

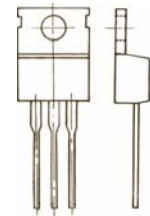
7905 Three-terminal negative voltage regulator

TO-220

1 GND

2. IN

3. OUT



1 2 3

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

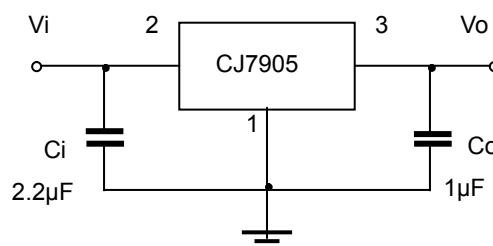
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

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

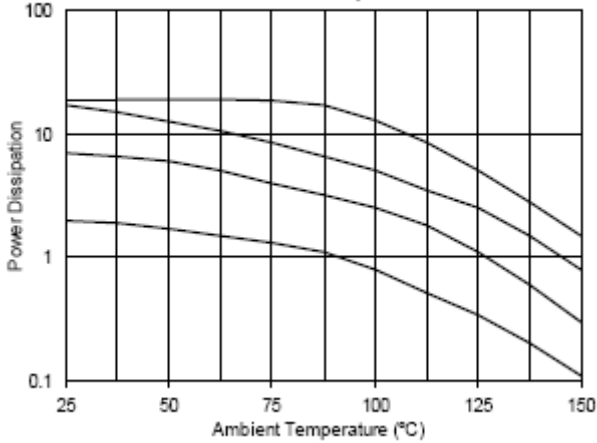
ELECTRICAL CHARACTERISTICS ($V_i = -10\text{V}$, $I_o = 500\text{mA}$, $C_i = 2.2\mu\text{F}$, $C_o = 1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_o	25°C	-4.8	-5	-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	-5.25
Load Regulation	ΔV_o	$I_o = 5\text{mA} - 1.5\text{A}$		15	100	mV
		$I_o = 250\text{mA} - 750\text{mA}$	25°C	5	50	mV
Line regulation	ΔV_o	$-7\text{V} \leq V_i \leq -25\text{V}$	25°C	12.5	50	mV
		$-8\text{V} \leq V_i \leq -12\text{V}$	25°C	4	15	mV
Quiescent Current	I_q	25°C		1.5	2	mA
Quiescent Current Change	ΔI_q	$-7\text{V} \leq V_i \leq -25\text{V}$	0-125 $^\circ\text{C}$		0.5	mA
	ΔI_q	$5\text{mA} \leq I_o \leq 1\text{A}$	0-125 $^\circ\text{C}$		0.5	mA
Output Noise Voltage	V_N	10Hz $\leq f \leq$ 100KHz	25°C	125		μV
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$	0-125 $^\circ\text{C}$	-0.4		mV/ $^\circ\text{C}$
Ripple Rejection	RR	$-8\text{V} \leq V_i \leq -18\text{V}$, $f = 120\text{Hz}$	0-125 $^\circ\text{C}$	54	60	dB
Dropout Voltage	V_d	$I_o = 1\text{A}$	25°C	1.1		V
Peak Current	I_{pk}	25°C		2.1		A

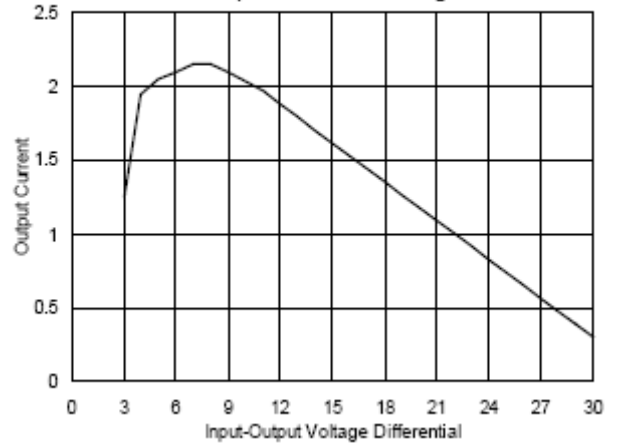
TYPICAL APPLICATION



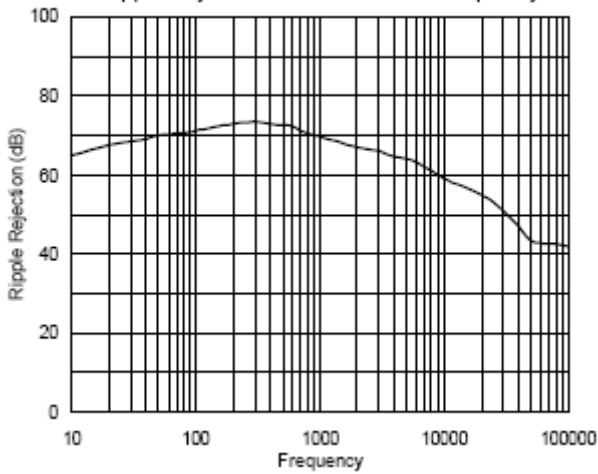
Average Case Power Dissipation as A Function of Ambient Temperature



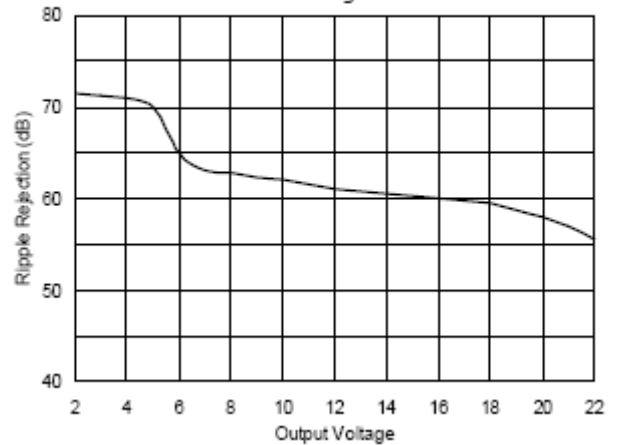
Peak Output Current as A Function of Input-Output Differential Voltage



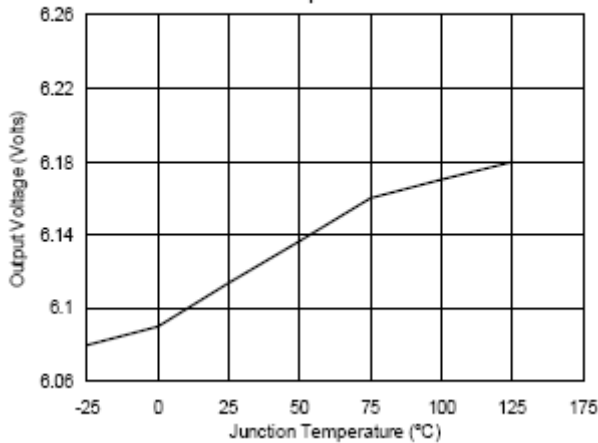
Ripple Rejection as A Function of Frequency



Ripple Rejection as A Function of Output Voltage



Output Voltage as A Function of Junction Temperature



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