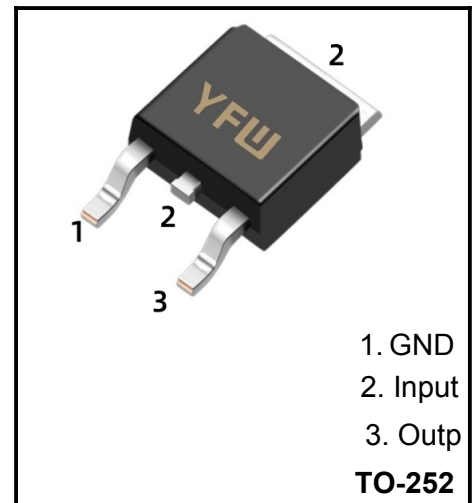


3-Terminal 1.5A Negative Voltage Regulator



Description

The 7912A three-terminal negative regulators are available in TO-252 packages and with -12V fixed output voltage, making them useful in a wide range of application. Each type employs internal current limiting, thermal shut-down and safe area protection, making it essentially indestructible.

Features

- ◆ Output Current up to 1.5A
- ◆ Output Voltages of -12V
- ◆ Thermal Overload Protection
- ◆ Short Circuit Protection
- ◆ Output transition SOA protection

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}	0~150	°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 conditions is not implied.

Thermal data

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-Case	$R_{\theta JC}$	5	$^{\circ}\text{C/W}$
Thermal Resistance Junction-Air ($T_a = +25^{\circ}\text{C}$)	$R_{\theta JA}$	65	$^{\circ}\text{C/W}$

Electrical Characteristics

Refer to the test circuits , $I_o = -500\text{mA}$, $V_i = -19\text{V}$, $C_i = 2.2\mu\text{F}$, $C_o = 1\mu\text{F}$ unless otherwise specified

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Output Voltage	V_o	$T_j = 25^{\circ}\text{C}$	-11.52	-12	-12.48	V
		$I_o = -5\text{mA} \sim -1\text{A}$, $P_o \leq 15\text{W}$ $V_i = -15.5 \sim -27\text{V}$	-11.4	-12	-12.6	
Line Regulation(Note)	ΔV_o	$T_j = 25^{\circ}\text{C}$	$V_i = -14.5\text{V} \sim -30\text{V}$		240	mV
			$V_i = -16\text{V} \sim -22\text{V}$		120	
Load Regulation(Note)	ΔV_o	$T_j = 25^{\circ}\text{C}$	$I_o = -5\text{mA} \sim -1.5\text{A}$		240	mV
			$I_o = -0.25\text{A} \sim -0.75\text{A}$		120	
Quiescent Current	I_q	$T_j = 25^{\circ}\text{C}$			6	mA
Quiescent Current Change	ΔI_q	$I_o = -5\text{mA} \sim -1.5\text{A}$			0.5	mA
		$I_o = -14.5\text{V} \sim -30\text{V}$			1.0	
Output Voltage Drift	$\Delta V / \Delta T$	$I_o = 5\text{mA}$		-0.8		mV/ $^{\circ}\text{C}$
Output Noise Voltage	V_N	$f = 10\text{Hz} \sim 100\text{KHz}$, $T_j = 25^{\circ}\text{C}$		200		μV
Ripple Rejection	RR	$f = 120\text{Hz}$, $\Delta V_i = 10\text{V}$	50	60		dB
Dropout Voltage	V_D	$I_o = -1.0\text{A}$, $T_j = 25^{\circ}\text{C}$		2		V
Short Circuit Current	I_{SC}	$V_i = -35\text{V}$, $T_j = 25^{\circ}\text{C}$		300		mA
Peak Current	I_{PK}	$T_j = 25^{\circ}\text{C}$		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.

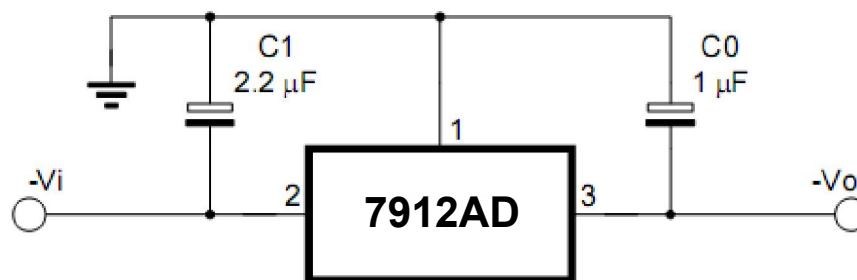


Figure 1.Fixed Output regulator

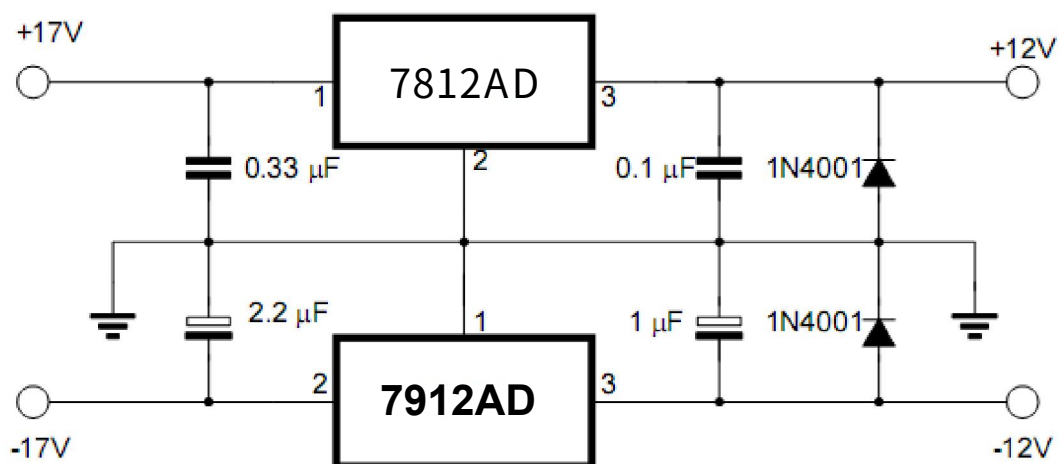


Figure 2.Split power supply ($\pm 12\text{ V}$, 1.5A)

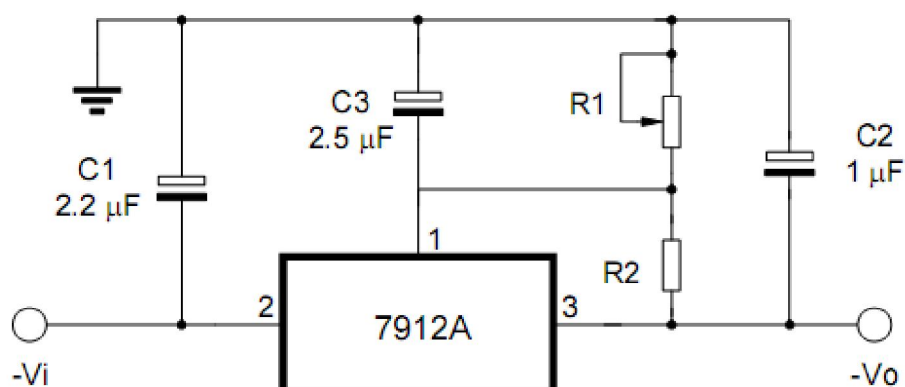
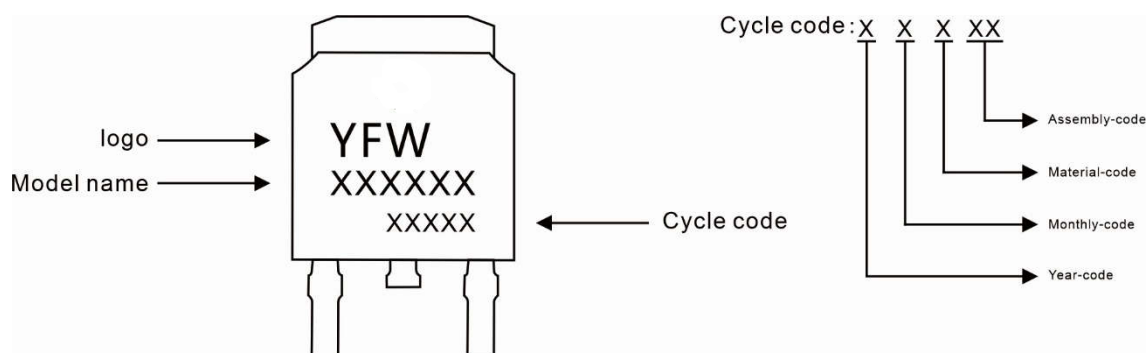


Figure.3 Circuit for increasing output voltage

Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
7912AD	TO-252	0.011oz(0.32g)	2500pcs/reel	5000pcs/box 25000pcs/Carton

Package Dimensions

TO-252

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.098
A1	0.00	0.12	0.000	0.005
A2	2.20	2.40	0.087	0.094
B	1.20	1.60	0.047	0.063
b	0.50	0.70	0.020	0.028
b1	0.70	0.90	0.028	0.035
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.35	6.65	0.250	0.262
D1	5.20	5.40	0.205	0.213
E	5.40	5.70	0.213	0.224
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	10.00	11.00	0.393	0.433
L1	2.70	3.10	0.106	0.122
L2	1.40	1.80	0.055	0.071
L3	0.90	1.50	0.035	0.059

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