7809

Three-terminal positive voltage regulator

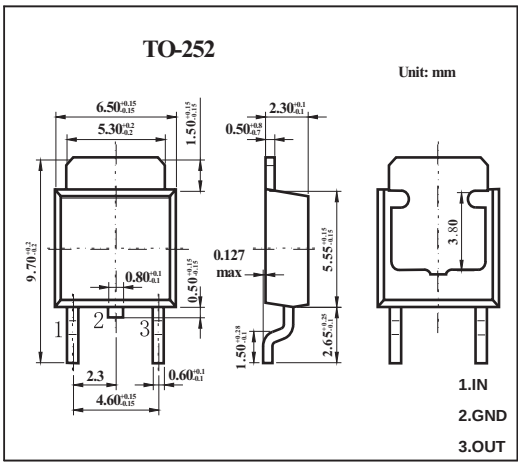
FEATURES

- Maximum output current I_{OM}: 1.5 A
- Output voltage V_O: 9 V
- Continuous total dissipation

  P_D:1.25 W (T_a = 25 ℃)

MECHANICAL DATA

- Case: TO-252 Plastic Package
- Polarity: Color band denotes cathode end
- Mounting Position: Any



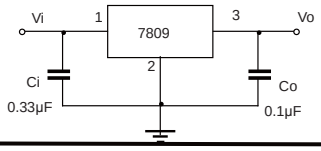
MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	80	℃/W
Thermal Resistance from Junction to Case	$R_{\theta JC}$	8.3	℃/W
Operating Junction Temperature Range	T_{OPR}	0~+150	℃
Storage Temperature Range	T_{STG}	-55~+150	℃

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JINCTION TEMPERATURE (Vi=16V, Io=500mA,Ci=0.33μF,Co=0.1μF, unless otherwise specified)

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE
(Vi=16V,Io=500mA,Ci=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
		11.5V≤V_i≤24V, Io= 5mA-1A, P≤15W	0-125℃	8.55	9	9.45	V
Load Regulation	ΔVo	Io=5mA-1.5A	25℃		12	180	mV
		Io=250mA-750mA	25℃		4	90	mV
Line regulation	ΔVo	11.5V≤V_i≤27V	25℃		7	180	mV
		13V≤V_i≤19V	25℃		2	90	mV
Quiescent Current	Iq		25℃		4.3	8	mA
Quiescent Current Change	ΔIq	11.5V≤V_i≤27V	0-125℃			1	mA
		5mA≤I_O≤1A	0-125℃			0.5	mA
Output voltage drift	△Vo/△T	I_O=5mA	0-125℃		-1		mV/℃
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		60		uV
Ripple Rejection	RR	12V≤V_i≤22V,f=120Hz	0-125℃	55	70		dB
Dropout Voltage	Vd	Io=1A	25℃		2		V
Output resistance	R_O	f=1KH_Z	25℃		18		mΩ
Short Circuit Current	Isc		25℃		400		mA
Peak Current	Ipk		25℃		2.2		A

TYPICAL APPLICATION