



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-92 Encapsulate Three-terminal Voltage Regulator

CJ78L05 Three-terminal positive voltage regulator

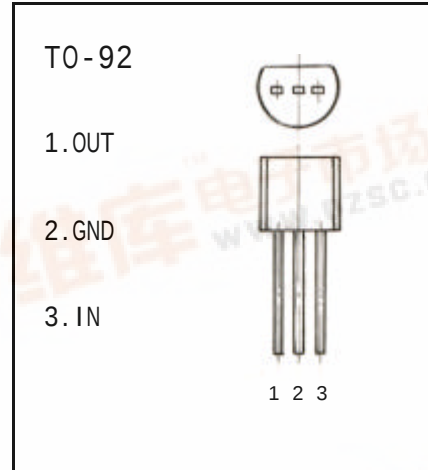
FEATURES

Maximum Output current

$I_{OM}: 0.1\text{ A}$

Output voltage

$V_O: 5\text{ V}$



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

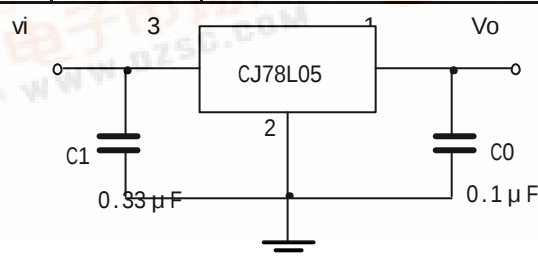
Parameter	Symbol	Value	Units
Input Voltage	V_I	30	V
Operating Junction Temperature Range	T_{OPR}	0—+125	
Storage Temperature Range	T_{STG}	-55—+150	

ELECTRICAL CHARACTERISTICS

($V_I=10\text{V}$, $I_O=40\text{mA}$, $0 < T_J < 125$, $C_1=0.33\text{ }\mu\text{F}$, $C_O=0.1\text{ }\mu\text{F}$, 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
		$7\text{V} \leq V_I \leq 20\text{V}$, $I_O=1\text{mA}-40\text{mA}$	4.75	5.0	5.25	V
		$7\text{V} \leq V_I \leq 20\text{V}$, $I_O=1\text{mA}-70\text{mA}$	4.75	5.0	5.25	V (note)
Load Regulation	V_O	$T_J=25$, $I_O=1\text{mA}-100\text{mA}$		11	60	mV
		$T_J=25$, $I_O=1\text{mA}-40\text{mA}$		5.0	30	mV
Line regulation	V_O	$7\text{V} \leq V_I \leq 20\text{V}$, $T_J=25$		32	150	mV
		$8\text{V} \leq V_I \leq 20\text{V}$, $T_J=25$		26	100	mV
Quiescent Current	I_q	$T_J=25$		3.8	6	mA
Quiescent Current Change	I_q	$8\text{V} \leq V_I \leq 20\text{V}$			1.5	mA
	I_q	$1\text{mA} \leq I_O \leq 40\text{mA}$			0.1	mA
Output Noise Voltage	V_n	$10\text{Hz} \leq f \leq 100\text{kHz}$		42		μV
Ripple Rejection	RR	$8\text{V} \leq V_I \leq 18\text{V}$, $f=120\text{Hz}$, $T_J=25$	41	49		dB
Dropout Voltage	V_d	$T_J=25$		1.7		V

TYPICAL APPLICATION

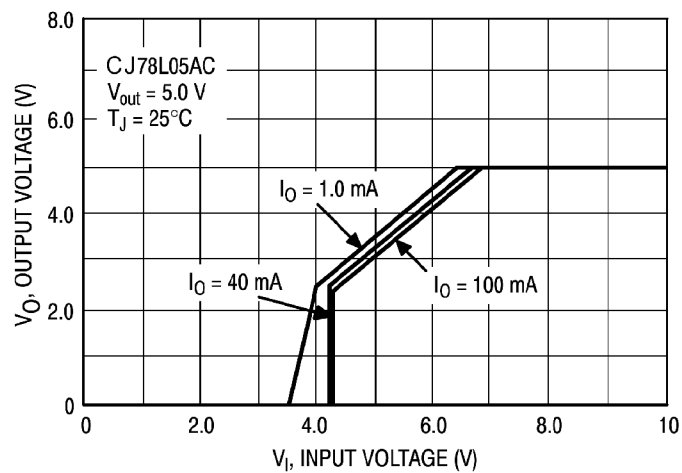


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

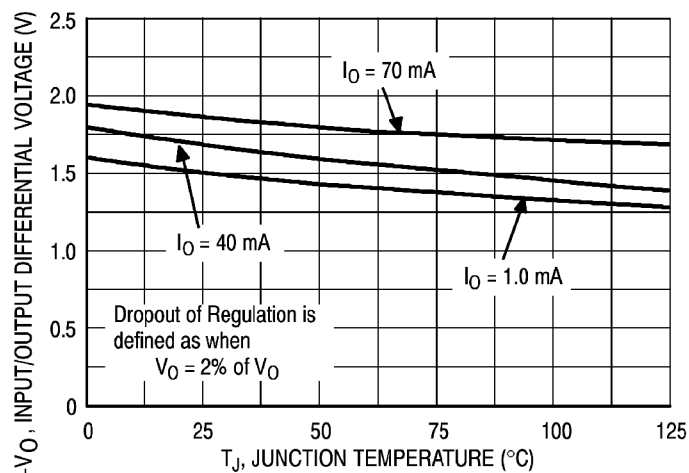


Typical Characteristics

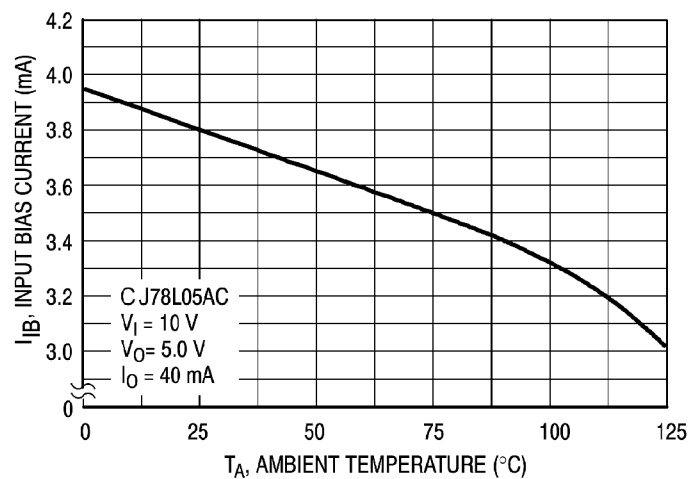
CJ78L05



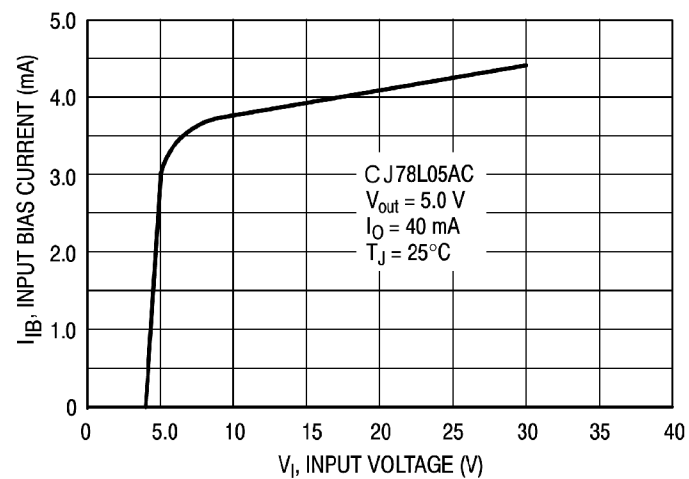
Dropout Characteristics



Dropout Voltage versus Junction Temperature

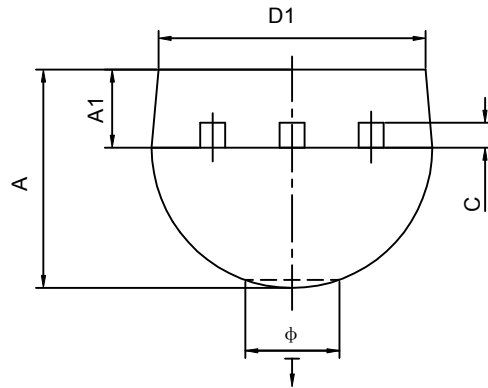
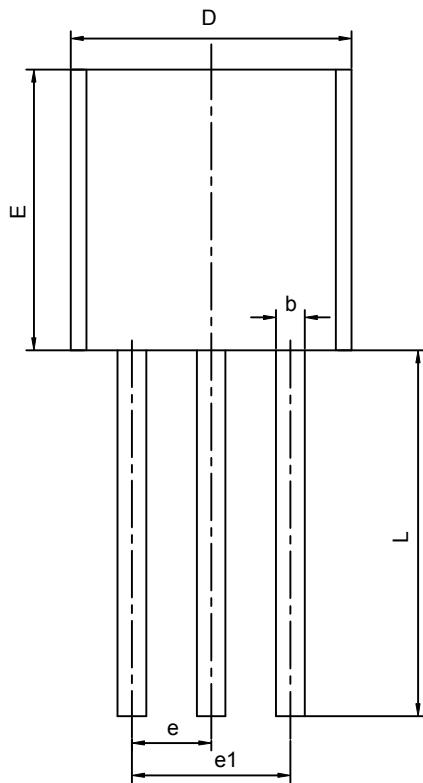


Input Bias Current versus Ambient Temperature



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
$\downarrow$	0.000	0.380	0.000	0.015