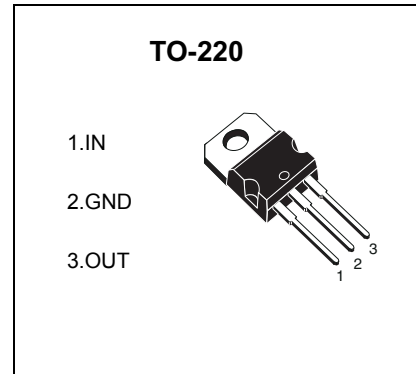


TO-220 Plastic-Encapsulate Voltage Regulators

L7824CV Three-terminal positive voltage regulator

FEATURES

Maximum Output current I_{OM} : 1.5 A
Output voltage V_o : 15 V
Continuous total dissipation
 P_D : 1.5 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	$R_{\theta JA}$	83.3	$^\circ\text{C/W}$
Thermal resistance junction-cases	$R_{\theta JC}$	8.33	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_{OPR}	0~+150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ($V_i=23\text{V}, I_o=500\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$, unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	V_o	25°C	23.5	24	24.5	V
		$26.5\text{V} \leq V_i \leq 35\text{V}, I_o=5\text{mA}-1\text{A}$ $P \leq 15\text{W}$	0~125 $^\circ\text{C}$	23.45	24	24.65
Load Regulation	ΔV_o	$I_o=5\text{mA}-1.5\text{A}$	25°C	12	300	mV
		$I_o=250\text{mA}-750\text{mA}$	25°C	4	150	mV
Line regulation	ΔV_o	$26.5\text{V} \leq V_i \leq 35\text{V}$	25°C	12	300	mV
		$29\text{V} \leq V_i \leq 33\text{V}$	25°C	3	150	mV
Quiescent Current	I_q	25°C		4.3	8	mA
Quiescent Current Change	ΔI_q	$26.5\text{V} \leq V_i \leq 35\text{V}$	0~125 $^\circ\text{C}$		1	mA
	ΔI_q	$5\text{mA} \leq I_o \leq 1\text{A}$			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	10Hz $\leq f \leq 100\text{KHz}$	25°C	90		μV
Ripple Rejection	RR	$29.5\text{V} \leq V_i \leq 32.5\text{V}, f=120\text{Hz}$	0~125 $^\circ\text{C}$	54	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	19		m Ω
Short Circuit Current	I_{sc}		25°C	230		mA
Peak Current	I_{pk}		25°C	2.1		A

TYPICAL APPLICATION

