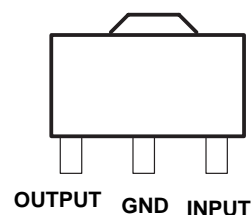
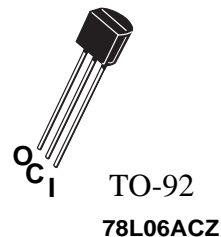


- 3-Terminal Regulators
- Output Current up to 100 mA
- No External Components
- Internal Thermal-Overload Protection
- Internal Short-Circuit Current Limiting
- Direct Replacements for Fairchild  $\mu$ A78L06 Series

**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
	$I_O = 1\text{mA to }40\text{mA}$ , $V_I = 8\text{V to }20\text{V}$	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	$V_I = 8\text{V to }20\text{V}$	25°C		35	175	mV
	$V_I = 9\text{V to }20\text{V}$			29	125	
Ripple rejection	$V_I = 9\text{V to }19\text{V}$ , $f = 120\text{Hz}$	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	$\mu$ V	
Dropout voltage		25°C		1.7	V	
Bias current		25°C		3.9	6	mA
		125°C			5.5	
Bias current change	$V_I = 9\text{V to }20\text{V}$	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- $\mu$ F capacitor across the input and a 0.1- $\mu$ F capacitor across the output. Full range for the 78L05 is  $T_J = 0^\circ\text{C to }70^\circ\text{C}$

# WS 78L06

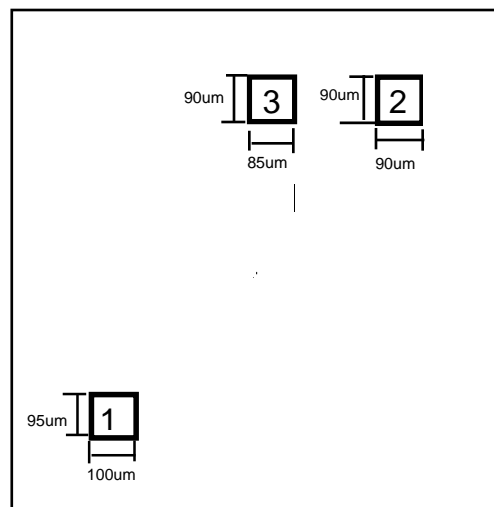
## absolute maximum ratings over operating temperature range (unless otherwise noted)

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