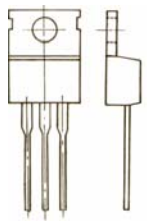
7912 Three-terminal negative voltage regulator

TO-220



1 GND
2. IN
3.OUT
1 2 3

FEATURES

Maximum Output current I_{OM}: 1.5 A
Output voltage V_o: - 12 V
Continuous total dissipation
P_D: 2 W (T_a = 25 ℃)
15 W (T_C= 25 ℃)

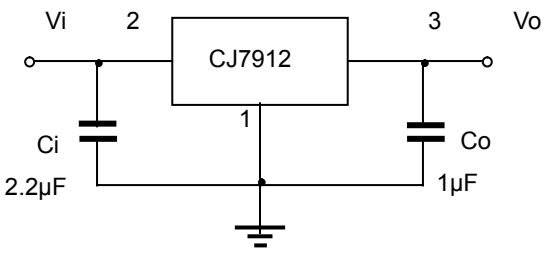
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_i	-35	V
Thermal resistance junction-air	$R_{\theta JA}$	65	℃/W
Thermal resistance junction-cases	$R_{\theta JC}$	5	℃/W
Operating Junction Temperature Range	T_{OPR}	0-125	℃
Storage Temperature Range	T_{STG}	-65-150	℃

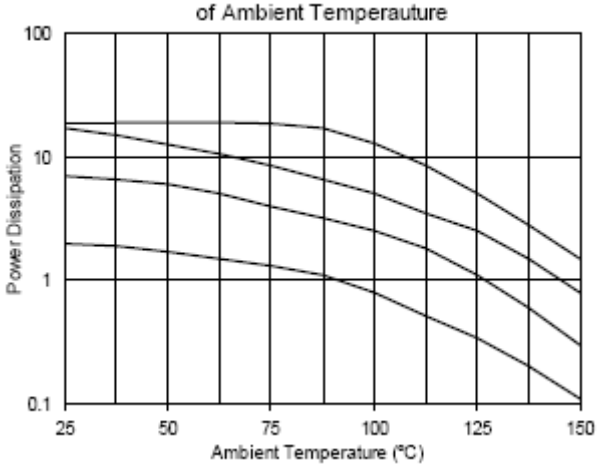
ELECTRICAL CHARACTERISTICS (Vi=-19V,Io=500mA, C_i=2.2μF,Co=1μF, unless otherwise specified)

Parameter	Symbol	Test conditions		MIN	TYP	MAX	UNIT
Output voltage	Vo		25℃	-11.5	-12	-12.5	V
		-14.5V≤V_i≤-27V, Io=5mA-1A P≤15W	0-125℃	-11.4	-12	-12.6	V
Load Regulation	ΔVo	Io=5mA-1.5A	25℃		15	200	mV
		Io=250mA-750mA	25℃		5	75	mV
Line regulation	ΔVo	-14.5V≤V_i≤-30V	25℃		5	80	mV
		-16V≤V_i≤-22V	25℃		3	30	mV
Quiescent Current	Iq		25℃		2	3	mA
Quiescent Current Change	ΔIq	-14.5V≤V_i≤-30V	0-125℃			0.5	mA
	ΔIq	5mA≤I_O≤1A	0-125℃			0.5	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		300		μV
Output voltage drift	△Vo/△T	I_O=5mA	0-125℃		-0.8		mV/℃
Ripple Rejection	RR	-15V≤V_i≤-25V,f=120Hz	0-125℃	54	60		dB
Dropout Voltage	Vd	Io=1A	25℃		1.1		V
Peak Current	Ipk		25℃		2.1		A

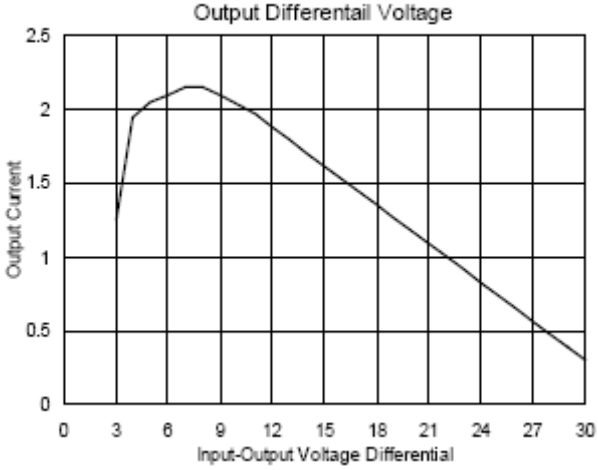
TYPICAL APPLICATION



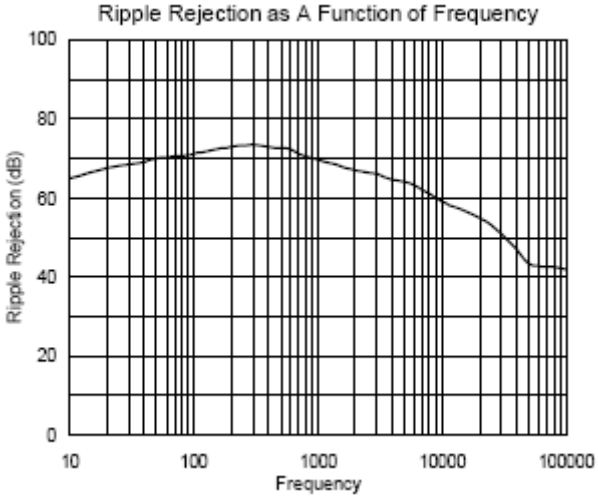
Average Case Power Dissipation as A Function of Ambient Temperauture



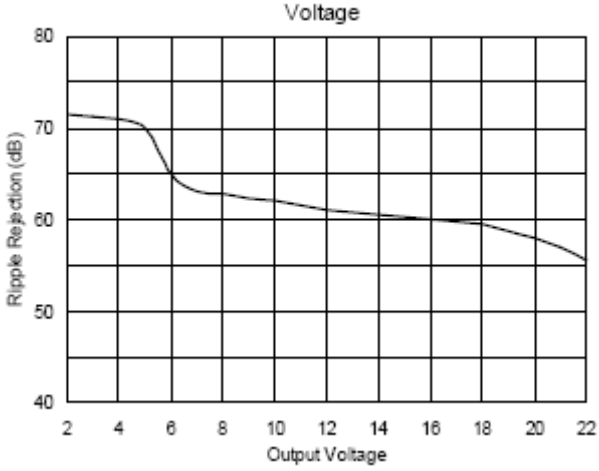
Peak Output Current as A Function of Input-Output Differentail Voltage



Ripple Rejection as A Function of Frequency



Ripple Rejection as A Function of Output Voltage



Output Voltage as A Function of Junction Temperature