

Three-Terminal Negative Voltage Regulator

LM79L09

■ Features

- Maximum output current I_{OM} : 0.1A.
- Output voltage V_O : -9V.
- Continuous total dissipation P_D : 0.5W

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Input Voltage	V_I	-30	V
Operating junction temperature range	T_{OPR}	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

■ Electrical Characteristics ($V_I=16\text{V}, I_O=40\text{mA}, 0^\circ\text{C}<T_J<125^\circ\text{C}, C_1=0.33\mu\text{F}, C_O=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	V_O	$T_J=25^\circ\text{C}$	-8.64	-9.0	-9.36	V
		$-12\text{V}\leq V_I\leq -24\text{V}, I_O=1\text{mA}-40\text{mA}$	-8.55	-9.0	-9.45	V
		$I_O=1\text{mA}-70\text{mA}$	-8.55	-9.0	-9.45	V
Load regulation	ΔV_O	$T_J=25^\circ\text{C}, I_O=1\text{mA}-100\text{mA}$		19	90	mV
		$T_J=25^\circ\text{C}, I_O=1\text{mA}-40\text{mA}$		11	40	mV
Line regulation	ΔV_O	$-12\text{V}\leq V_I\leq -24\text{V}, T_J=25^\circ\text{C}$		45	175	mV
		$-13\text{V}\leq V_I\leq -24\text{V}, T_J=25^\circ\text{C}$		40	125	mV
Quiescent current	I_q	25°C		4.1	6.0	mA
Quiescent current change	ΔI_q	$0^\circ\text{C}<T_J<125^\circ\text{C}, -13\leq V_I\leq -24\text{V}$			1.5	mA
	ΔI_q	$0^\circ\text{C}<T_J<125^\circ\text{C}, 1\text{mA}\leq I_O\leq 40\text{mA}$			0.1	mA
Output noise voltage	V_N	$10\text{Hz}\leq f\leq 100\text{KHz}, T_J=25^\circ\text{C}$		58		μV
Ripple rejection	RR	$-15\text{V}\leq V_I\leq -24\text{V}, f=120\text{Hz}$		45		dB
Dropout voltage	V_d	$T_J=25^\circ\text{C}$		1.7		V

■ Typical Application

