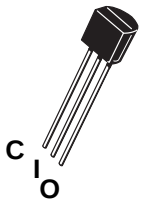
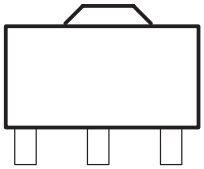
79L06

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 MC79L06 Series**



TO–92
79L06ACZ



SOT-89
79L06CPK

COMMON INPUT OUTPUT

description

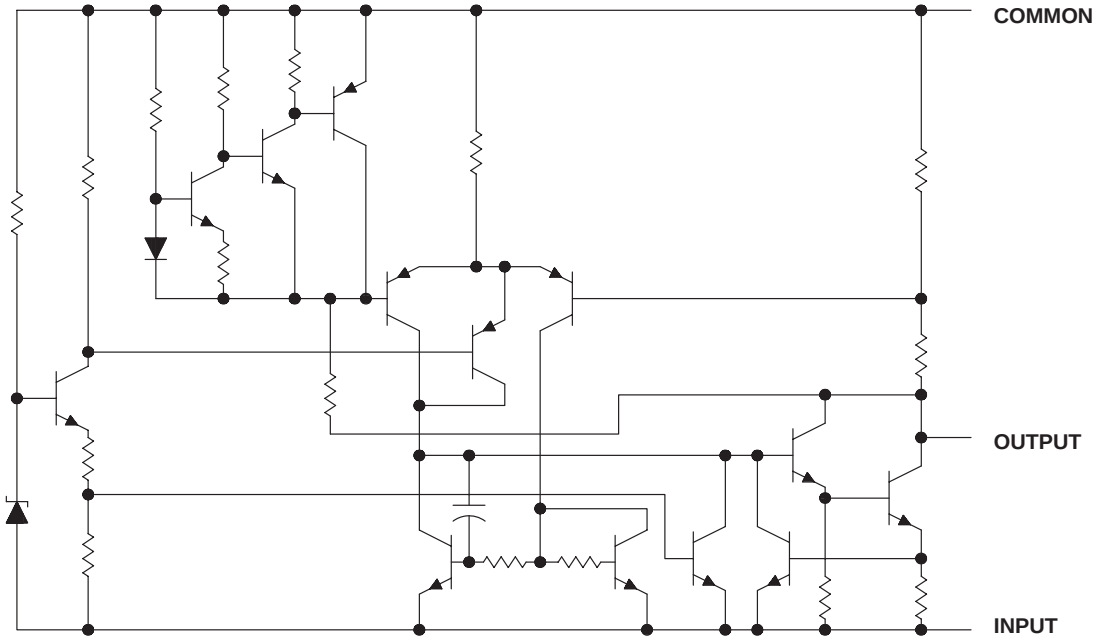
This series of fixed negative-voltage integrated-circuit voltage regulators is designed for a wide range of applications. These include on-card regulation for elimination of noise and distribution problems associatedwith single-point regulation. In addition, they can be used to control series pass elements 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 iimpedance of two orders of magnitude, with lower bias current.

electrical characteristics at specified virtual junction temperature, V_I = 11V, I_o = 40mA (unless otherwise noted)

PARAMETER	TEST CONDITIONS	T ‡	79L06			UNIT
			MIN	TYP	MAX	
Output voltage		25°C	-5.76	-6	-6.24	V
	I_O=1 to 70mA, V = -12V to - 20V	Full range	-5.7		-6.3	
		Full range	-5.7		-6.3	
Input voltage regulation	V_I = -8.5 to -20V	25°C		55	175	mV
	V_I = -9V to -20V			45	125	
Ripple rejection	V_I = -10V to -20V f = 120 Hz	25°C		49		dB
Output voltage regulation	I_O = 1 mA to 40mA	25°C		9		mV
	I_O = 1 mA to 100mA			16		
Output noise voltage	f = 10 Hz to 100 kHz	25°C				µV
Dropout voltage		25°C		1.7		V
Bias current		25°C		3	6	mA
		125°C			5.5	
Bias current change	V_I = -9V to -20V	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 79L06 is T_J = 0°C to 70°C

equivalent schematic



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

Input voltage: 79L06 . . . . . -30V

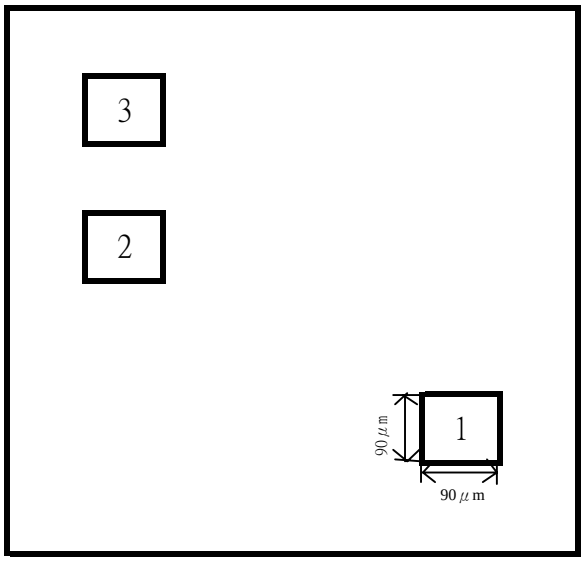
Operating free-air, case, or virtual junction temperature. . . . . 150 °C

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

79L06	MIN	MAX	UNIT
Input voltage, V_I	-8	-20	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