



## 78L05ACZ - 78L12ACZ

### Positive Voltage Regulators

#### GENERAL 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. Each of these regulators can deliver up to 100 mA of output current. The internal limiting and thermal-shutdown features of these regulators them essentially immune to overload. Compliance to RoHS.

#### FEATURES

- 3-Terminal Regulators
- Output Current up to 100 mA
- No External Components
- Short circuit Protection
- Internal Thermal-Overload Protection
- With TO92 package

#### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings	Value	Unit
$V_i$	Input Voltage DC	$V_o = 5\text{ V}$	30
		$V_o = 12\text{ V}$	35
$I_o$	Output Current	100	mA
$P_D$	Power Dissipation	Internally Limited	
$T_{OP}$	Operating Junction Temperature	0° to 125	°C
$T_{STG}$	Storage Temperature	-40° to 150	°C

#### THERMAL DATA

Symbol	Ratings	Value	Unit
$R_{thJA}$	From Junction to Free-Air Thermal Resistance	200	°C/W

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### ELECTRICAL CHARACTERISTICS OF 78L05ACZ

$V_i = 10\text{ V}$ ;  $I_o = 40\text{ mA}$ ;  $T_C = 25^\circ\text{C}$

Symbol	Ratings	Test Condition(s)	MIN	TYP	MAX	UNIT
$V_o$	Output Voltage	$T_C = 25^\circ\text{C}$	4.8	5	5.2	V
		$V_i = 7\text{ V to } 20\text{ V}$ $I_o = 1\text{ mA to } 40\text{ mA}$	4.75	5	5.25	
		$I_o = 1\text{ mA to } 70\text{ mA}$	4.75	5	5.25	
$\Delta V_o$	Line Regulation	$7\text{ V} \leq V_i \leq 20\text{ V}$	-	-	150	mV
		$8\text{ V} \leq V_i \leq 20\text{ V}$	-	-	100	
$\Delta V_o$	Load Regulation	$I_o = 1\text{ mA to } 100\text{ mA}$	-	-	60	mV
		$I_o = 1\text{ mA to } 40\text{ mA}$	-	-	30	
$I_B$	Quiescent Current		-	-	6	mA
$\Delta I_{B1}$	Quiescent Current Change	$8\text{ V} \leq V_i \leq 20\text{ V}$	-	-	1.5	mA
$\Delta I_{B2}$	Quiescent Current Change	$I_o = 1\text{ mA to } 40\text{ mA}$	-	-	0.1	mA

### ELECTRICAL CHARACTERISTICS OF 78L12ACZ

$V_i = 19\text{ V}$ ;  $I_o = 40\text{ mA}$ ;  $T_C = 25^\circ\text{C}$

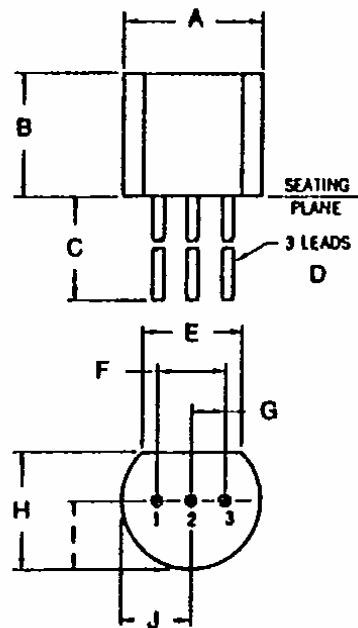
Symbol	Ratings	Test Condition(s)	MIN	TYP	MAX	UNIT
$V_o$	Output Voltage	$T_C = 25^\circ\text{C}$	11.5	12	12.5	V
		$V_i = 14.5\text{ V to } 27\text{ V}$ $I_o = 1\text{ mA to } 40\text{ mA}$	11.4	12	12.6	
		$I_o = 1\text{ mA to } 70\text{ mA}$	11.4	12	12.6	
$\Delta V_o$	Line Regulation	$14.7\text{ V} \leq V_i \leq 27\text{ V}$	-	-	250	mV
		$16\text{ V} \leq V_i \leq 27\text{ V}$	-	-	200	
$\Delta V_o$	Load Regulation	$1\text{ mA} \leq I_o \leq 100\text{ mA}$	-	-	100	mV
		$1\text{ mA} \leq I_o \leq 40\text{ mA}$	-	-	50	
$I_B$	Quiescent Current		-	-	6.5	mA
$\Delta I_{B1}$	Quiescent Current Change	$16\text{ V} \leq V_i \leq 27\text{ V}$	-	-	1.5	mA
$\Delta I_{B2}$	Quiescent Current Change	$1\text{ mA} \leq I_o \leq 40\text{ mA}$	-	-	0.1	mA

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### MECHANICAL DATA CASE TO92 REGULATOR

Pin 1 :	Input
Pin 2 :	GND
Pin 3 :	Output

DIMENSIONS		
mm	Min	Max
A	4,45	4,95
B	4,32	4,95
C	12,70	15,49
D	0,41	0,56
E	3,43	3,43
F	2,41	2,67
G	1,14	1,40
H	3,30	3,94
I	2,38	2,42
J	2,38	2,42



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