

7905 Three-terminal negative voltage regulator

FEATURES

- Maximum output current
 $I_{OM}: 1.5\text{ A}$
- Output voltage
 $V_O: -5\text{ V}$
- Continuous total dissipation
 $P_D: 1.25\text{ W}$ ($T_a = 25^\circ\text{C}$)



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

Parameter	Symbol	Value	Unit
Input Voltage	V_i	-35	V
Thermal Resistance from Junction to Air	$R_{\theta JA}$	100	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	-40~+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_J = 25^\circ\text{C}$	-4.85	-5	-5.15	V
		$-7\text{ V} \leq V_i \leq -20\text{ V}$, $I_o = 5\text{ mA} - 1\text{ A}$	-4.75	-5	-5.25	V
Load Regulation	ΔV_o	$I_o = 5\text{ mA} - 1.5\text{ A}$, $T_J = 25^\circ\text{C}$		15	100	mV
		$I_o = 250\text{ mA} - 750\text{ mA}$, $T_J = 25^\circ\text{C}$		5	50	mV
Line Regulation	ΔV_o	$-7\text{ V} \leq V_i \leq -25\text{ V}$, $T_J = 25^\circ\text{C}$		12.5	50	mV
		$-8\text{ V} \leq V_i \leq -12\text{ V}$, $T_J = 25^\circ\text{C}$		4	15	mV
Quiescent Current	I_q	$T_J = 25^\circ\text{C}$		1.5	2	mA
Quiescent Current Change	ΔI_q	$-7\text{ V} \leq V_i \leq -25\text{ V}$			0.5	mA
	ΔI_q	$5\text{ mA} \leq I_o \leq 1\text{ A}$			0.5	mA
Output Noise Voltage	V_N	$10\text{ Hz} \leq f \leq 100\text{ KHz}$, $T_J = 25^\circ\text{C}$		125		$\mu\text{V}/V_o$
Output Voltage Drift	$\Delta V_o / \Delta T$	$I_o = 5\text{ mA}$		-0.4		$\text{mV}/^\circ\text{C}$
Ripple Rejection	RR	$-8\text{ V} \leq V_i \leq -18\text{ V}$, $f = 120\text{ Hz}$	54	60		dB
Dropout Voltage	V_d	$I_o = 1\text{ A}$, $T_J = 25^\circ\text{C}$		1.1		V
Peak Current	I_{pk}	$T_J = 25^\circ\text{C}$		2.1		A

* Pulse test.

Note1: Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. These are stress ratings only, which do not imply functional operation of the device at these or any other conditions beyond those indicated under Recommended Operating Conditions. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

Note2: This IC may be damaged by ESD. Relevant personnel shall comply with correct installation and use specifications to avoid ESD damage to the IC.

TYPICAL APPLICATION

