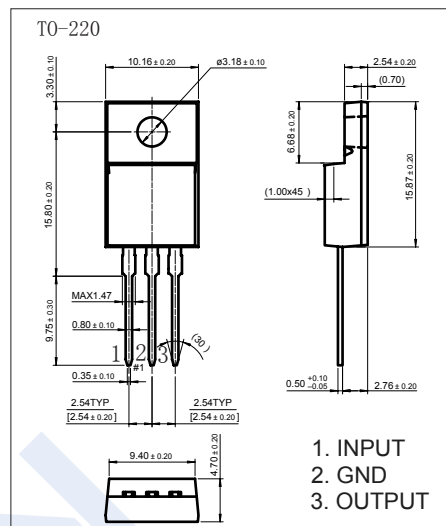


Positive Voltage Regulator

L7812CV

■ Features

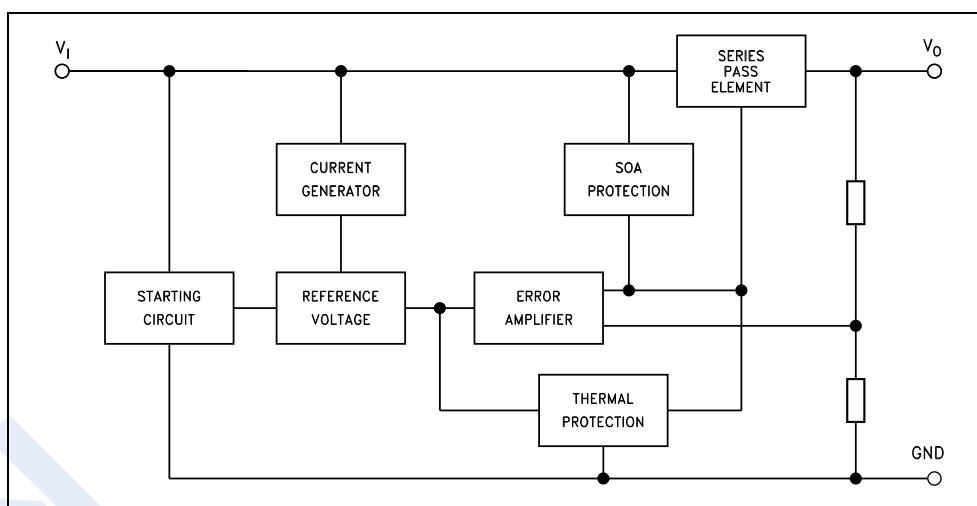
- Output current up to 1.5 A
- Output voltages of 12V
- Thermal overload protection
- Short circuit protection
- 2 % output voltage tolerance (A version)



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Input Voltage for $V_o=5$ to 18V	V_i	35	V
Input Voltage for $V_o=20, 24\text{V}$		40	
Maximum Output Current	I_o	Internally limited	A
Maximum Power Dissipation	P_d	Internally limited	W
Thermal Resistance Junction-Ambient	R_{thJA}	50	$^\circ\text{C/W}$
Thermal Resistance Junction-Case	R_{thJC}	5	
Operating Junction Temperature Range	T_{opr}	0 to 125	$^\circ\text{C}$
Junction Temperature	T_J	150	
Storage Temperature Range	T_{stg}	-65 to 150	

■ Typical Application



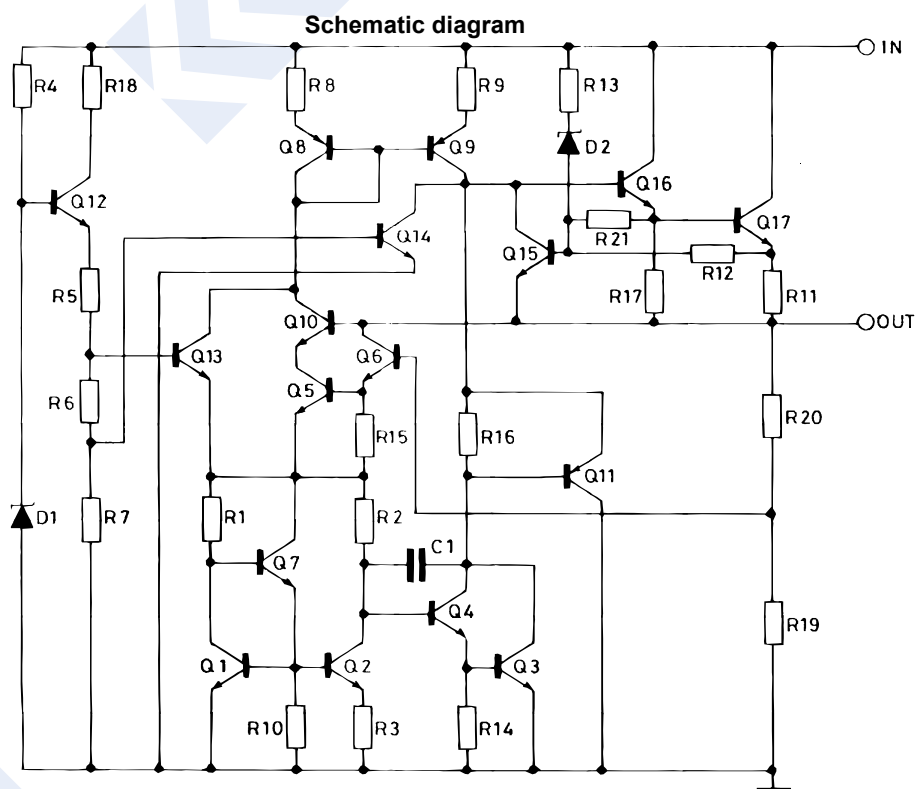
Positive Voltage Regulator

L7812CV

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	V_o	$T_J = 25^\circ\text{C}$	11.5	12	12.5	V
		$I_o = 5\text{ mA to }1\text{ A}, V_i = 14.5\text{ to }25\text{ V}$	11.4	12	12.6	
		$I_o = 1\text{ A}, V_i = 25\text{ to }27\text{ V}, T_J = 25^\circ\text{C}$	11.4	12	12.6	
Line Regulation	ΔV_o	$V_i = 14.5\text{ to }30\text{ V}, T_J = 25^\circ\text{C}$			240	mV
		$V_i = 16\text{ to }22\text{ V}, T_J = 25^\circ\text{C}$			120	
Load Regulation	ΔV_o	$I_o = 5\text{ mA to }1.5\text{ A}, T_J = 25^\circ\text{C}$			240	mV
		$I_o = 250\text{ mA to }750\text{ mA}, T_J = 25^\circ\text{C}$			120	
Output voltage drift	$\Delta V_o / \Delta T$	$I_o = 5\text{ mA}$		-1		mV/%
Quiescent Current	I_d	$T_J = 25^\circ\text{C}$			8	mA
Quiescent Current Change	ΔI_d	$I_o = 5\text{ mA to }1\text{ A}$			0.5	
		$V_i = 14.5\text{ to }30\text{ V}$			1	
Short circuit current	I_{sc}	$V_i = 35\text{ V}, T_J = 25^\circ\text{C}$		0.35		A
Short circuit peak current	I_{scp}	$T_J = 25^\circ\text{C}$		2.2		
Output Noise Voltage	V_N	$B=10\text{Hz to }100\text{KHz}, T_J=25^\circ\text{C}$		75		μV
Supply voltage rejection	SVR	$V_i = 15\text{ to }25\text{ V}, f = 120\text{ Hz}$	55			dB
Output resistance	R_o	$f=1\text{KHz}$		18		$\text{m}\Omega$
Dropout Voltage	V_d	$I_o = 1\text{ A}, T_J = 25^\circ\text{C}$		2		V

■ Typical Application

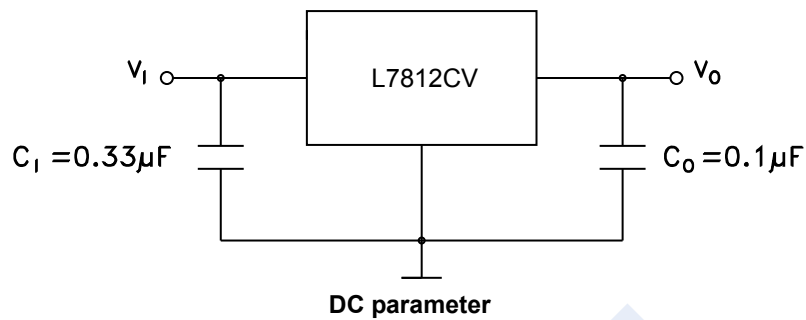


Positive Voltage Regulator

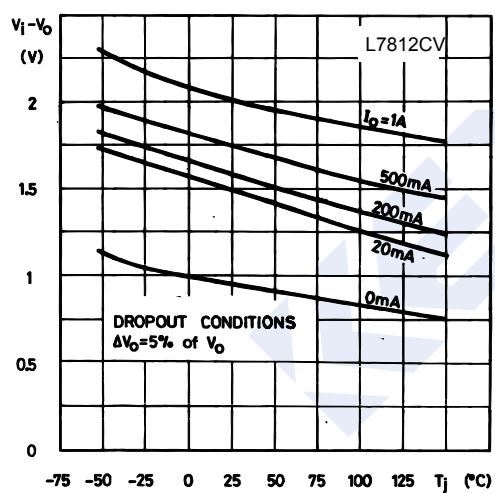
L7812CV

■ Typical Characteristics

Application circuits



Dropout voltage vs. junction temperature



Output voltage vs. junction temperature

