

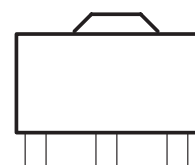


- 3-Terminal Regulators
- Output Current up to 100 mA
- No External Components
- Internal Thermal-Overload Protection
- Internal Short-Circuit Current Limiting
- Direct Replacements for Fairchild  $\mu$ A78L0 Series



### description

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



### electrical characteristics at specified virtual junction temperature, $V_I = 1$ V, $I = 40$ mA (unless otherwise noted)

PARAMETER	TEST CONDITIONS	T ‡				UNIT
			MIN	TYP	MAX	
Output voltage		25°C				V
	$V_O$	Full range				
	$I_O = 1$ mA to 70 mA	Full range				
Input voltage regulation	$V_I =$	°				
	$V_I =$					
Ripple rejection	$V_I =$ $f = 120$ Hz	25°C				dB
Output voltage regulation	$I_O = 1$ mA to 100 mA	°				
	$I_O = 1$ mA to 40 mA					
Output noise voltage	$f = 10$ Hz to 100 kHz	25°C				$\mu$ V
Dropout voltage		25°C		1.7		V
		25°C			6	
		125°C			5.5	
		range			1.5	
Bias current change	$V_I =$	range			0.1	
	$I_O = 1$ mA to 40 mA					

‡ 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- $\mu$ F capacitor across the input and a 0.1- $\mu$ F capacitor across the output. Full range for the 78L05 is  $T_J = 0^\circ\text{C}$  to  $70^\circ\text{C}$

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		UNIT
Input voltage, $V_I$		V
Virtual junction temperature range, $T_J$	150	°C
Lead temperature 1,6 mm (1/16 inch) from case for 10 seconds	260	°C
Storage temperature range, $T_{Stg}$	-65 to 150	°C

	MIN	MAX	UNIT
Input voltage, $V_I$			
Output current, $I_O$		100	mA
Operating virtual junction temperature, $T_J$	0		°C

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