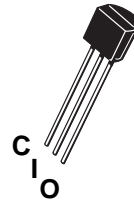
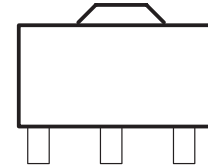


- 3-Terminal Regulators
- Output Current Up to 100 mA
- No External Components Required
- Internal Thermal-Overload Protection
- Internal Short-Circuit Current Limiting
- Direct Replacement for Motorola MC79L00 Series



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.

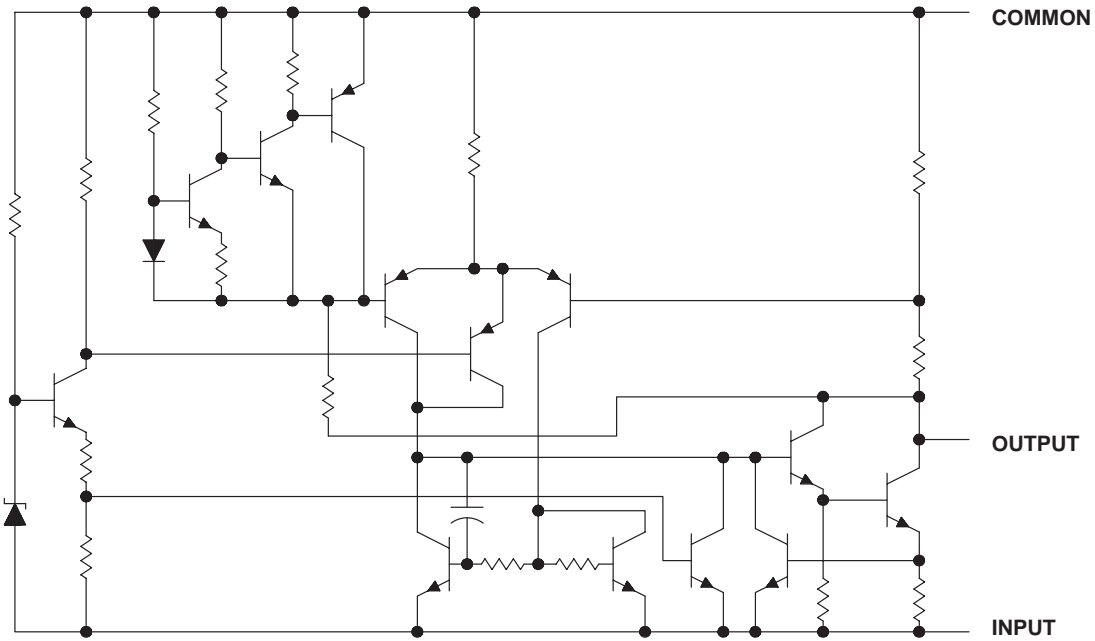
**electrical characteristics at specified virtual junction temperature,  $V_I = -10\text{ V}$ ,  $I_O = 40\text{ mA}$  (unless otherwise noted)**

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



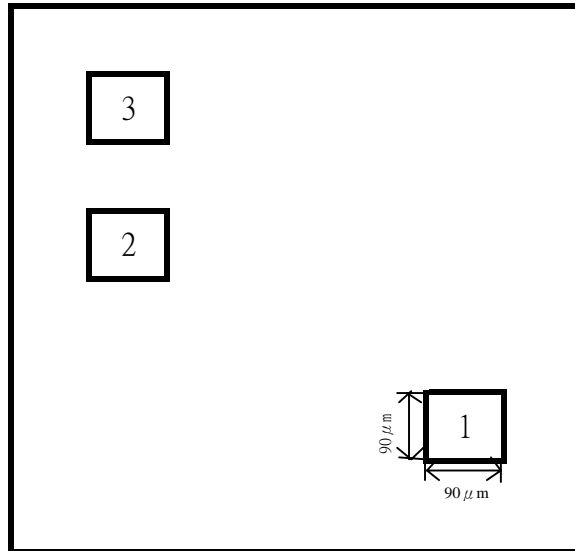
## absolute maximum ratings over operating free-air temperature range (unless otherwise noted)†

- 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