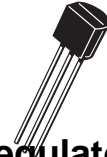


78L09

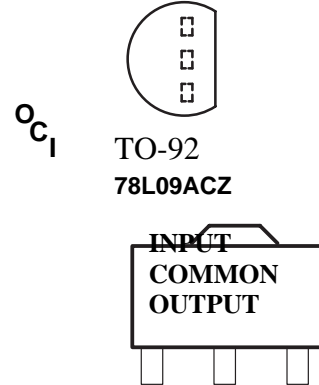
- 3-Terminal Regulators
- Output Current up to 100 mA
- No External Components
- Internal Thermal-Overload Protection
- Internal Short-Circuit Current Limiting
- Provided Pb-Free packages from the end of 2004

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, $V_I =$ **OUTPUT GND INPUT**
otherwise noted)

PARAMETER	TEST CONDITIONS	T ‡	SOT-89 78L09CPK			UNIT
			MIN	TYP	MAX	
Output voltage		25°C	16V, I_O = 40mA (unless			V
	I _O = 1 mA to 70 mA	Full range				
Input voltage regulation	V _I	°	78L09			
	V _I =					
Ripple rejection	V _I = f = 120 Hz	25°C				dB
Output voltage regulation	I _O = 1 mA to 100 mA	8.6	9	9.4		
	I _O = 1 mA to 100 mA, V _I = 12V to 24V	8.55	9	9.45		
Output noise voltage	f = 10 Hz to 100 kHz	8.55	9	9.45	μV	
	-12V to 24V	25°C	45	175	mV	
Dropout voltage	13V to 24V	25°C	40	125	V	
	15V to 25V	25°C	38	45		
Bias current change	V _I =	25°C	19	90	mA	
	I _O = 1 mA to 40 mA	range	11	40		

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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 T_J = 0°C to 70°C

5.5

WS 78L09

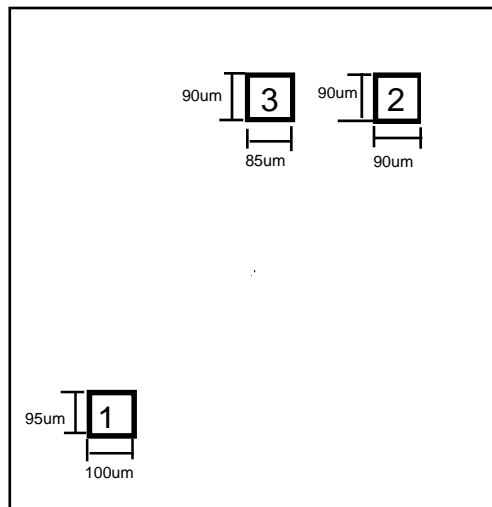
absolute maximum ratings over operating temperature range (unless otherwise noted)

78L09	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

78L09	MIN	MAX	UNIT
Input voltage, V_I	11.5	24	V
Output current, I_O		100	mA
Operating virtual junction temperature, T_J	0	70	°C

Pad Location 78L09



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