VS79L09 Three-terminal negative voltage regulator

FEATURES

- Maximum output current
  $I_{OM:}$ 0.1A
- Output voltage
  V_o: -9V
- Continuous total dissipation
  P_D:0.6 W (T_a= 25 ℃)

1.OUT
2.GND
3.IN

SOT-89

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

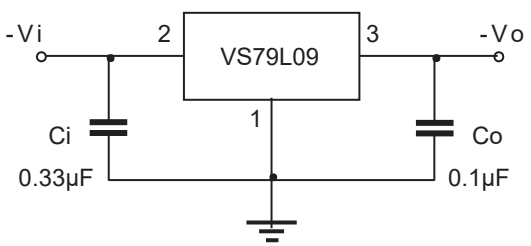
Parameter	Symbol	Value	Unit
Input Voltage	V_i	-30	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	208.3	℃/W
Operating Junction Temperature Range	T_{OPR}	-40~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JINCTION TEMPERATURE (Vi=-16V,Io=40mA,Ci= 0.33μF,Co=0.1μF, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output Voltage	Vo	T_J=25℃	-8.73	-9.0	-9.27	V
		-12V≤V_i≤-24V, Io=1mA-40mA	-8.55	-9.0	-9.45	V
		Io=1mA-70mA	-8.55	-9.0	-9.45	V
Load Regulation	△Vo	Io=1mA-100mA ,T_J=25℃		19	90	mV
		Io=1mA-40mA ,T_J=25℃		11	40	mV
Line Regulation	△Vo	-12 V≤V_i≤-24V ,T_J=25℃		45	175	mV
		-13V≤V_i≤-24V ,T_J=25℃		40	125	mV
Quiescent Current	Iq	T_J=25℃		4.1	6.0	mA
Quiescent Current Change	△Iq	-13V≤V_i≤-24V			1.5	mA
	△Iq	1mA≤V_i≤40mA			0.1	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz ,T_J=25℃		58		μV/Vo
Ripple Rejection	RR	-15V≤V_i≤-24V,f=120Hz		45		dB
Dropout Voltage	Vd	T_J=25℃		1.7		V

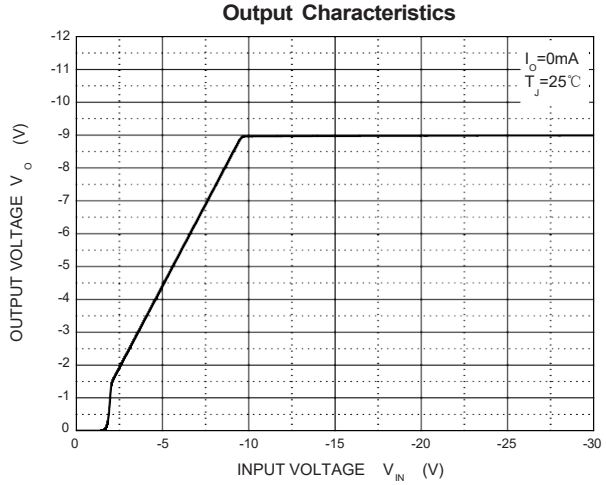
* Pulse test.

TYPICAL APPLICATION

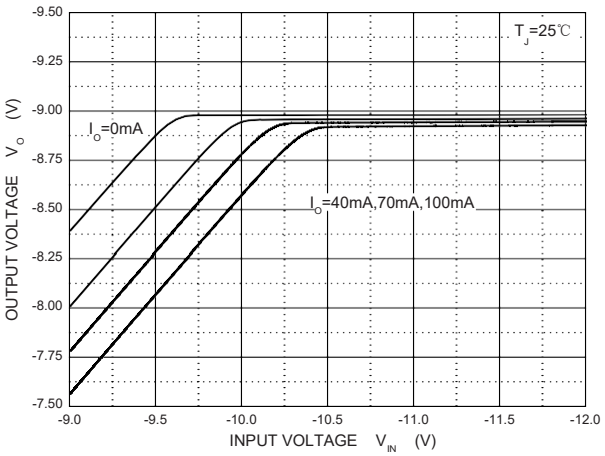


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators

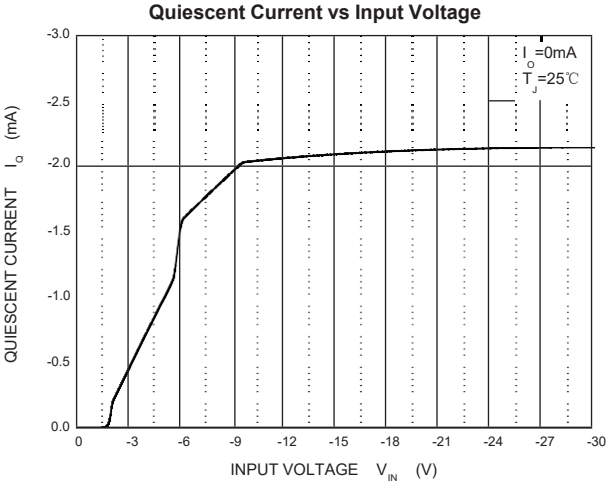
Output Characteristics



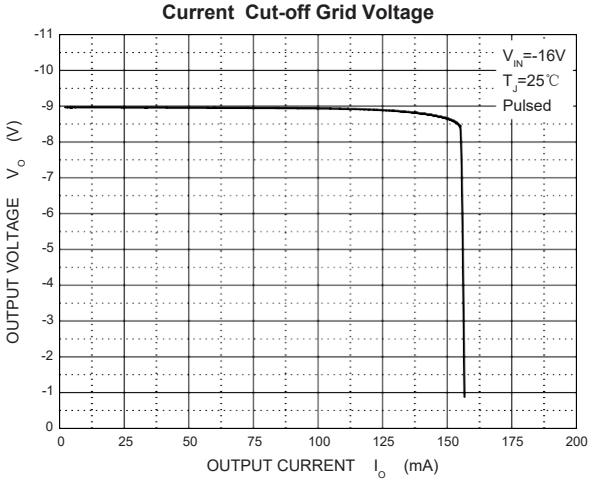
Dropout Characteristics



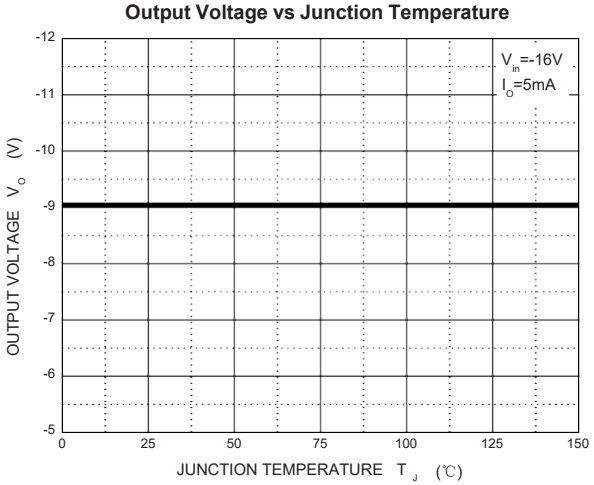
Quiescent Current vs Input Voltage



Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



Power Derating Curve