



**TO-92 Encapsulate Three-terminal Voltage Regulator**

**CJ78L05** Three-terminal positive voltage regulator

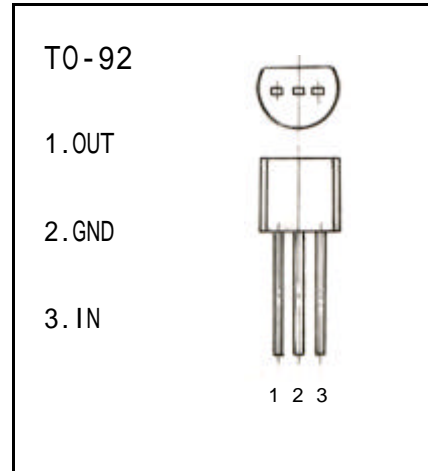
**FEATURES**

Maximum Output current

$I_{OM}$ : 0.1 A

Output voltage

$V_o$ : 5 V



**ABSOLUTE MAXIMUM RATINGS ( Operating temperature range applies unless otherwise specified )**

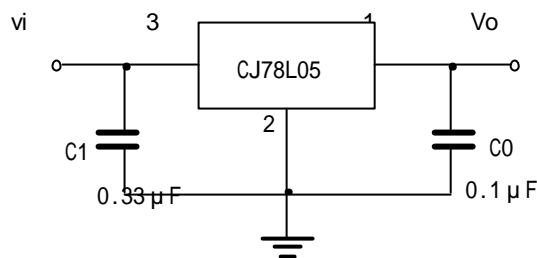
Parameter	Symbol	Value	Units
Input Voltage	$V_i$	30	V
Operating Junction Temperature Range	$T_{OPR}$	0—+125	
Storage Temperature Range	$T_{STG}$	-55-+150	

**ELECTRICAL CHARACTERISTICS**

( $V_i=10V, I_o=40mA, 0 < T_j < 125$  ,  $C_1=0.33 \mu F, C_o=0.1 \mu F$  , unless otherwise specified )

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Output voltage	$V_o$	$T_j=25$	4.8	5.0	5.2	V
		$7V \leq V_i \leq 20V, I_o=1mA-40mA$	4.75	5.0	5.25	V
		$7V \leq V_i \leq 20V, I_o=1mA-70mA$	4.75	5.0	5.25	V (note)
Load Regulation	$V_o$	$T_j=25$ , $I_o=1mA-100mA$		11	60	mV
		$T_j=25$ , $I_o=1mA-40mA$		5.0	30	mV
Line regulation	$V_o$	$7V \leq V_i \leq 20V, T_j=25$		32	150	mV
		$8V \leq V_i \leq 20V, T_j=25$		26	100	mV
Quiescent Current	$I_q$	$T_j=25$		3.8	6	mA
Quiescent Current Change	$I_q$	$8V \leq V_i \leq 20V$			1.5	mA
		$1mA \leq I_o \leq 40mA$			0.1	mA
Output Noise Voltage	$V_n$	10Hz $\leq f \leq$ 100KHz		42		$\mu V$
Ripple Rejection	RR	$8V \leq V_i \leq 18V, f=120Hz, T_j=25$	41	49		dB
Dropout Voltage	$V_d$	$T_j=25$		1.7		V

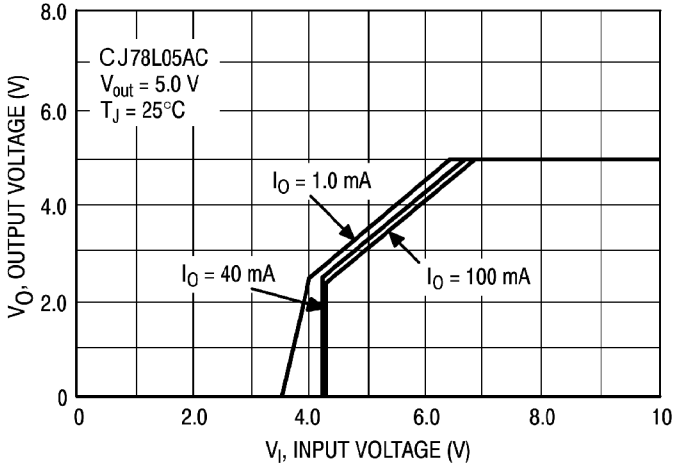
**TYPICAL APPLICATION**



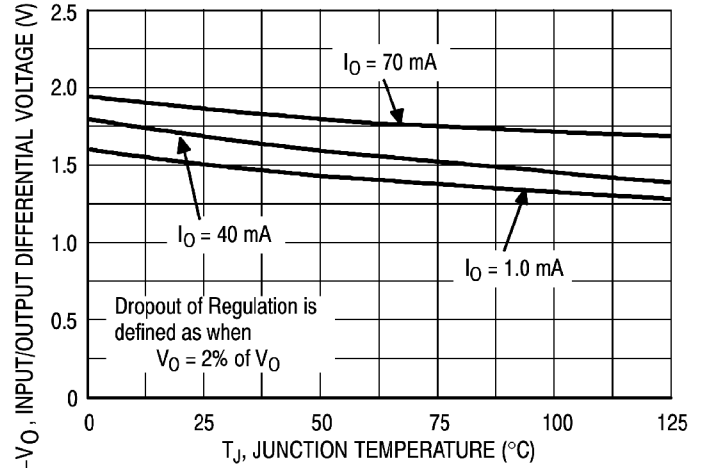
Note : Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

# Typical Characteristics

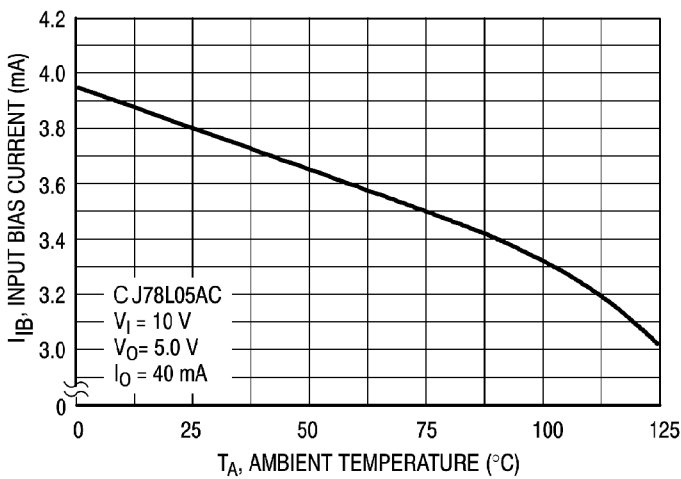
# CJ78L05



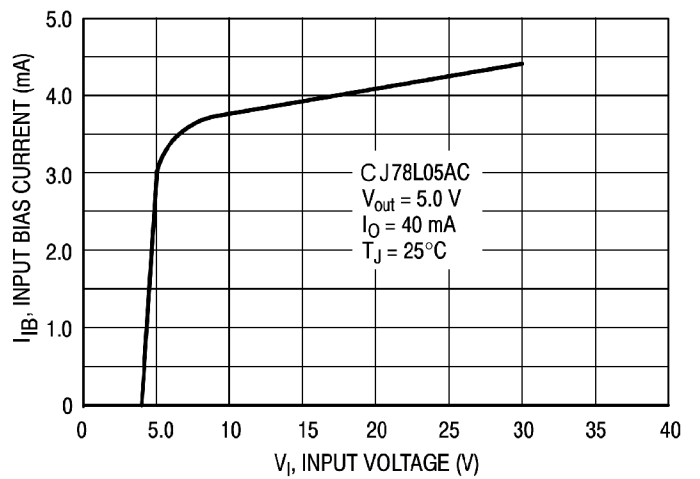
**Dropout Characteristics**



**Dropout Voltage versus Junction Temperature**



**Input Bias Current versus Ambient Temperature**



**Input Bias Current versus Input Voltage**

## TO-92 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.400	4.700	0.173	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270TYP		0.050TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Ö		1.600		0.063
∇	0.000	0.380	0.000	0.015