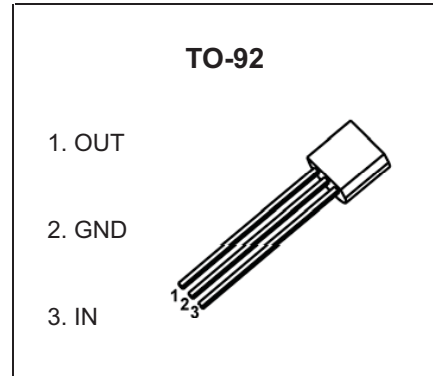


TO-92 Plastic-Encapsulate Voltage Regulators

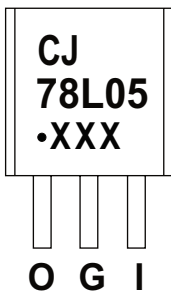
**CJ78L05** Three-terminal positive voltage regulator

**FEATURES**

- Maximum output current  
 $I_{OM}$ : 0.1A
- Output voltage  
 $V_O$ : 5V
- Continuous total dissipation  
 $P_D$ : 0.625 W ( $T_a=25\text{ }^\circ\text{C}$ )



**MARKING**



CJ78L05=Device code  
 Solid dot=Green molding compound device,  
 if none,the normal device  
 XXX=Code

**ORDERING INFORMATION**

Part Number	Package	Packing Method	Pack Quantity
CJ78L05	TO-92	Bulk	1000pcs/Bag
CJ78L05-TA	TO-92	Tape	2000pcs/Box

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

Parameter	Symbol	Value	Unit
Input Voltage	$V_i$	30	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	160	$^\circ\text{C/W}$
Operating Junction Temperature Range	$T_{OPR}$	-40~+125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65~+150	$^\circ\text{C}$

# ELECTRICAL CHARACTERISTICS

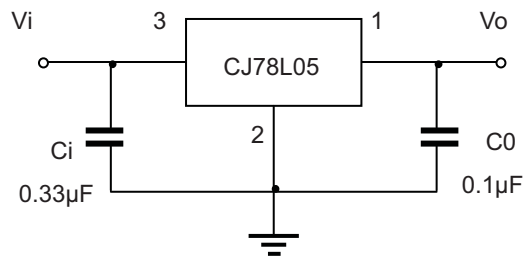
$T_a=25^\circ\text{C}$  unless otherwise specified

( $V_i=10\text{V}$ ,  $I_o=40\text{mA}$ ,  $C_i=0.33\mu\text{F}$ ,  $C_o=0.1\mu\text{F}$ , unless otherwise specified )

Parameter	Symbol	Test conditions		Min	Typ	Max	Unit	
Output voltage	$V_o$		$25^\circ\text{C}$	4.85	5.0	5.15	V	
				4.90	5.0	5.10	V	
		$7\text{V}\leq V_i\leq 20\text{V}$ , $I_o=1\text{mA}\sim 40\text{mA}$	$0\sim 125^\circ\text{C}$		4.75	5.0	5.25	V
				$I_o=1\text{mA}\sim 70\text{mA}$	4.75	5.0	5.25	V
Load Regulation	$\Delta V_o$	$I_o=1\text{mA}\sim 100\text{mA}$	$25^\circ\text{C}$		15	60	mV	
		$I_o=1\text{mA}\sim 40\text{mA}$	$25^\circ\text{C}$		8	30	mV	
Line regulation	$\Delta V_o$	$7\text{V}\leq V_i\leq 20\text{V}$			32	150	mV	
		$8\text{V}\leq V_i\leq 20\text{V}$	$25^\circ\text{C}$		26	100	mV	
Quiescent Current	$I_q$		$25^\circ\text{C}$		3.8	6	mA	
Quiescent Current Change	$\Delta I_q$	$8\text{V}\leq V_i\leq 20\text{V}$	$0\sim 125^\circ\text{C}$			1.5	mA	
	$\Delta I_q$	$1\text{mA}\leq I_o\leq 40\text{mA}$	$0\sim 125^\circ\text{C}$			0.1	mA	
Output Noise Voltage	$V_N$	$10\text{Hz}\leq f\leq 100\text{KHz}$	$25^\circ\text{C}$		42		$\mu\text{V}/V_o$	
Ripple Rejection	RR	$8\text{V}\leq V_i\leq 20\text{V}$ , $f=120\text{Hz}$	$0\sim 125^\circ\text{C}$	41	49		dB	
Dropout Voltage	$V_d$		$25^\circ\text{C}$		1.7		V	

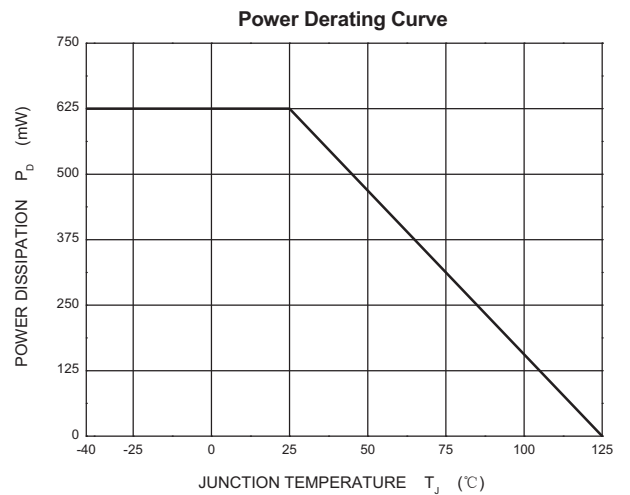
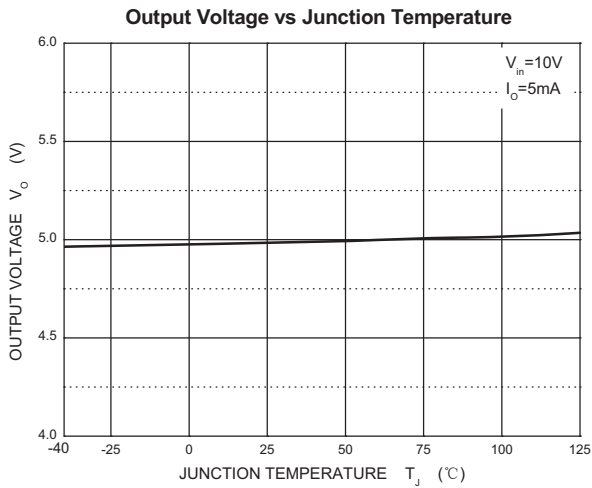
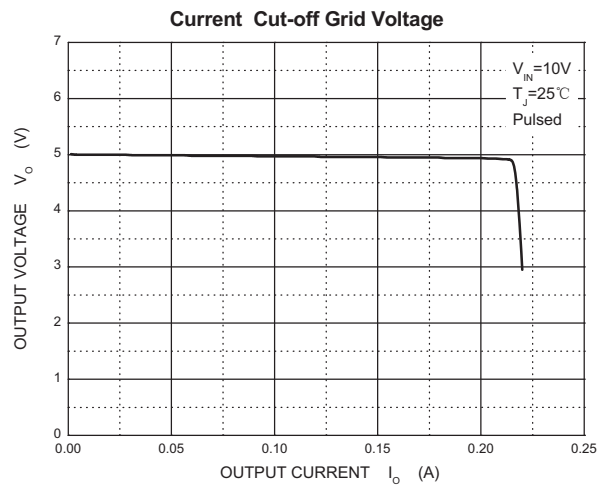
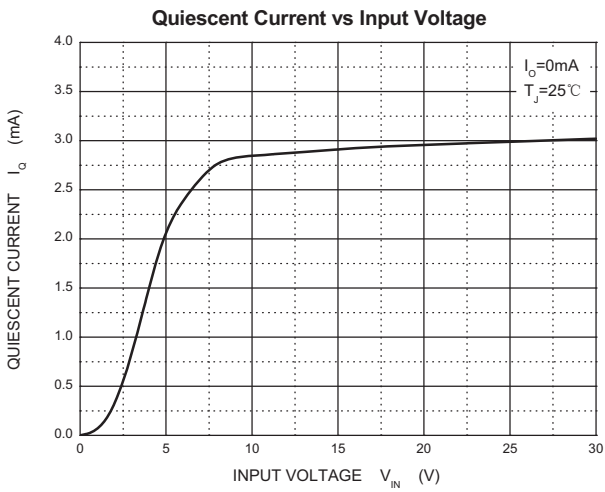
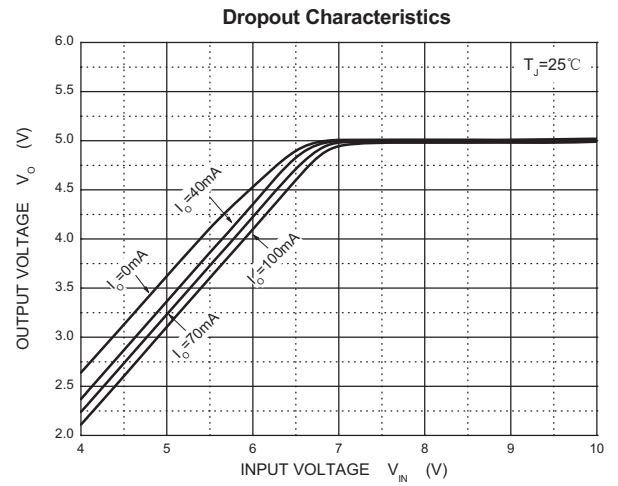
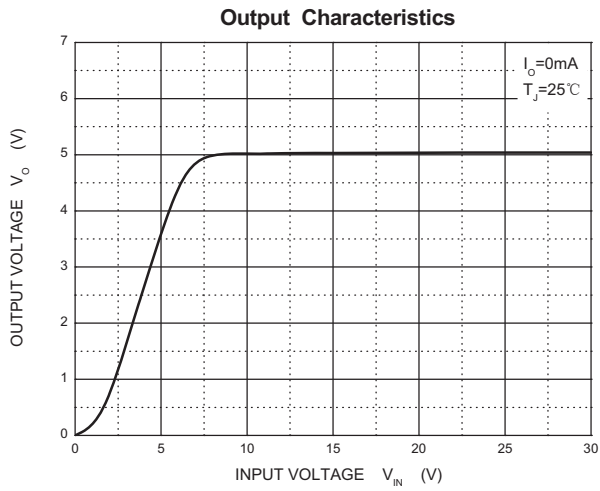
\* Pulse test.

## TYPICAL APPLICATION

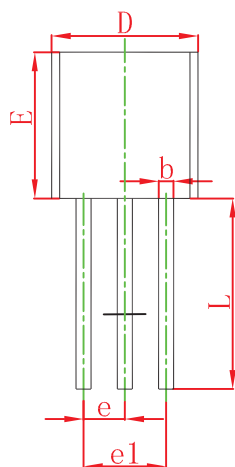
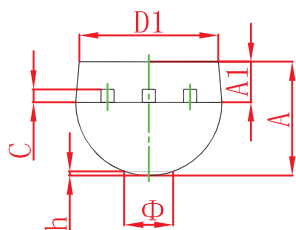


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

# Typical Characteristics

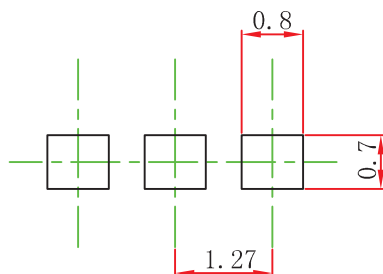


## TO-92 Package Outline Dimensions



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	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

## TO-92 Suggested Pad Layout



### Note:

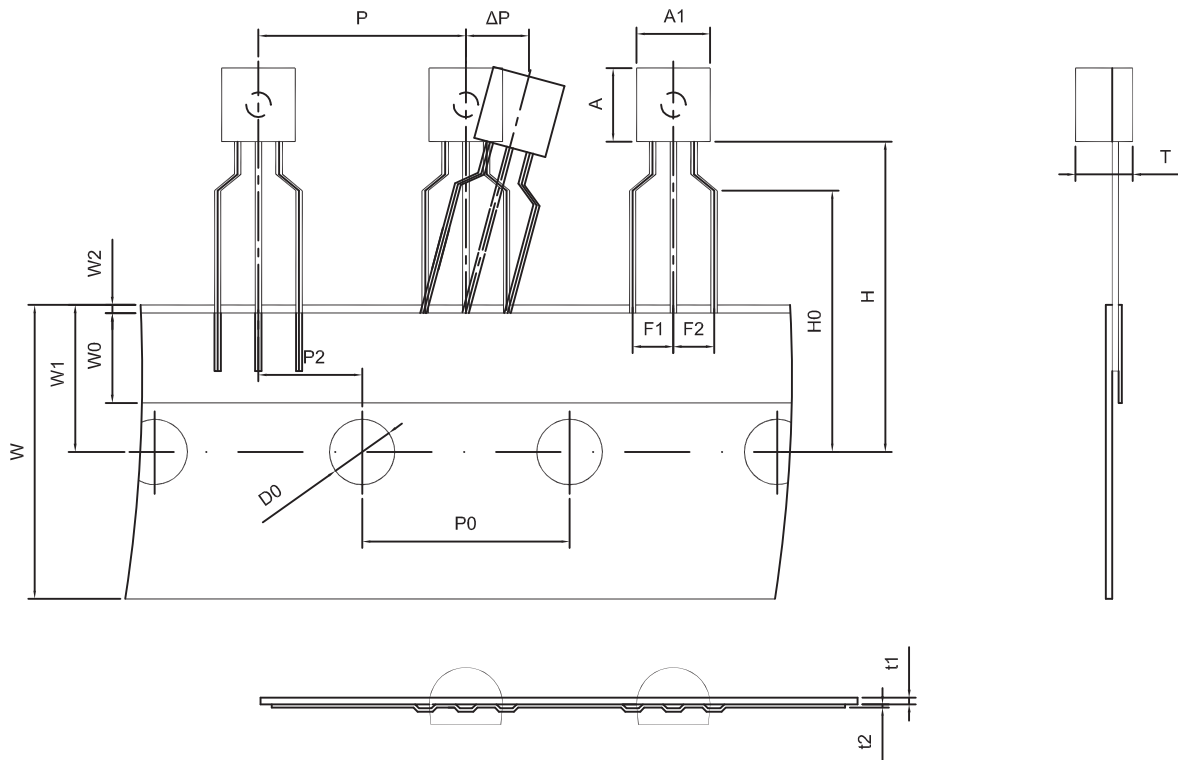
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

### NOTICE

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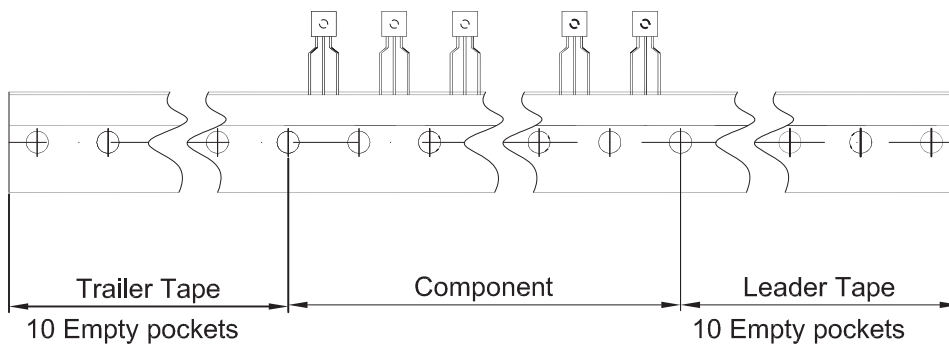
# TO-92 PACKAGE TAPEING DIMENSION

## TO-92 PACKAGE TAPEING DIMENSION



Dimensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250