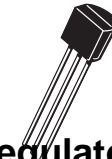




- 3-Terminal Regulators
- Output Current up to 100 mA
- No External Components
- Internal Thermal-Overload Protection
- Internal Short-Circuit Current Limiting
- Provided Pb-Free packages from the end of 2004

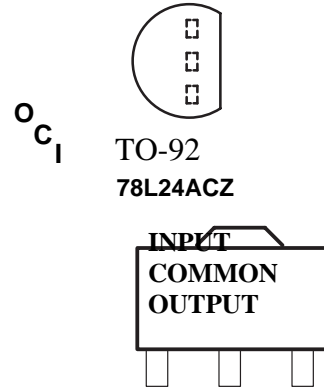
78L24

Positive-Voltage Regulators



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, $V_I =$ otherwise noted)

PARAMETER	TEST CONDITIONS	T ‡	SOT-89 78L24CPK			UNIT
			MIN	TYP	MAX	
Output voltage		25°C	32V, I_O = 40mA (unless			V
		Full range				
	I _O = 1 mA to 70 mA	Full range				
Input voltage regulation	V _I =	°	78L24			
	V _I =					
Ripple rejection	V _I = f = 120 Hz	25°C				dB
Output voltage regulation	I _O = 1 mA to 100 mA	23	24	25		
	I _O = 40 mA, V _O = 26.5 to 39V	22.8	24	25.2		
Output noise voltage	f = 10 Hz to 100 kHz	22.8	24	25.2	μV	
	26.5V to 39V	25°C	95	480		
Dropout voltage	29V to 39V	25°C	78	400	mV	
	27.5V to 37.5V,	25°C	30	33		
Bias current change	V _I = I _O = 1 mA to 40 mA	25°C	41	240	mV/1.5	
		range	28	120		
				0.1		

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‡ 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 78L05 is J = 0°C to 70°C

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WS 78L24

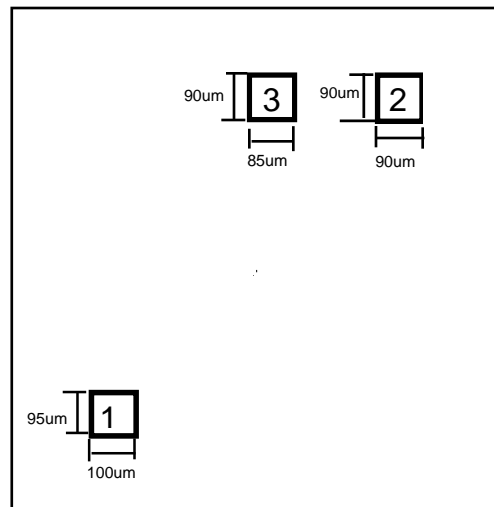
absolute maximum ratings over operating temperature range (unless otherwise noted)

78L24	PARAMETER	UNIT
Input voltage, V_I	40	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

78L24	MIN	MAX	UNIT
Input voltage, V_I	26.5	39	V
Output current, I_O		100	mA
Operating virtual junction temperature, T_J	0	70	°C

Pad Location 78L24



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