

3-Terminal 1.5A Positive Voltage Regulator

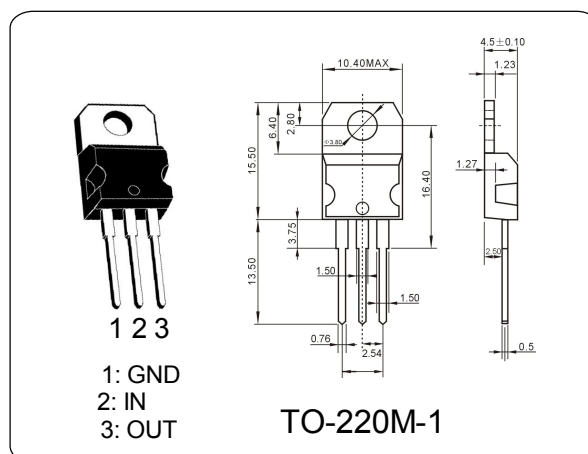
L7915CV

GENERAL DESCRIPTION

The L7915CV series of three terminal positive regulators are available in the TO-220 package and with several fixed output voltages, making them useful in a wide range of applications. Each type employs internal current limiting, thermal shut down and safe operating area protection, making it essentially indestructible. If adequate heat sinking is provided, they can deliver over 1.5A output current. Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain adjustable voltages and currents.

ABSOLUTE MAXIMUM RATINGS ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Typ	Unit
Input Voltage	V_I	-23.0	V
Output Voltage	V_O	-15.0	V
Peak Current	I_{PK}	2.2	A
Operating Temperature Range	T_{OPR}	0~125	$^\circ\text{C}$
Storage Temperature Rang	T_{STG}	-65~150	$^\circ\text{C}$



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

(Refer to test circuit, $I_o = 500\text{mA}$, $V_i = -23\text{V}$, $C_i = 2.2\mu\text{F}$, $C_o = 1.0\mu\text{F}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_j = 25\text{ }^\circ\text{C}$ $V_i = -18\text{V} \sim -30\text{V}$ $I_o = 5.0\text{mA} \sim 1.0\text{A}$, $P_D < 15\text{W}$	-14.3	-15	15.7	V
Line Regulation	ΔV_o	$T_j = 25\text{ }^\circ\text{C}$, $V_i = -18\text{V} \sim -30\text{V}$	—	—	300	mV
		$T_j = 25\text{ }^\circ\text{C}$, $V_i = -20\text{V} \sim -26\text{V}$	—	—	150	
Load Regulation	ΔV_o	$T_j = 25\text{ }^\circ\text{C}$, $I_o = 5.0\text{mA} \sim 1.5\text{A}$	—	—	300	mV
		$T_j = 25\text{ }^\circ\text{C}$ $I_o = 250\text{mA} \sim 750\text{mA}$	—	—	150	
Quiescent Current	I_q	$T_j = +25\text{ }^\circ\text{C}$	—	—	8	mA
Quiescent Current Change	ΔI_Q	$I_o = 5.0\text{mA} \sim 1.0\text{A}$	—	—	0.5	mA
		$T_j = 25\text{ }^\circ\text{C}$, $V_i = -18\text{V} \sim -30\text{V}$	—	—	1.0	mA
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5.0\text{mA}$	—	-0.9	—	mV/ $^\circ\text{C}$
Ripple Rejection	RR	$f = 120\text{Hz}$, $V_o = -18\text{V}$ to -26V	54	60	—	dB
Dropout Voltage	V_{Drop}	$I_o = 1.0\text{A}$, $T_j = +25\text{ }^\circ\text{C}$	—	2	—	V
Output Resistance	R_o	$f = 1\text{KHz}$	—	0.015	—	Ω
Short Circuit Current	I_{SC}	$V_i = -35\text{V}$, $T_A = +25\text{ }^\circ\text{C}$	—	300	—	mA
Peak Current	I_{PK}	$T_j = +25\text{ }^\circ\text{C}$	—	—	2.2	A