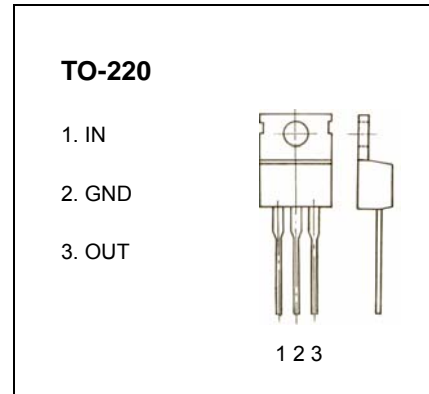


H7809 Three-terminal positive voltage regulator

FEATURES

- Maximum Output current I_{OM} : 1.5 A
- Output voltage V_o : 9 V
- Continuous total dissipation
 - P_D : 2 W ($T_a = 25^\circ\text{C}$)
 - 15 W ($T_c = 25^\circ\text{C}$)



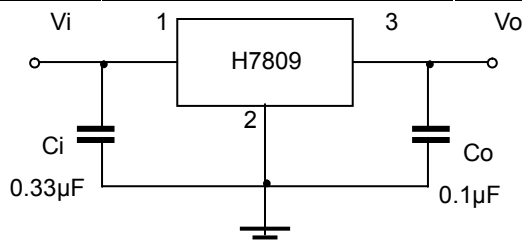
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal resistance junction-air	$R_{\theta JA}$	65	$^\circ\text{C/W}$
Thermal resistance junction-cases	$R_{\theta JC}$	5	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	0-125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65-150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($V_i=16\text{V}$, $I_o=500\text{mA}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_o	25°C	8.65	9	9.35	V
		$11.5\text{V} \leq V_i \leq 24\text{V}$, $I_o = 5\text{mA}-1\text{A}$, $P \leq 15\text{W}$	0-125 $^\circ\text{C}$	8.55	9	9.45
Load Regulation	ΔV_o	$I_o = 5\text{mA}-1.5\text{A}$	25°C	12	180	mV
		$I_o = 250\text{mA}-750\text{mA}$	25°C	4	90	mV
Line regulation	ΔV_o	$11.5\text{V} \leq V_i \leq 27\text{V}$	25°C	7	180	mV
		$13\text{V} \leq V_i \leq 19\text{V}$	25°C	2	90	mV
Quiescent Current	I_q	25°C	4.3	8	mA	
Quiescent Current Change	ΔI_q	$11.5\text{V} \leq V_i \leq 27\text{V}$	0-125 $^\circ\text{C}$		1	mA
		$5\text{mA} \leq I_o \leq 1\text{A}$	0-125 $^\circ\text{C}$		0.5	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5\text{mA}$	0-125 $^\circ\text{C}$	-1		mV/ $^\circ\text{C}$
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$	25°C	60		μV
Ripple Rejection	RR	$12\text{V} \leq V_i \leq 22\text{V}$, $f = 120\text{Hz}$	0-125 $^\circ\text{C}$	55	70	dB
Dropout Voltage	V_d	$I_o = 1\text{A}$	25°C	2		V
Output resistance	R_o	$f = 1\text{KHz}$	25°C	18		$\text{m}\Omega$
Short Circuit Current	I_{sc}		25°C	400		mA
Peak Current	I_{pk}		25°C	2.2		A

TYPICAL APPLICATION



Typical Characteristics

H78XX

