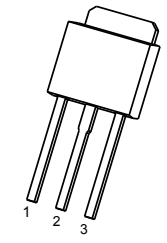
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD

TO-251-3L Plastic-Encapsulate Voltage Regulator

CJ78M09 Three-terminal positive voltage regulator

TO-251-3L



1.IN

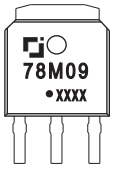
2.GND

3.OUT

FEATURES

- Maximum output current
  I_{OM}: 0.5 A
- Output voltage
  V_O: 9V
- Continuous total dissipation
  P_D: 1.25 W(T_a= 25 ℃)

MARKING



78M09=Device code
Solid dot = Green molding compound device
if none, the normal device.
XXXX = Code

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 Ambient	$R_{\theta JA}$	80	℃/W
Operating Junction Temperature Range	T_{OPR}	-40~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

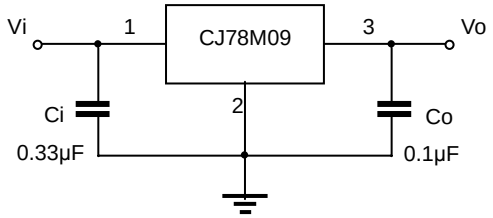
Electrical Characteristics

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JINCTION TEMPERATURE (Vi=16V, Io=350mA,C_i=0.33μF,Co=0.1μF, unless otherwise specified)

Pa rameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output Voltage	Vo	T_J=25℃	8.73	9	9.27	V
		11.5≤V_i≤24V, Io=5mA-350mA	8.55	9	9.45	V
Load Regulation	ΔVo	Io=5mA-500mA ,T_J=25℃		20	180	mV
		Io=5mA-200mA,T_J=25℃		10	90	mV
Line Regulation	ΔVo	11.5V≤V_i≤26V, Io=200mA,T_J=25℃		6	100	mV
		12V≤V_i≤26V, Io=200mA,T_J=25℃		2	50	mV
Quiescent Current	Iq	T_J=25℃		4.6	6	mA
Quiescent Current Change	ΔIq	11.5V≤V_i≤26V, Io=200mA			0.8	mA
	ΔIq	5mA≤I_O≤350mA			0.5	mA
Output Noise Voltage	V_N	10Hz≤ f ≤100KHz,T_J=25℃		60		μV/Vo
Ripple Rejection	RR	13≤V_i≤23V,f=120Hz,Io=300mA	56	80		dB
Dropout Voltage	Vd	Io=350mA,T_J=25℃		2		V
Short Circuit Current	Isc	Vi=16V,T_J=25℃		250		mA
Peak Current	Ipk	T_J=25℃		0.5		A

* Pulse test.

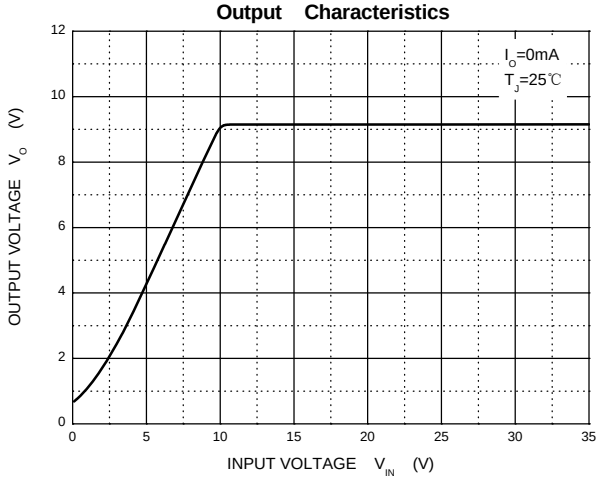
TYPICAL APPLICATION



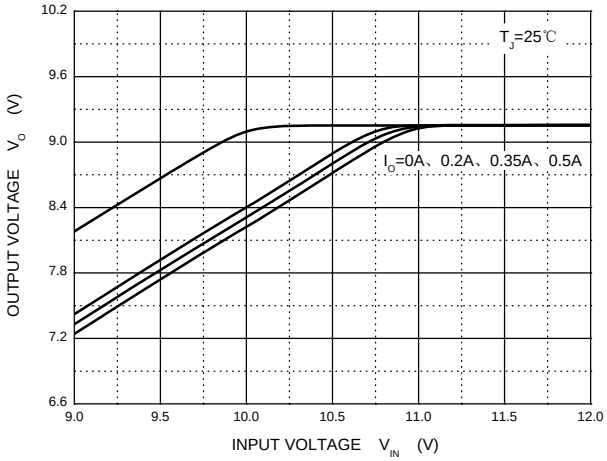
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

Typical Characteristics

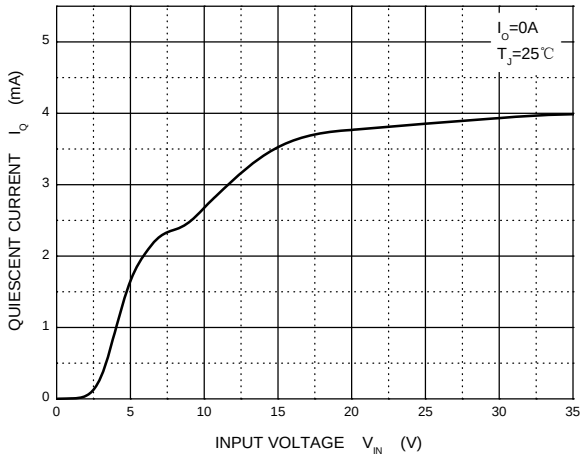
Output Characteristics



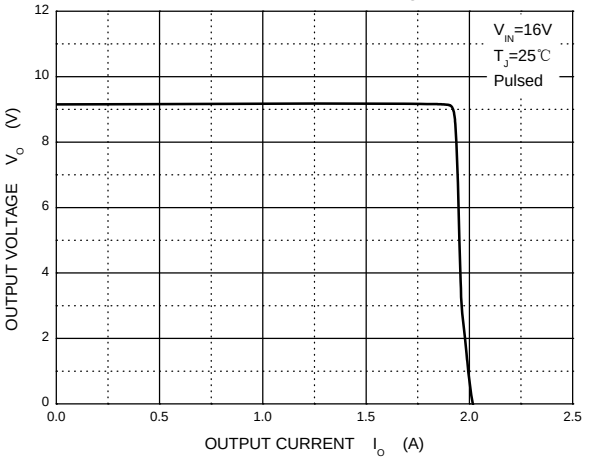
Dropout Characteristics



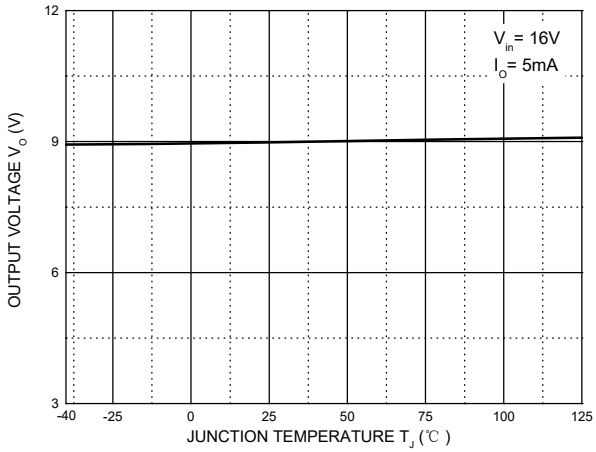
Quiescent Current



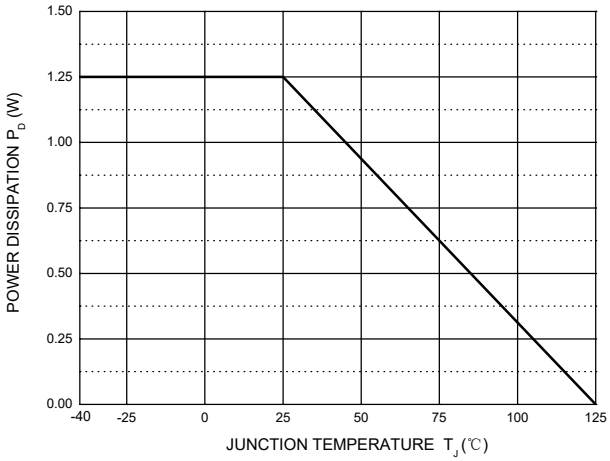
Current Cut-off Grid Voltage



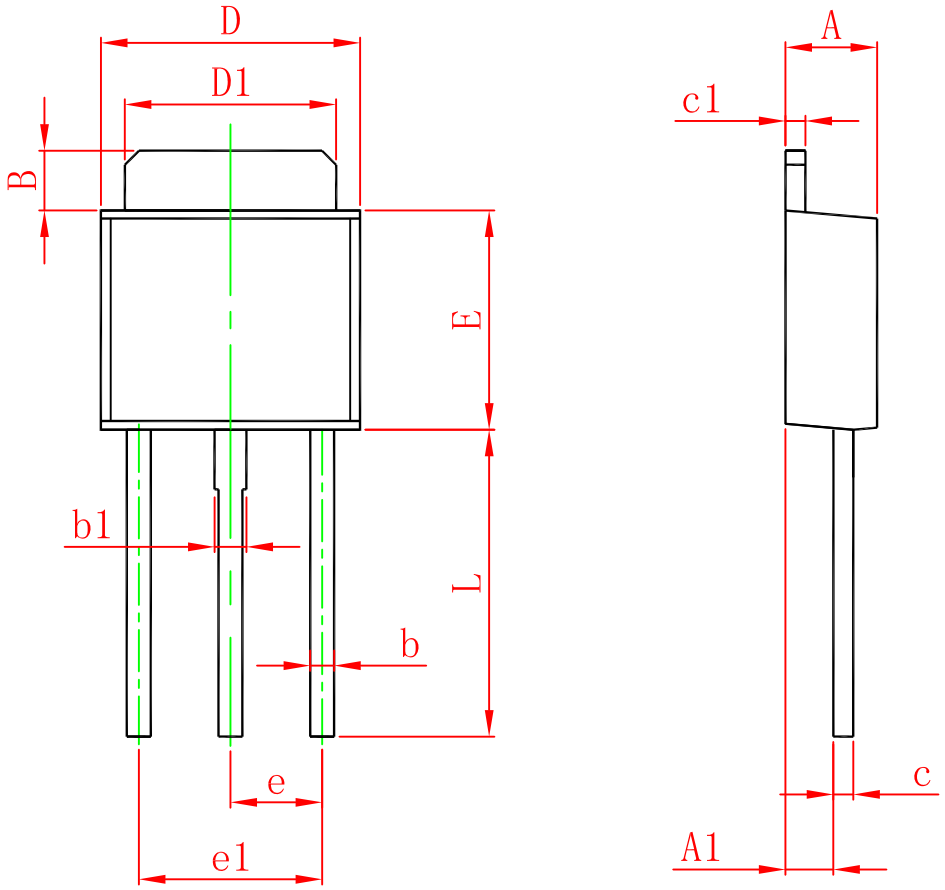
Output Voltage vs Junction Temperature



Power Derating Curve



TO-251-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	1.050	1.350	0.042	0.054
B	1.350	1.650	0.053	0.065
b	0.500	0.700	0.020	0.028
b1	0.700	0.900	0.028	0.035
c	0.430	0.580	0.017	0.023
c1	0.430	0.580	0.017	0.023
D	6.350	6.650	0.250	0.262
D1	5.200	5.400	0.205	0.213
E	5.400	5.700	0.213	0.224
e	2.300 TYP.		0.091 TYP.	
e1	4.500	4.700	0.177	0.185
L	7.500	7.900	0.295	0.311

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