

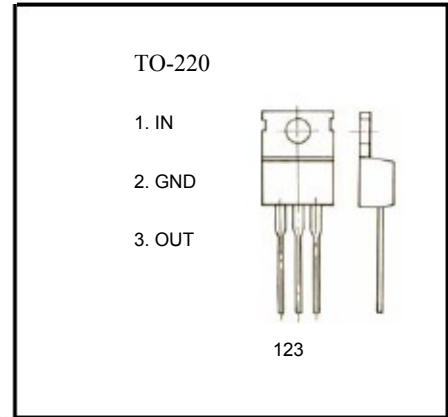


TO-220 Plastic-Encapsulate Voltage Regulator

7824 Three-terminal positive voltage regulator

FEATURES

- Maximum Output current I_{OM} : 1.5 A
- Output voltage V_o : 24 V
- Continuous total dissipation
 - P_D : 2 W ($T_J = 25$)
 - 15 W ($T_C = 25$)



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	/W
Thermal resistance junction-cases	$R_{\theta JC}$	5	/W
Operating Junction Temperature Range	T_{OPR}	0-150	
Storage Temperature Range	T_{STG}	-65-150	

ELECTRICAL CHARACTERISTICS($V_i=27V, I_o=500mA, 0 < T_J < 125$, $C_i=0.33\mu F, C_o=0.1\mu F$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_o	$T_J=25$	23.6	24	24.4	V
		$21V \leq V_i \leq 33V, I_o=5mA-1A$ $P_o \leq 15W$	23.4	24	24.6	V
Load Regulation	ΔV_o	$T_J=25, I_o=5mA-1.5A$		12	360	mV
		$T_J=25, I_o=250mA-750mA$		4	180	mV
Line regulation	ΔV_o	$21V \leq V_i \leq 33V, T_J=25$		15	360	mV
		$24V \leq V_i \leq 30V, T_J=25$		5	180	mV
Quiescent Current	I_q	$T_J=25$		4.5	8	mA
Quiescent Current Change	ΔI_q	$21V \leq V_i \leq 33V$			1	mA
		$5mA \leq I_o \leq 1A$			0.5	mA
Output voltage drift	V_o / T	$I_o=5mA$		-1		mV/
Output Noise Voltage	V_N	$10Hz \leq f \leq 100KHz$		110		μV
Ripple Rejection	RR	$22V \leq V_i \leq 32V, f=120Hz, T_J=25$	53	69		dB
Dropout Voltage	V_d	$T_J=25, I_o=1A$		2		V
Output resistance	R_o	$f=1KHz$		22		$m\Omega$
Short Circuit Current	I_{sc}	$V_i=35V, T_J=25$		200		mA
Peak Current	I_{pk}	$T_J=25$		2.1		A

TYPICAL APPLICATION

