

3-Terminal 1.5A Negative Voltage Regulator

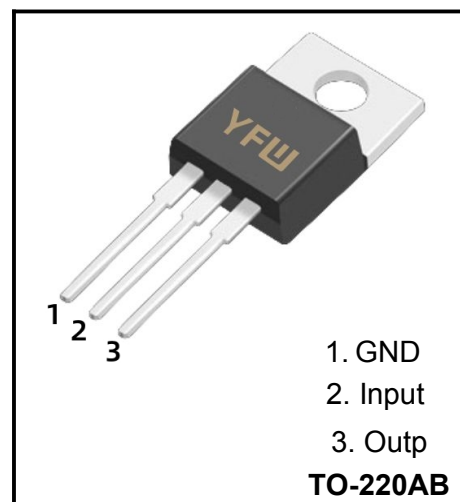
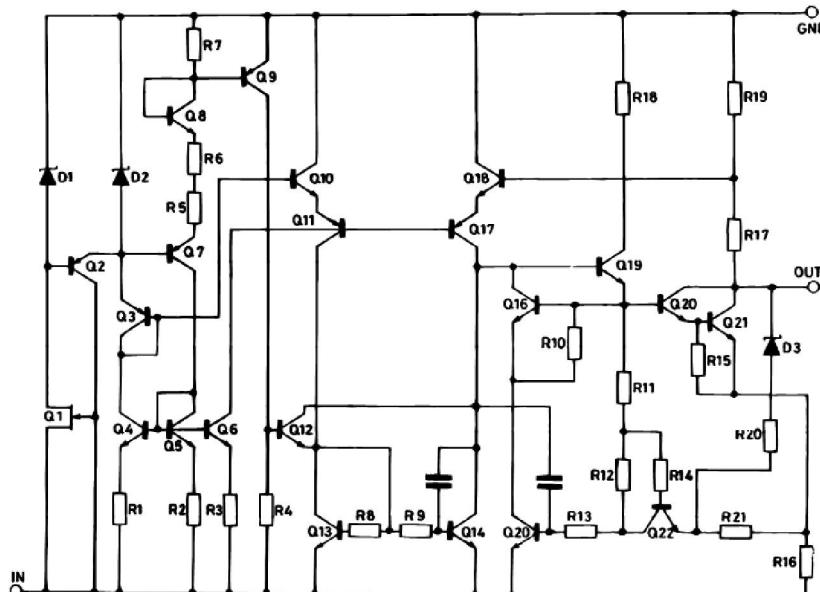
Description

The 7915 three-terminal negative regulators is available in TO-220AB packages and several fixed output voltages, making it useful in a wide range of applications. These regulators can provide local on-card regulation, eliminating the distribution problems associated with single point regulation; furthermore, having the same voltage as the 7815 positive, they are particularly suited for split power supplies. If adequate heat sinking is provided, they can deliver over 1.5 A output current. Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain adjustable voltages and currents.

Features

- ◆ Output Current up to 1.5A
- ◆ Output Voltages of -15V
- ◆ Thermal Overload Protection
- ◆ Short Circuit Protection
- ◆ Output transition SOA protection

Schematic diagram



1. GND
2. Input
3. Outp
TO-220AB

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage	V_{IN}	-35	V
Output current	I_O	-1.5	A
Operating Junction Temperature Range	T_{OPR}	0 ~ +125	°C
Storage Temperature Range	T_{STG}	-55 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which damage to the device may occur. Functional operation under these condition is not implied.

Thermal Resistances (Ta = 25°C)

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-Case	$R_{\theta JC}$	5	°C/W
Thermal Resistance Junction-Air	$R_{\theta JA}$	65	°C/W

Electrical Characteristics

Refer to the test circuits , $I_O = -750mA$, $V_I = -23V$, $C_I = 2.2\mu F$, $C_O = 1\mu F$ unless otherwise specified

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Output Voltage	V_O	$T_J = 25^\circ C$	-14.40	-15.0	-12.60	V
		$I_O = -5mA \sim -1.5A$, $P_O \leq 15W$ $V_I = -17.5 \sim -30V$	-14.25	-15.0	-15.75	V
Line Regulation(Note)	ΔV_O	$T_J = 25^\circ C$	$V_I = -17.5V \sim -30V$		300	mV
			$V_I = -20V \sim -26V$		150	
Load Regulation(Note)	ΔV_O	$T_J = 25^\circ C$	$I_O = -5mA \sim -1.5A$		300	mV
			$I_O = -0.25A \sim -0.75A$		150	
Quiescent Current	I_Q	$T_J = 25^\circ C$			8.0	mA
Quiescent Current Change	ΔI_Q	$I_O = -5mA \sim -1.5A$			0.5	mA
		$I_O = -17.5V \sim -30.5V$			1.0	
Output Voltage Drift	$\Delta V / \Delta T$	$I_O = 5mA$		-0.9		mV/°C
Output Noise Voltage	V_N	$f = 10Hz \sim 100KHz$, $T_J = 25^\circ C$		250		μV
Ripple Rejection	RR	$f = 120Hz$, $\Delta V_I = 10V$		60		dB
Dropout Voltage	V_D	$I_O = 1.5A$, $T_J = 25^\circ C$		2		V
Short Circuit Current	I_{SC}	$V_I = -35V$, $T_J = 25^\circ C$		300		mA
Peak Current	I_{PK}	$T_J = 25^\circ C$		2.2		A

Notes: Load and line regulation are specified at constant junction temperature. Changes in V_O due to heating effects must be taken into account separately. Pulse testing with low duty cycle is used.

Application information

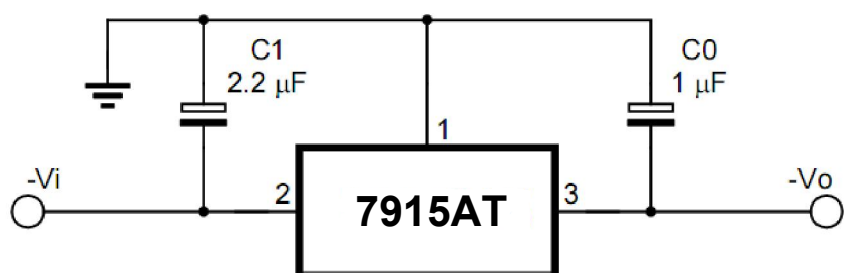


Figure 1.Fixed Output regulator

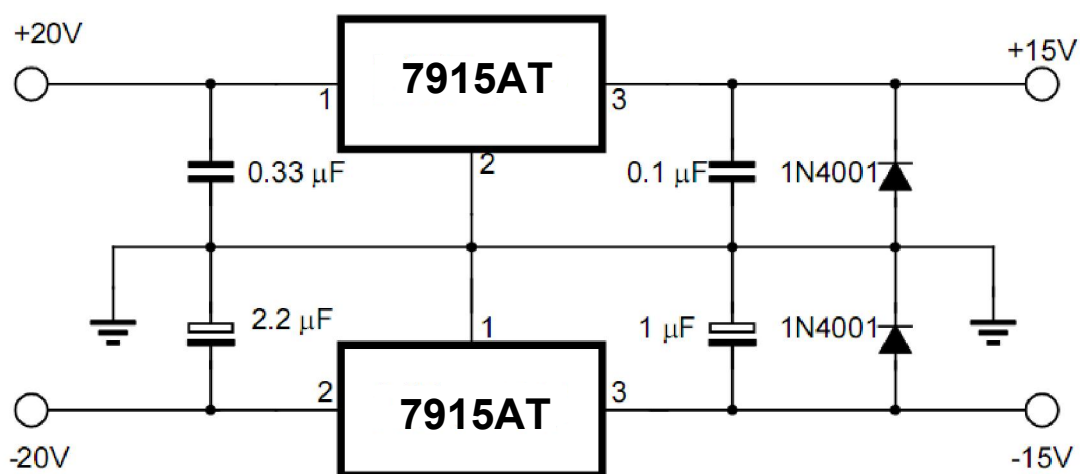
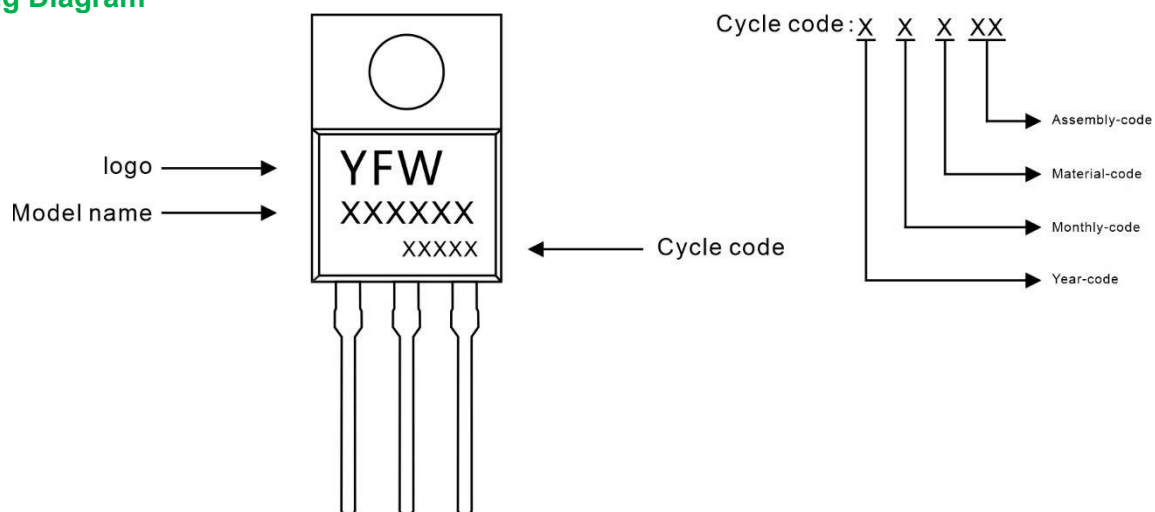


Figure 2. Split power supply ($\pm 15 V$, $- 1.5 A$)

Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
7915AT	TO-220AB	0.07oz(1.96g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

Package Dimensions

TO-220AB

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.30	4.70	0.169	0.185
A1	2.52	2.82	0.099	0.111
b	0.71	0.91	0.028	0.036
b1	1.17	1.37	0.046	0.054
c	0.30	0.50	0.012	0.020
c1	1.17	1.37	0.046	0.054
D	9.90	10.20	0.390	0.402
E	8.50	8.90	0.335	0.350
E1	12.00	12.50	0.472	0.492
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
F	2.60	2.80	0.102	0.110
L	13.20	13.80	0.520	0.543
L1	3.80	4.20	0.150	0.165
Φ	3.60	3.96	0.142	0.156

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