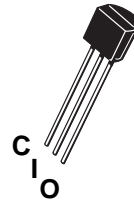




79L05

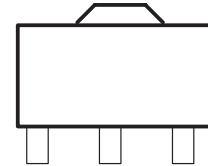
Negative-Voltage Regulators

- 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 MC79L00 Series



TO-92

79L05ACZ



SOT-89

79L05CPK

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 associated with 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.

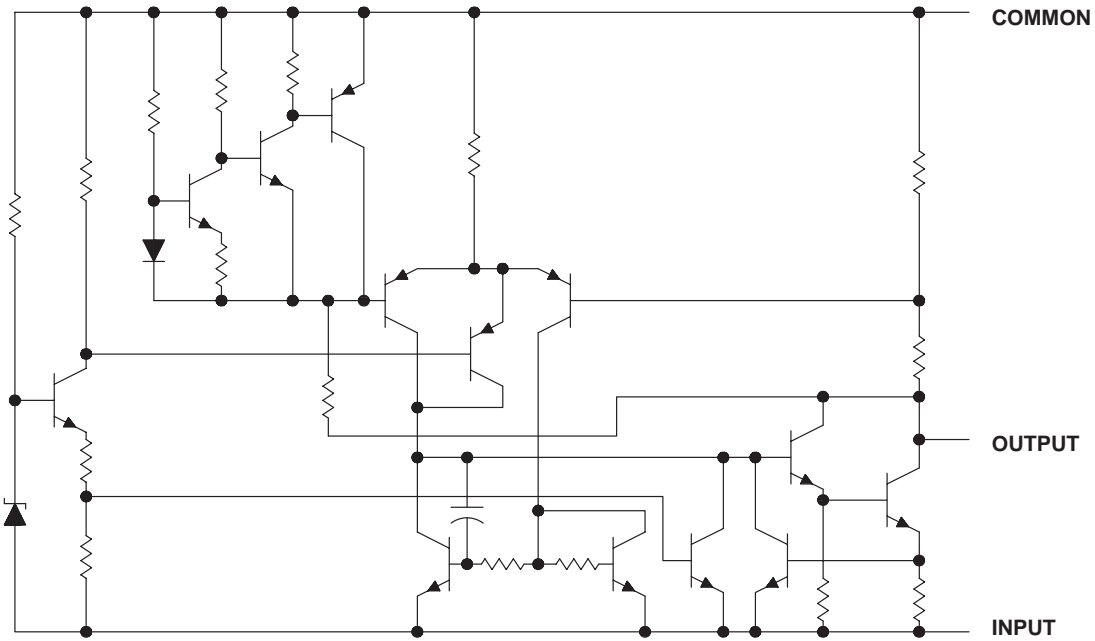
electrical characteristics at specified virtual junction temperature, $V_I = -10\text{ V}$, $I = 40\text{ mA}$ (unless otherwise noted)

PARAMETER	TEST CONDITIONS	T ‡	79L05			UNIT
			MIN	TYP	MAX	
Output voltage		25°C	-4.8	-5	-5.2	V
	$I_O = 1\text{ mA to }40\text{ mA}$, $V_I = -7\text{ V to }-20\text{ V}$	Full range	-4.75		-5.25	
		Full range	-4.75		-5.25	
Input voltage regulation	$V_I = -7\text{ V to }-20\text{ V}$	25°C		15	150	mV
	$V_I = -8\text{ V to }-20\text{ V}$				100	
Ripple rejection	$V_I = -8\text{ V to }-18\text{ V}$ $f = 120\text{ Hz}$	25°C	41	49		dB
Output voltage regulation	$I_O = 1\text{ mA to }100\text{ mA}$	25°C		20	60	mV
	$I_O = 1\text{ mA to }40\text{ mA}$			10	30	
Output noise voltage	$f = 10\text{ Hz to }100\text{ kHz}$	25°C		40		µV
Dropout voltage		25°C		1.7		V
Bias current		25°C			6	mA
		125°C			5.5	
Bias current change	$V_I = -8\text{ V to }-20\text{ V}$ $I_O = 1\text{ mA to }40\text{ mA}$	Full range			1.5	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 79L05 is $T_J = 0^\circ\text{C to }70^\circ\text{C}$

WS 79L05

equivalent schematic



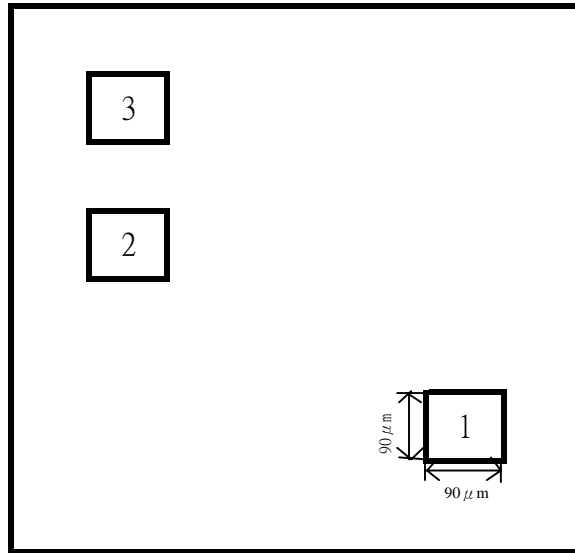
absolute maximum ratings over operating free-air temperature range (unless otherwise noted)[†]

- Input voltage: 79L05 -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

79L05	MIN	MAX	UNIT
Input voltage, V_I	-7	-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(μ m)	Y(μ m)
1	Ground	1150	115
2	Input	115	690
3	Output	115	950