



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-220 Plastic-Encapsulate Voltage Regulator

CJ7805 Three-terminal positive voltage regulator

FEATURES

Maximum Output current I_{OM} : 1.5 A

Output voltage V_o : 5V

Continuous total dissipation

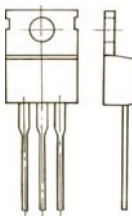
P_D : 2 W ($T_J = 25^\circ\text{C}$)

TO-220

1.IN

2.GND

3.OUT



1 2 3

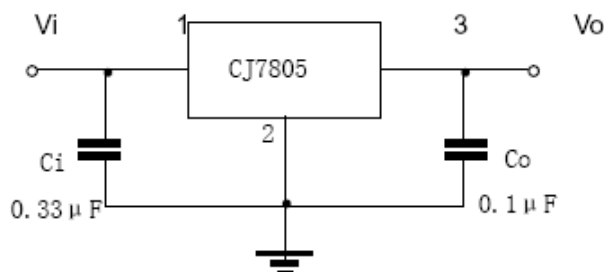
ABSOLUTE MAXIMUM RATINGS(Operating temperature range applies unless otherwise specified)

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

ELECTRICAL CHARACTERISTICS($V_i=10\text{V}$, $I_o=500\text{mA}$, $0^\circ\text{C}<T_J<125^\circ\text{C}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_o	$T_J=25^\circ\text{C}$	4.8	5.0	5.2	V
		$7\text{V}\leq V_i\leq 20\text{V}$, $I_o=5\text{mA}-1\text{A}$, $P<15\text{W}$	4.75	5.00	5.25	V
Load Regulation	ΔV_o	$T_J=25^\circ\text{C}$, $I_o=5\text{mA}-1.5\text{A}$		9	100	mV
		$T_J=25^\circ\text{C}$, $I_o=250\text{mA}-750\text{mA}$		4	50	mV
Line regulation	ΔV_o	$7\text{V}\leq V_i\leq 25\text{V}$, $T_J=25^\circ\text{C}$		4	100	mV
		$8\text{V}\leq V_i\leq 12\text{V}$, $T_J=25^\circ\text{C}$		1.6	50	mV
Quiescent Current	I_q	$T_J=25^\circ\text{C}$		5	8	mA
Quiescent Current Change	ΔI_q	$7\text{V}\leq V_i\leq 25\text{V}$		0.3	1.3	mA
		$5\text{mA}\leq I_o\leq 1\text{A}$		0.03	0.5	mA
Output Noise Voltage	V_N	$10\text{Hz}\leq f\leq 100\text{KHz}$		42		μV
Output voltage drift	$\Delta V_o/\Delta T$	$I_o=5\text{mA}$		-0.8		$\text{mV}/^\circ\text{C}$
Ripple Rejection	RR	$8\text{V}\leq V_i\leq 18\text{V}$, $f=120\text{Hz}$, $T_J=25^\circ\text{C}$	62	73		dB
Dropout Voltage	V_d	$T_J=25^\circ\text{C}$, $I_o=1\text{A}$		2		V
Output resistance	R_o	$f=1\text{KHz}$		15		$\text{m}\Omega$
Short Circuit Current	I_{sc}	$V_i=35\text{V}$, $T_J=25^\circ\text{C}$		230		mA
Peak Current	I_{pk}	$T_J=25^\circ\text{C}$		2.2		A

TYPICAL APPLICATION



Typical Characteristics

CJ7805

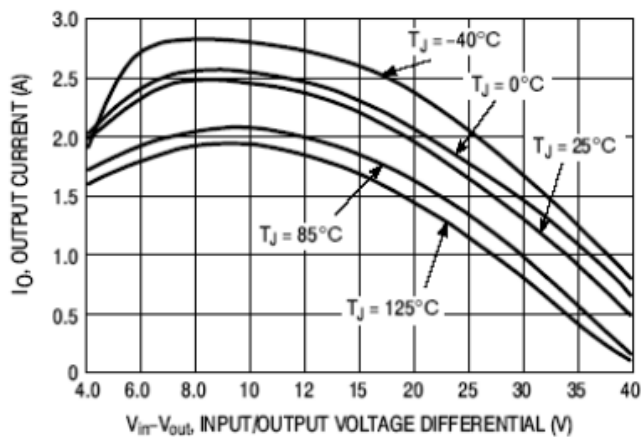


Figure 1 Peak Output Current as a Function of Input/Output Differential Voltage

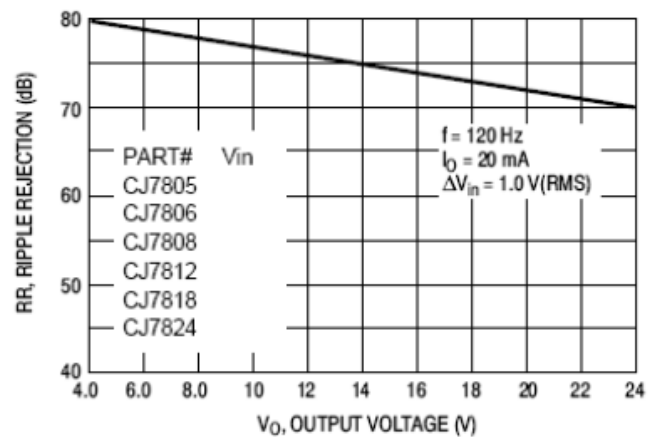


Figure 2 Ripple Rejection as a Function of Output Voltages

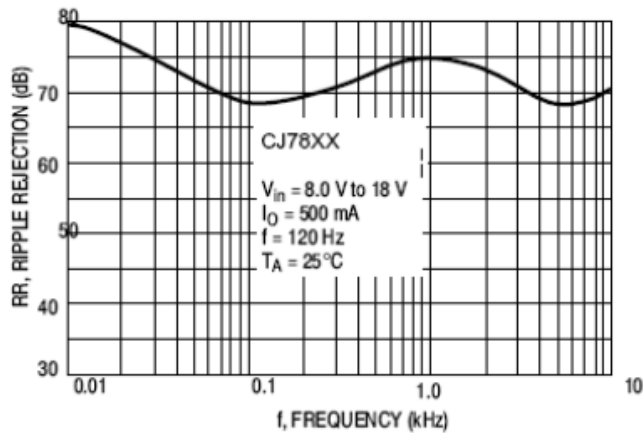


Figure 3 Ripple Rejection as a Function of Frequency

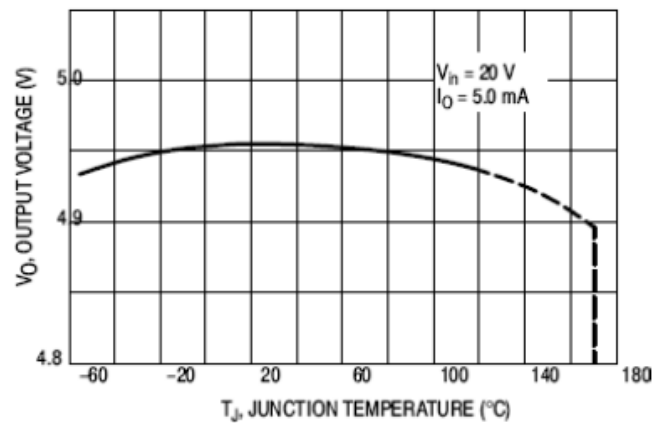


Figure 4 Output Voltage as a Function of Junction Temperature

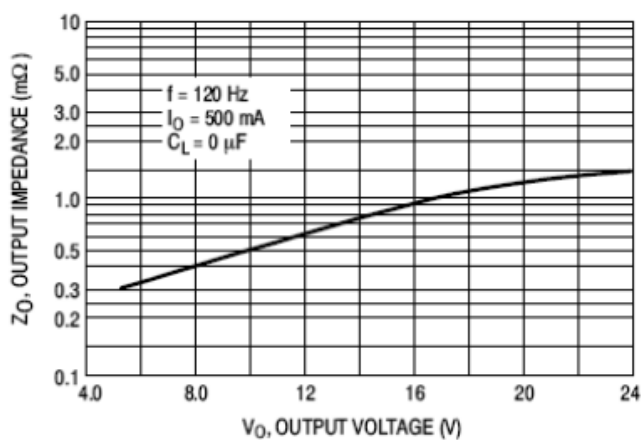


Figure 5 Output Impedance as a Function of Output Voltage

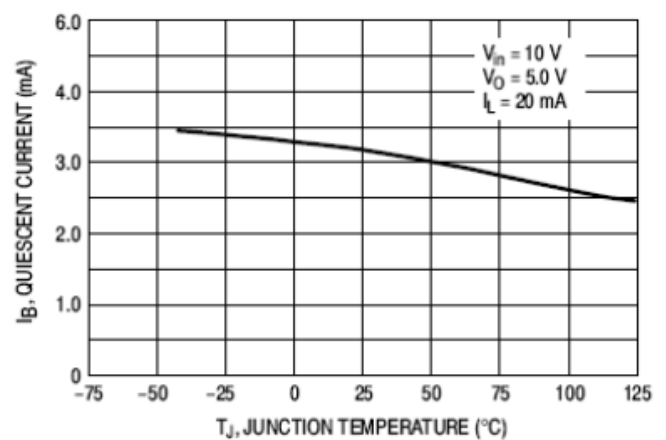


Figure 6 Quiescent Current as a Function of Temperature