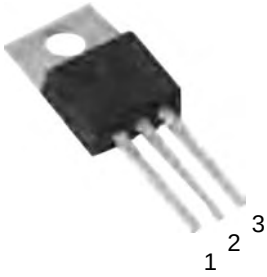
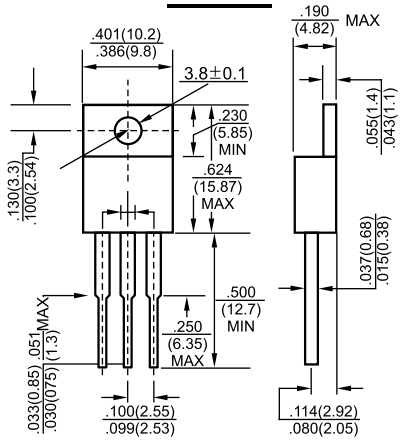
78M09

Three-terminal positive voltage regulator

TO-220





Dimensions in inches and (millimeters)

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: 1.5W (Ta = 25 ℃)

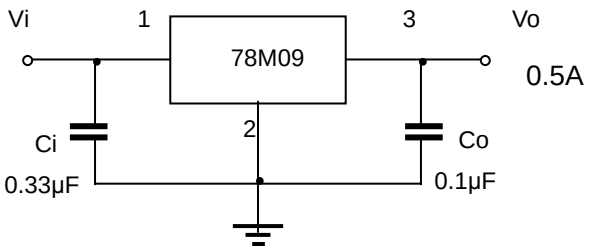
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

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

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

Parameter	Symbol	Test conditions		MIN	TYP	MAX	UNIT
Output voltage	Vo		25℃	8.65	9	9.35	V
		11.5≤V_i≤24V, Io=5mA-350mA Po≤ 15W	0-125℃	8.55	9	9.45	V
Load Regulation	ΔVo	Io=5mA-500mA	25℃		20	180	mV
		Io=5mA-200mA	25℃		10	90	mV
Line regulation	ΔVo	11.5V≤V_i≤26V, Io=200mA	25℃		6	100	mV
		12V≤V_i≤26V, Io=200mA	25℃		2	50	mV
Quiescent Current	Iq		25℃		4.6	6	mA
Quiescent Current Change	ΔIq	11.5V≤V_i≤26V, Io=200mA	0-125℃			0.8	mA
	ΔIq	5mA≤I_O≤350mA	0-125℃			0.5	mA
Output Noise Voltage	V_N	10Hz≤ f ≤100KHz	25℃		60		uV
Ripple Rejection	RR	13≤V_i≤23V,f=120Hz,Io=300mA	0-125℃	56	80		dB
Dropout Voltage	Vd	Io=350mA	25℃		2		V
Short Circuit Current	Isc	Vi=16V	25℃		250		mA
Peak Current	Ipk		25℃		0.7		A

TYPICAL APPLICATION



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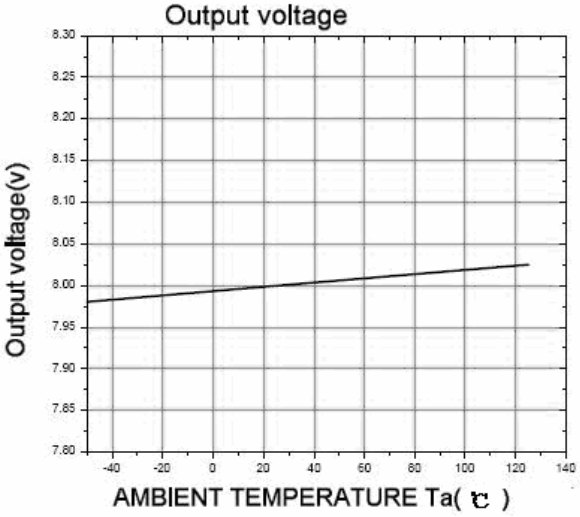
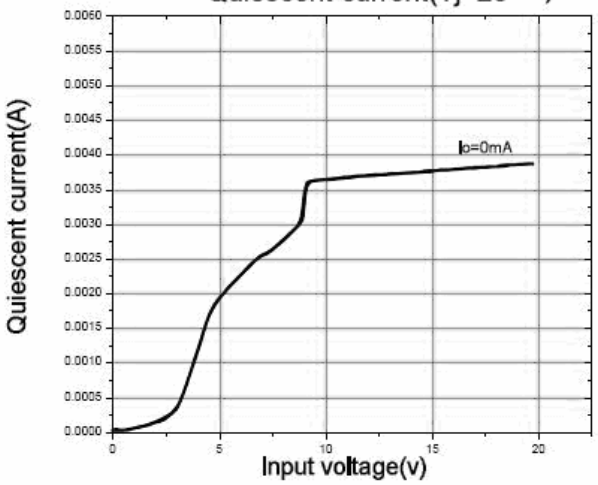
Three-terminal positive voltage regulator

Typical Characteristics

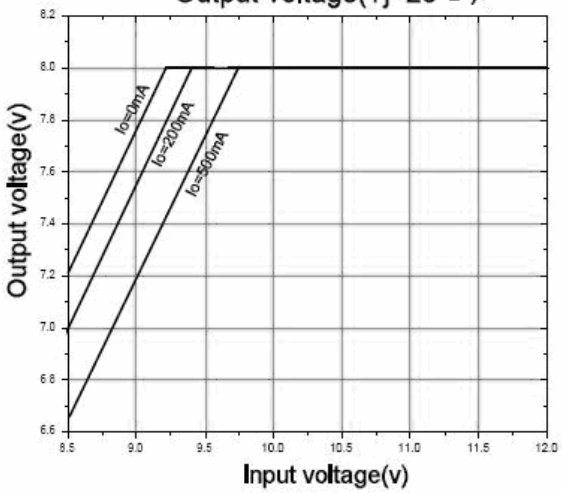
Ambient temperature VS
Output voltage



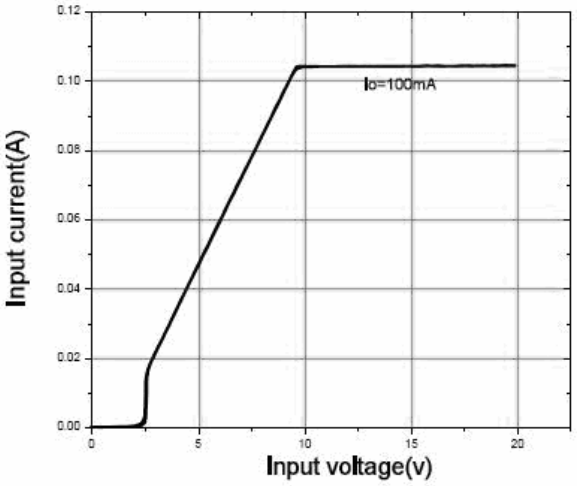
Input voltage VS
Quiescent current(Tj=25 ℃)



Input voltage VS
Output voltage(Tj=25 ℃)



Input voltage VS
Input current(Tj=25 ℃)



Packge	Packing	Box Size L×W×H(mm)	Quatity(pcs/box)	Carton Size L×W×H(mm)	Quatity(pcs/carton)
TO-220	50pcs/Tube	560×150×50	1000	570×290×180	5000