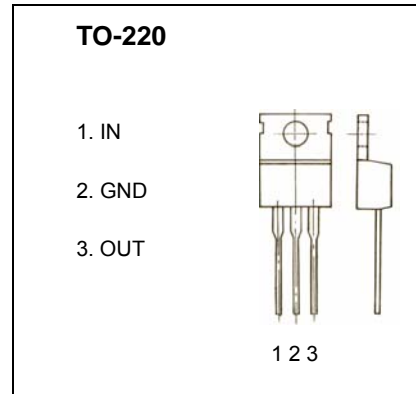


7810 Three-terminal positive voltage regulator

FEATURES

Maximum Output current I_{OM} : 1.5 A
 Output voltage V_o : 10 V
 Continuous total dissipation
 P_D : 2 W ($T_a=25^\circ\text{C}$)
 15 W ($T_c=25^\circ\text{C}$)



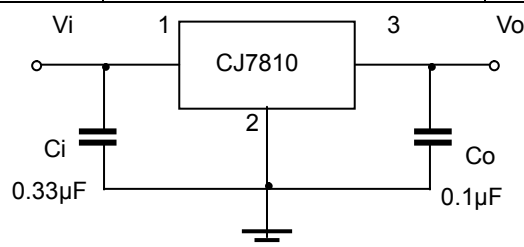
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

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 ($V_i=17\text{V}$, $I_o=500\text{mA}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_o	25°C	9.6	10	10.4	V
		$12.5\text{V} \leq V_i \leq 25\text{V}$, $I_o=5\text{mA}-1\text{A}$, $P \leq 15\text{W}$	$0-125^\circ\text{C}$	9.5	10	10.5
Load Regulation	ΔV_o	$I_o=5\text{mA}-1.5\text{A}$	25°C	12	200	mV
		$I_o=250\text{mA}-750\text{mA}$	25°C	4	100	mV
Line regulation	ΔV_o	$12.5\text{V} \leq V_i \leq 28\text{V}$	25°C	7	200	mV
		$14\text{V} \leq V_i \leq 20\text{V}$	25°C	2	100	mV
Quiescent Current	I_q	25°C	4.3	8	mA	
Quiescent Current Change	ΔI_q	$12.5\text{V} \leq V_i \leq 28\text{V}$	$0-125^\circ\text{C}$		1	mA
	ΔI_q	$5\text{mA} \leq I_o \leq 1\text{A}$	$0-125^\circ\text{C}$		0.5	mA
Output voltage drift	$\Delta V_o/\Delta T$	$I_o=5\text{mA}$	$0-125^\circ\text{C}$	-1		$\text{mV}/^\circ\text{C}$
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$	25°C	70		μV
Ripple Rejection	RR	$13\text{V} \leq V_i \leq 23\text{V}$, $f=120\text{Hz}$	$0-125^\circ\text{C}$	55	71	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



IMPORTANT NOTICE – PLEASE READ CAREFULLY

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