



TO-251/TO-252-2L Plastic-Encapsulate Transistors

CJ78M09 Three-terminal positive voltage regulator

FEATURES

Maximum Output current

I_{OM} : 0.5 A

Output voltage

V_O : 9V

TO-251
TO-252-2L



1.IN

2.GND

3.OUT



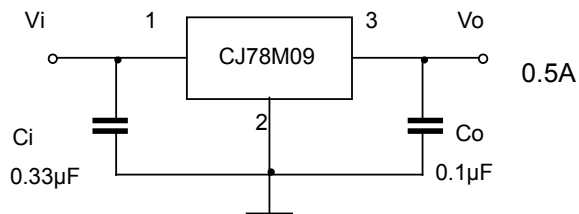
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Operating Junction Temperature Range	T_{OPR}	0~+125	°C
Storage Temperature Range	T_{STG}	-65~+150	°C

ELECTRICAL CHARACTERISTICS ($V_i=16V, I_o=350mA, 0^\circ C < T_j < 125^\circ C, C_i=0.33\mu F, C_o=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_O	$T_j=25^\circ C$	8.65	9	9.35	V
		$11.5 \leq V_i \leq 24V, I_o=5mA-350mA$ $P_o \leq 15W$	8.55	9	9.45	V
Load Regulation	ΔV_O	$T_j=25^\circ C, I_o=5mA-500mA$		20	180	mV
		$T_j=25^\circ C, I_o=5mA-200mA$		10	90	mV
Line regulation	ΔV_O	$11.5V \leq V_i \leq 26V, I_o=200mA$		6	100	mV
		$12V \leq V_i \leq 26V, I_o=200mA$		2	50	mV
Quiescent Current	I_q	$T_j=25^\circ C$		4.6	6	mA
Quiescent Current Change	ΔI_q	$11.5V \leq V_i \leq 26V, I_o=200mA$			0.8	mA
	ΔI_q	$5mA \leq I_o \leq 350mA$			0.5	mA
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$		60		μV
Ripple Rejection	RR	$13 \leq V_i \leq 23V, f=120Hz, I_o=300mA$ $T_j=25^\circ C$		56	80	dB
Dropout Voltage	V_d	$T_j=25^\circ C, I_o=350mA$		2		V
Short Circuit Current	I_{sc}	$V_i=16V, T_a=25^\circ C$		250		mA
Peak Current	I_{pk}	$T_j=25^\circ C$		0.7		A

TYPICAL APPLICATION



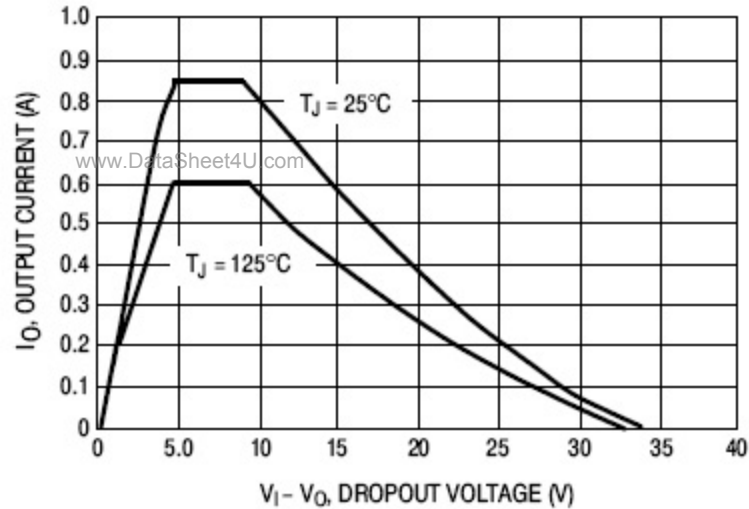


Figure 1. Peak Output Current versus Dropout Voltage

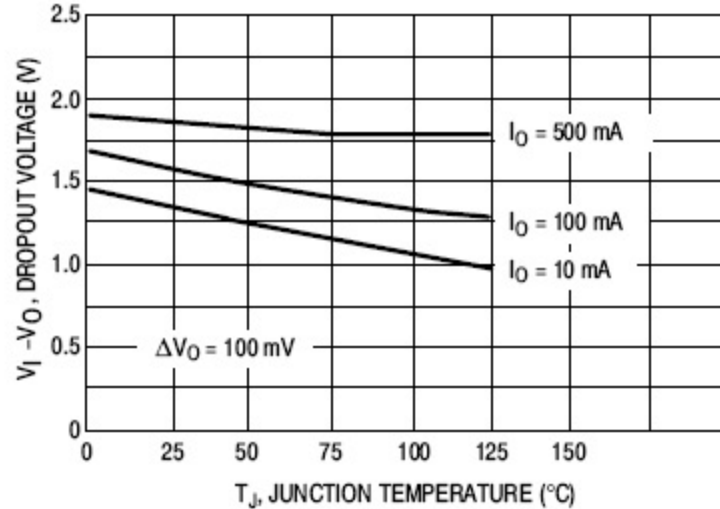


Figure 2. Dropout Voltage versus Junction Temperature

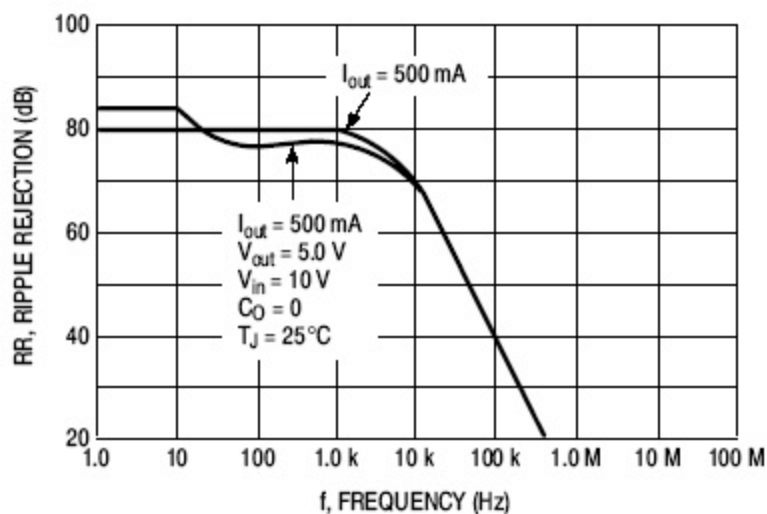


Figure 3. Ripple Rejection versus Frequency

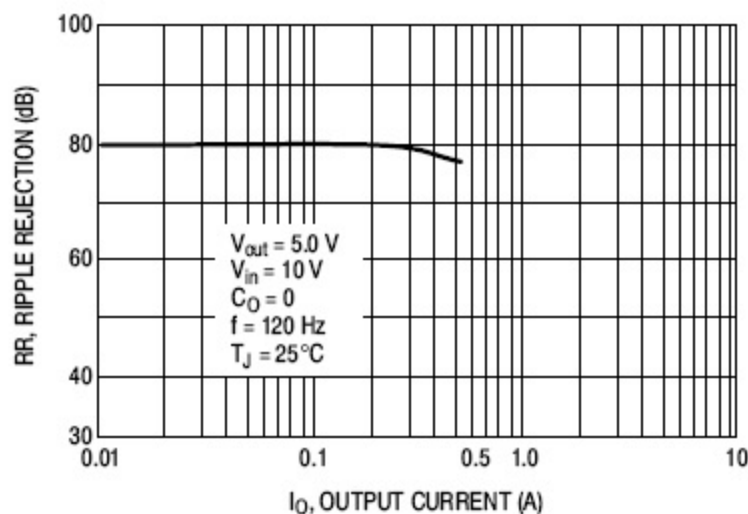


Figure 4. Ripple Rejection versus Output Current

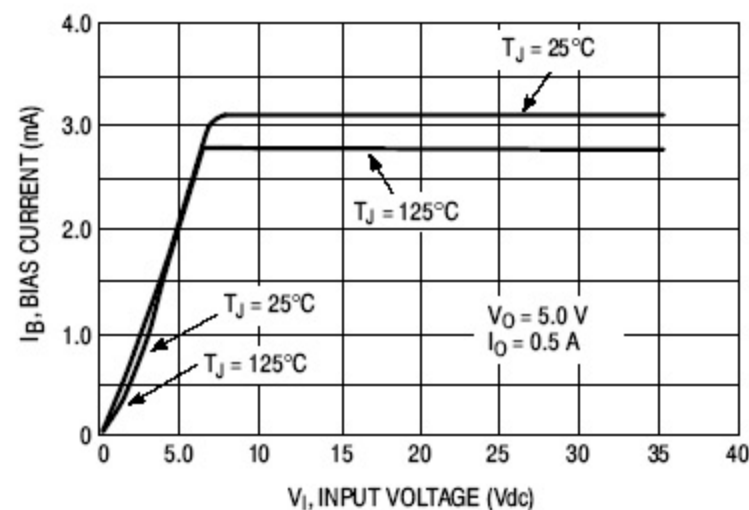


Figure 5. Bias Current versus Input Voltage

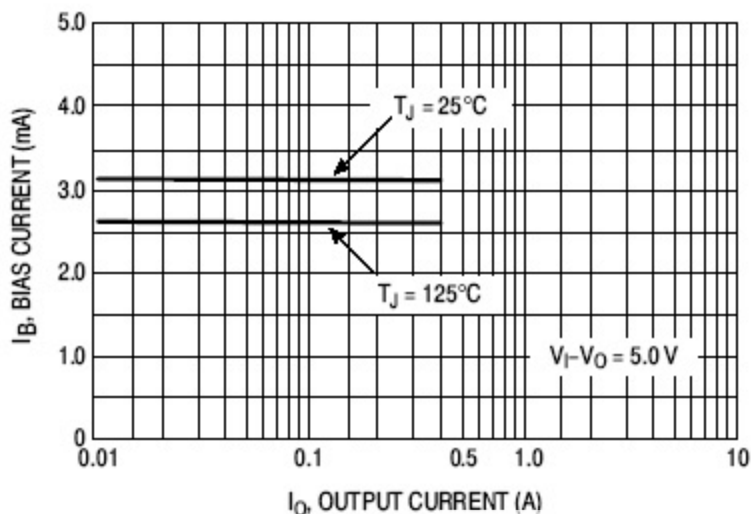


Figure 6. Bias Current versus Output Current