

**7805** Three-terminal positive voltage regulator

**FEATURES**

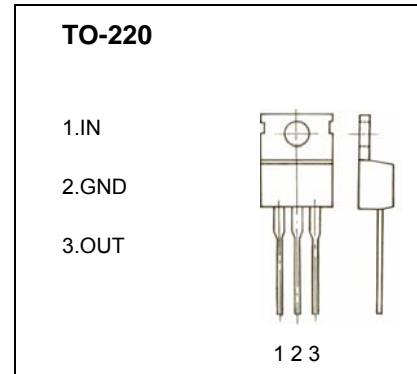
Maximum Output current  $I_{OM}$ : 1.5 A

Output voltage  $V_o$ : 5V

Continuous total dissipation

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

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



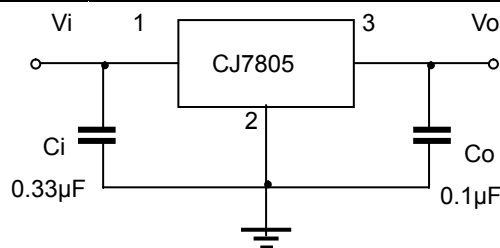
**ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)**

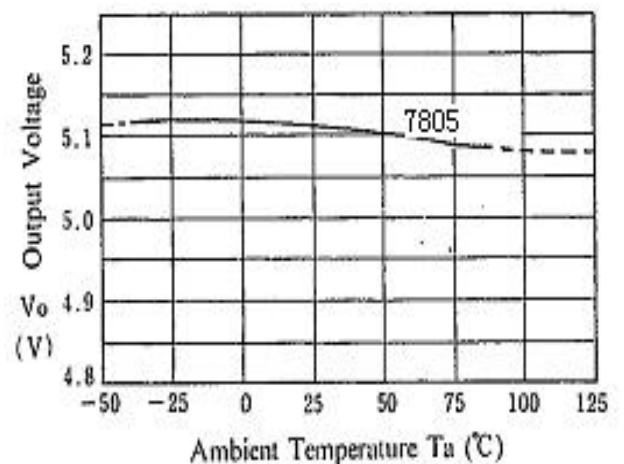
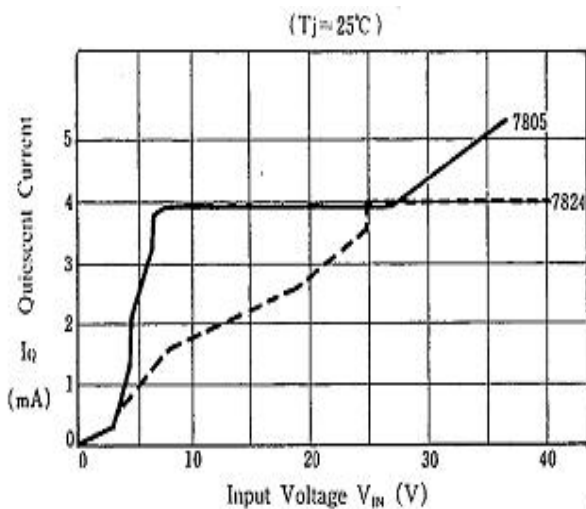
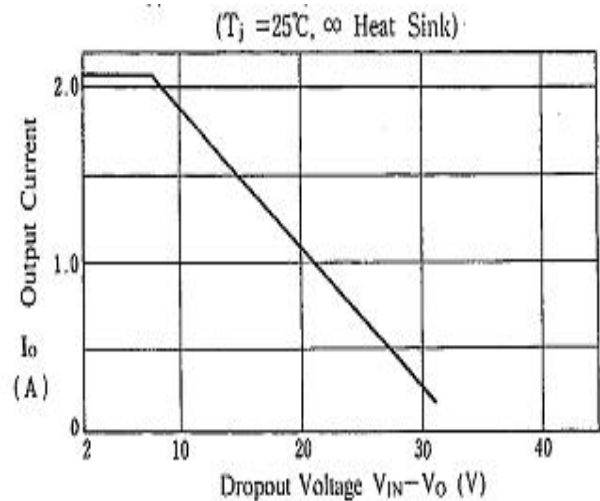
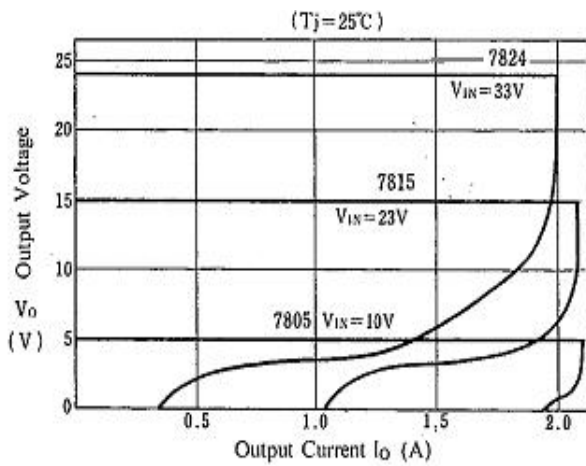
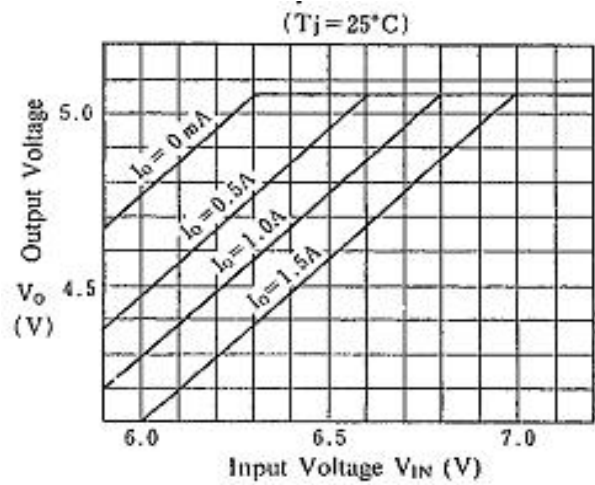
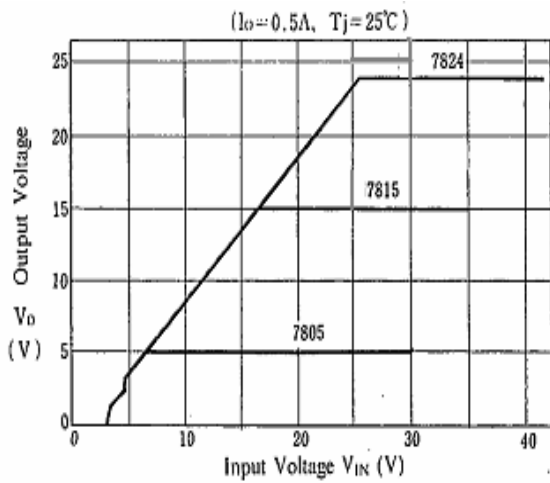
Parameter	Symbol	Value	Unit
Input Voltage	$V_i$	35	V
Thermal resistance junction-air	$R_{\theta JA}$	65	$^\circ\text{C/W}$
Thermal resistance junction-cases	$R_{\theta JC}$	5	$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_{OPR}$	0-125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65-150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

**ELECTRICAL CHARACTERISTICS ( $V_i=10\text{V}$ ,  $I_o=500\text{mA}$ ,  $C_i=0.33\mu\text{F}$ ,  $C_o=0.1\mu\text{F}$ , unless otherwise specified )**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	$V_o$	$25^\circ\text{C}$	4.8	5.0	5.2	V
		$7\text{V} \leq V_i \leq 20\text{V}$ , $I_o=5\text{mA}-1\text{A}$ , $P \leq 15\text{W}$ , $0-125^\circ\text{C}$	4.75	5.00	5.25	V
Load Regulation	$\Delta V_o$	$I_o=5\text{mA}-1.5\text{A}$ , $25^\circ\text{C}$		9	100	mV
		$I_o=250\text{mA}-750\text{mA}$ , $25^\circ\text{C}$		4	50	mV
Line regulation	$\Delta V_o$	$7\text{V} \leq V_i \leq 25\text{V}$ , $25^\circ\text{C}$		4	100	mV
		$8\text{V} \leq V_i \leq 12\text{V}$ , $25^\circ\text{C}$		1.6	50	mV
Quiescent Current	$I_q$	$25^\circ\text{C}$		5	8	mA
Quiescent Current Change	$\Delta I_q$	$7\text{V} \leq V_i \leq 25\text{V}$ , $0-125^\circ\text{C}$		0.3	1.3	mA
		$5\text{mA} \leq I_o \leq 1\text{A}$ , $0-125^\circ\text{C}$		0.03	0.5	mA
Output Noise Voltage	$V_N$	$10\text{Hz} \leq f \leq 100\text{KHz}$ , $25^\circ\text{C}$		42		$\mu\text{V}$
Output voltage drift	$\Delta V_o / \Delta T$	$I_o=5\text{mA}$ , $0-125^\circ\text{C}$		-1.1		$\text{mV}/^\circ\text{C}$
Ripple Rejection	RR	$8\text{V} \leq V_i \leq 18\text{V}$ , $f=120\text{Hz}$ , $0-125^\circ\text{C}$	62	73		dB
Dropout Voltage	$V_d$	$I_o=1\text{A}$ , $25^\circ\text{C}$		2		V
Output resistance	$R_o$	$f=1\text{KHz}$ , $25^\circ\text{C}$		10		$\text{m}\Omega$
Short Circuit Current	$I_{sc}$	$25^\circ\text{C}$		230		mA
Peak Current	$I_{pk}$	$25^\circ\text{C}$		2.2		A

**TYPICAL APPLICATION**





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