

TO-220 Plastic-Encapsulate Voltage Regulators

L7815 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 ($T_a = 25^\circ\text{C}$)

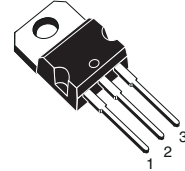
15 W ($T_c = 25^\circ\text{C}$)

TO-220

1.IN

2.GND

3.OUT



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	14.4	15	15.6	V
		$17.5\text{V} \leq V_i \leq 30\text{V}$, $I_o=5\text{mA}-1\text{A}$, $P \leq 15\text{W}$	14.25	15	15.75	V
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	$17.5\text{V} \leq V_i \leq 30\text{V}$, 25°C		12	300	mV
		$20\text{V} \leq V_i \leq 26\text{V}$, 25°C		3	150	mV
Quiescent Current	I_q	25°C		4.3	8	mA
Quiescent Current Change	ΔI_q	$17.5\text{V} \leq V_i \leq 30\text{V}$, $0-125^\circ\text{C}$			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		90		μV
Ripple Rejection	RR	$18.5\text{V} \leq V_i \leq 28.5\text{V}$, $f=120\text{Hz}$, $0-125^\circ\text{C}$	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

