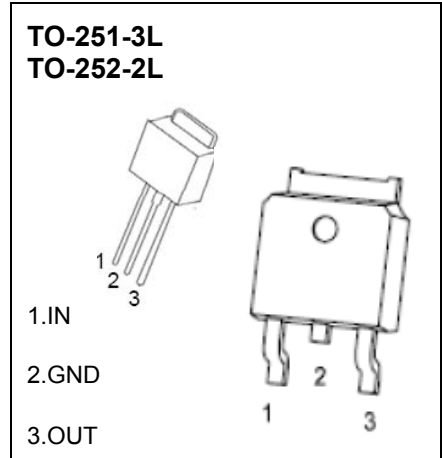


TO-252-2L TO-251-3L Plastic-Encapsulate MOSFETS

78M09 Three-terminal positive voltage regulator

FEATURES

- Maximum output current I_{OM} : 1.0A
- Output voltage V_o : 9V
- Continuous total dissipation
 P_D : 1.25 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	25	V
Operating Junction Temperature Range	T_{OPR}	0-+125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65-+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=16\text{V}$, $I_o=350\text{mA}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output Voltage	V_o	25°C	8.65	9	9.35	V	
		$11.5\text{V} \leq V_i \leq 24\text{V}$, $I_o=5\text{mA}-350\text{mA}$, $P_o \leq 15\text{W}$	0-125 $^\circ\text{C}$	8.55	9	9.45	V
Load Regulation	ΔV_o	$I_o=5\text{mA}-500\text{mA}$	25°C		20	180	mV
		$I_o=5\text{mA}-200\text{mA}$	25°C		10	90	mV
Line Regulation	ΔV_o	$11.5\text{V} \leq V_i \leq 26\text{V}$, $I_o=200\text{mA}$	25°C		6	100	mV
		$12\text{V} \leq V_i \leq 26\text{V}$, $I_o=200\text{mA}$	25°C		2	50	mV
Quiescent Current	I_q		25°C		4.6	6	mA
Quiescent Current Change	ΔI_q	$11.5\text{V} \leq V_i \leq 26\text{V}$, $I_o=200\text{mA}$	0-125 $^\circ\text{C}$			0.8	mA
	ΔI_q	$5\text{mA} \leq I_o \leq 350\text{mA}$	0-125 $^\circ\text{C}$			0.5	mA
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$	25°C		60	μV	
Ripple Rejection	RR	$13 \leq V_i \leq 23\text{V}$, $f=120\text{Hz}$, $I_o=300\text{mA}$	0-125 $^\circ\text{C}$	56	80	dB	
Dropout Voltage	V_d	$I_o=350\text{mA}$	25°C		2	V	
Short Circuit Current	I_{sc}	$V_i=16\text{V}$	25°C		250	mA	
Peak Current	I_{pk}		25°C		0.5	A	

TYPICAL APPLICATION

