



Quality System for producing discrete semiconductor devices and integrated circuits conforms to the requirements of STB ISO 9002-96

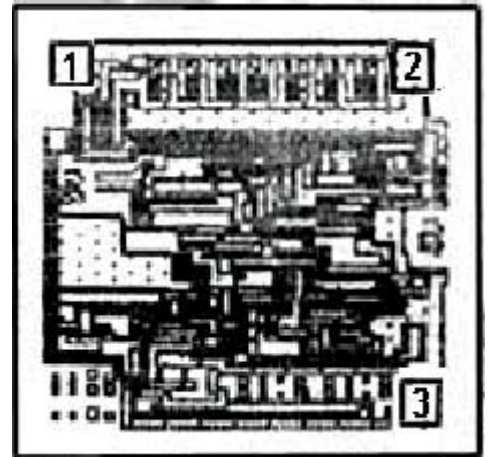
78L09AC CHIP FOR THREE-TERMINAL POSITIVE VOLTAGE REGULATOR IC

Features:

- ✧ Output current in excess of 100 mA
- ✧ No external components required
- ✧ Internal short circuit current limiting
- ✧ Internal thermal overload protection
- ✧ Available in either $\pm 5\%$ selections

Physical Characteristics:

Wafer Diameter 100 ± 0.5 mm
 Wafer thickness 420 ± 20 μm ;
 Die size 1.3×1.2 mm^2 ;
 Scribe width 80 μm
 Passivation PSG



Pad #	Pad name	Description	Bond Pad (μm)
1	OUT	Output	101 x 101
2	IN	Input	101 x 101
3	GND	Ground	101 x 101

- ◆ Maximum Ratings ($T_a = 25^\circ\text{C}$)
- ◆ Input Voltage – 30V
- ◆ Operating Junction Temperature ($T_j = 125^\circ\text{C}$)

Substrate is Common and should be connected to Pad 2

ELECTRICAL CHARACTERISTICS CHIPS ON WAFER ($T_a=25^\circ\text{C}$)

($V_{in}=15\text{V}$, $I_o=40\text{mA}$, $C_i=0.33\mu\text{F}$, $C_o=0.1\mu\text{F}$, $T_j = + 25^\circ\text{C}$, unless otherwise noted.)

Characteristic	Symbol	Test Condition	Min	Max	Unit
Output Voltage	V_o	$11.5\text{V} \leq V_{in} \leq 24\text{V}$, $1\text{mA} \leq I_o \leq 40\text{mA}$ $1\text{mA} \leq I_o \leq 70\text{mA}$	8.62 8.62	9.38 9.38	V
Line Regulation	ΔV_v	$11.5\text{V} \leq V_{in} \leq 24\text{V}$ $12\text{V} \leq V_{in} \leq 24\text{V}$		158 113	mV
Load Regulation	ΔV_i	$1\text{mA} \leq I_o \leq 100\text{mA}$ $1\text{mA} \leq I_o \leq 40\text{mA}$		81 36	mV
Quiescent Current	I_b			5.8	mA
Quiescent Current Change	ΔI_b	$11\text{V} \leq V_{in} \leq 23\text{V}$ $1\text{mA} \leq I_o \leq 40\text{mA}$		1.4 0.09	mA

* The parameters are guaranteed after scribing and chip encasement.