATION





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