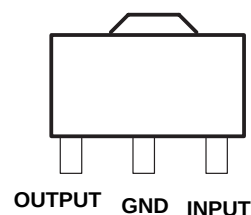
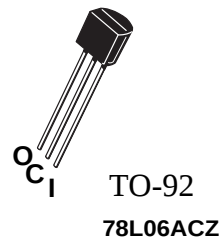


- 3-Terminal Regulators
- Output Current up to 100 mA
- No External Components
- Internal Thermal-Overload Protection
- Internal Short-Circuit Current Limiting
- Direct Replacements for Fairchild μ A78L06 Series

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.



SOT-89
78L06CPK

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

PARAMETER	TEST CONDITIONS	T ‡	78L06			UNIT
			MIN	TYP	MAX	
Output voltage		25°C	5.75	6	6.25	V
	$I_O = 1\text{mA to } 40\text{mA}$, $V_I = 8V \text{ to } 20V$	Full range	5.7	6	6.3	
	$I_O = 1\text{ mA to } 70\text{ mA}$	Full range	5.7	6	6.3	
Input voltage regulation	$V_I = 8V \text{ to } 20V$	25°C		35	175	mV
	$V_I = 9V \text{ to } 20V$			29	125	
Ripple rejection	$V_I = 9V \text{ to } 19V$, $f = 120\text{Hz}$	25°C	40	48		dB
Output voltage regulation	$I_O = 1\text{ mA to } 100\text{ mA}$	25°C		16	80	mV
	$I_O = 1\text{ mA to } 40\text{ mA}$			9	40	
Output noise voltage	$f = 10\text{ Hz to } 100\text{ kHz}$	25°C		46		μ V
Dropout voltage		25°C		1.7		V
Bias current		25°C		3.9	6	mA
		125°C			5.5	
Bias current change	$V_I = 9V \text{ to } 20V$	Full range			1.5	mA
	$I_O = 1\text{ mA to } 40\text{ mA}$				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- μ F capacitor across the input and a 0.1- μ F capacitor across the output. Full range for the 78L05 is $T_J = 0^\circ\text{C to } 70^\circ\text{C}$

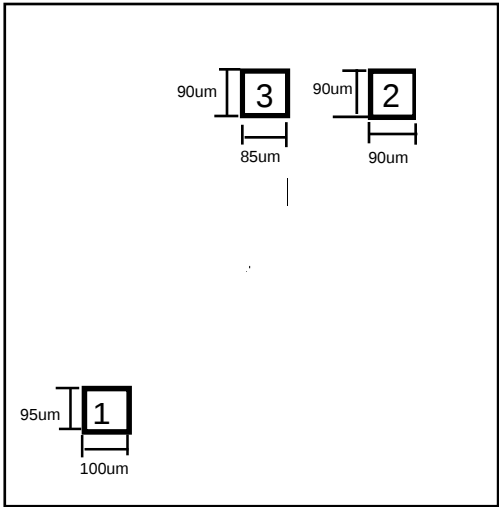
absolute maximum ratings over operating temperature range (unless otherwise noted)

78L06	PARAMETER	UNIT
Input voltage, V_I	30	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

recommended operating conditions

78L06	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 78L06



Chip size 1.0 x 1.2 mm

Pad N	Pad Name	X (um)	Y (um)
1	Ground	95	100
2	Input	820	1010
3	Output	535	1015