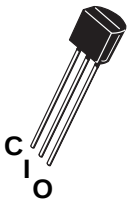
79L12

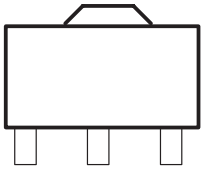
Negative-Voltage Regulators

- **3-Terminal Regulators**
- **Output Current Up to 100 mA**
- **No External Components Required**
- **Internal Thermal-Overload Protection**
- **Internal Short-Circuit Current Limiting**
- **Direct Replacement for Motorola MC79L12 Series**



TO–92

79L12ACZ



SOT-89

79L12CPK

COMMON INPUT OUTPUT

description

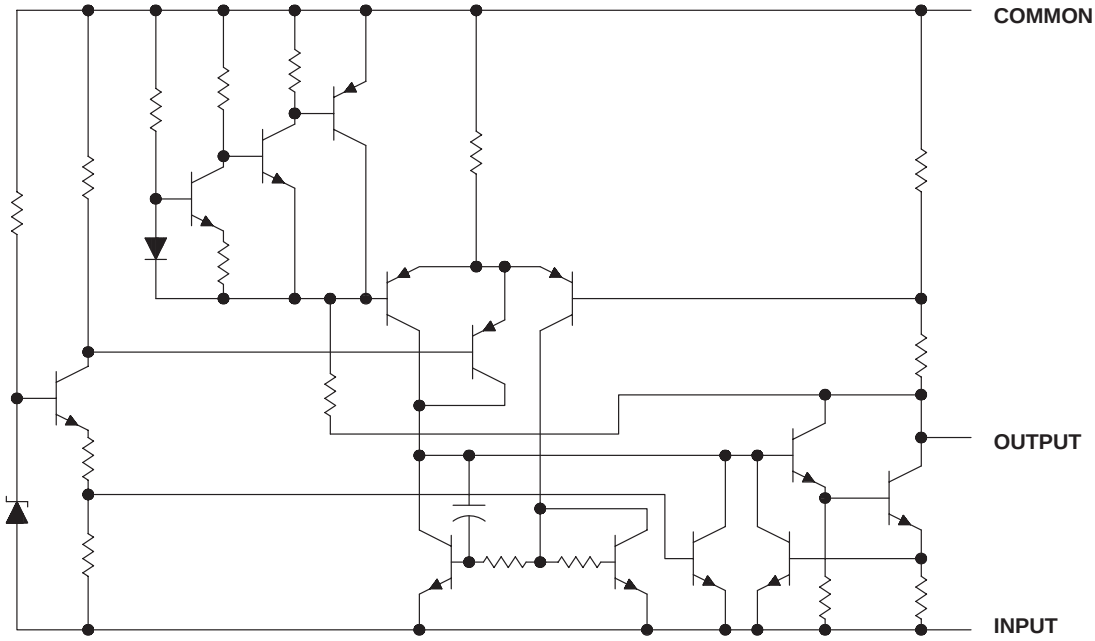
This series of fixed negative-voltage integrated-circuit voltage regulators is designed for a wide range of applications. These include on-card regulation for elimination of noise and distribution problems associatedwith single-point regulation. In addition, they can be used to control series pass elements to make high-current voltage-regulator circuits. One of these regulators can deliver up to 100 mA of output current. The internal current-limiting and thermal-shutdown features make them essentially immune to overload. When used as a replacement for a zener-diode and resistor combination, these devices can provide effective improvement in output impedance of two orders of magnitude, with lower bias current.

electrical characteristics at specified virtual junction temperature, V_I = -19V, I_O=40mA (unless otherwise noted)

PARAMETER	TEST CONDITIONS	T ‡	79L12			UNIT
			MIN	TYP	MAX	
Output voltage		25°C	-11.5	-5	-12.5	V
	I_O=1mA to 40mA,V_I=-14.5V to -27V	Full range	-11.4		-12.5	
	I_O = 1 mA to 70 mA	Full range	-11.4		-12.5	
Input voltage regulation	V_I = -14.5 to -27V	25°C		50	250	mV
	V_I = -16V to -27V			40	200	
Ripple rejection	V_I = -15V to -25V f = 120 Hz	25°C	37	42		dB
Output voltage regulation	I_O = 1 mA to 100 mA	25°C		24	60	mV
	I_O = 1 mA to 40 mA			15	30	
Output noise voltage	f = 10 Hz to 100 kHz	25°C		80		µV
Dropout voltage		25°C		1.7		V
Bias current		25°C			6.5	mA
		125°C			6	
Bias current change	V_I = -16V to -27V	Full range			1.5	mA
	I_O = 1 mA to 40 mA				0.1	

‡ Pulse-testing techniques maintain T_J as close to T_A as possible. Thermal effects must be taken into account separately. All characteristics are measured with a 0.33-µF capacitor across the input and a 0.1-µF capacitor across the output. Full range for the 79L12 is T_J = 0°C to 70°C

equivalent schematic



absolute maximum ratings over operating free-air temperature range (unless otherwise noted)†

Input voltage: 79L12 . . . . . -35V

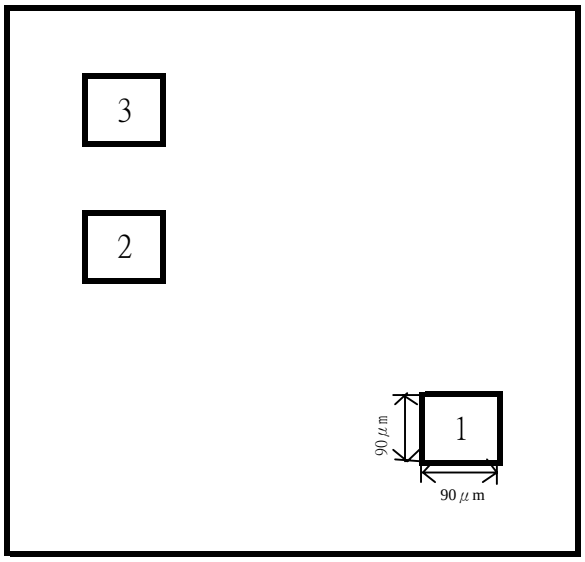
Operating free-air, case, or virtual junction temperature. . . . . 150 °C

Lead temperature 1.6 mm (1/16 inch) from case for 10 seconds . . . . . 260°C
Storage temperature range, T_{stg} . . . . . –65°C to 150°C

recommended operating conditions

79L12	MIN	MAX	UNIT
Input voltage, V_I	-14.5	-27	V
Output current, I_O		100	mA
Operating virtual junction temperature, T_J	0	70	°C

Pad Location WS79L00



chip size 1.15 x 1.35mm

Pad Location Coordinates

Pad N	Pad Name	X(μm)	Y(μm)
1	Ground	1150	115
2	Input	115	690
3	Output	115	950