

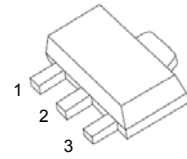


**JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD**  
**SOT-89-3L Encapsulate Three Terminal Voltage Regulators**

**CJ78L05** Three-terminal positive voltage regulator

**SOT-89-3L**

- 1. OUT
- 2. GND
- 3. IN



**FEATURES**

- Maximum Output Current  $I_O$ : 0.1 A
- Output Voltage  $V_O$ : 5 V
- Continuous Total Dissipation  $P_D$ : 0.5 W ( $T_a = 25^\circ\text{C}$ )

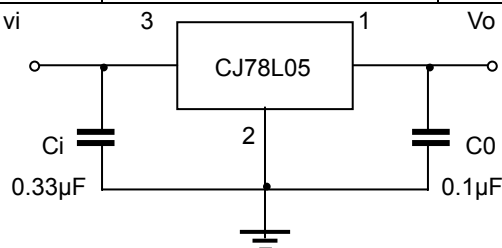
**ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)**

Parameter	Symbol	Value	Unit
Input Voltage	$V_I$	30	V
Operating Junction Temperature Range	$T_{OPR}$	0~+150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55~+150	$^\circ\text{C}$

**ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE ( $V_i=10\text{V}, I_o=40\text{mA}, C_i=0.33\mu\text{F}, C_o=0.1\mu\text{F}$ , unless otherwise specified)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit	
Output voltage	$V_o$	$25^\circ\text{C}$	4.8	5.0	5.2	V	
		$7\text{V} \leq V_i \leq 20\text{V}, I_o = 1\text{mA} \sim 40\text{mA}$	0-125 $^\circ\text{C}$	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	$\Delta I_q$	$8\text{V} \leq V_i \leq 20\text{V}$	0-125 $^\circ\text{C}$			1.5	mA
		$1\text{mA} \leq I_o \leq 40\text{mA}$	0-125 $^\circ\text{C}$			0.1	mA
Output Noise Voltage	$V_N$	10Hz $\leq f \leq 100\text{KHz}$	$25^\circ\text{C}$		42	$\mu\text{V}$	
Ripple Rejection	RR	$8\text{V} \leq V_i \leq 20\text{V}, f = 120\text{Hz}$	0-125 $^\circ\text{C}$	41	49	dB	
Dropout Voltage	$V_d$	$25^\circ\text{C}$		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.

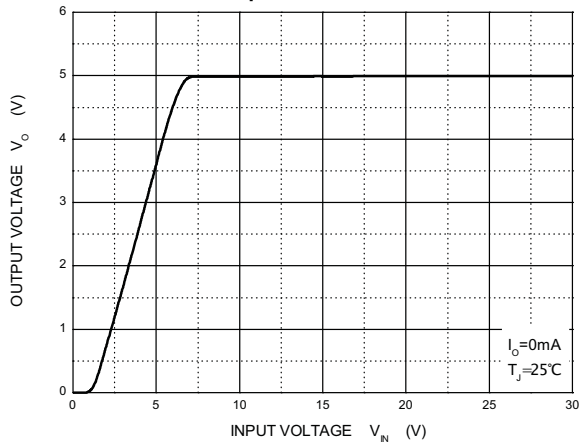
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总机: 025-52188228    客服: 400-888-5058  
 技术: 025-84712971    邮箱: TECH@NSCN.COM.CN  
 南京南山半导体有限公司

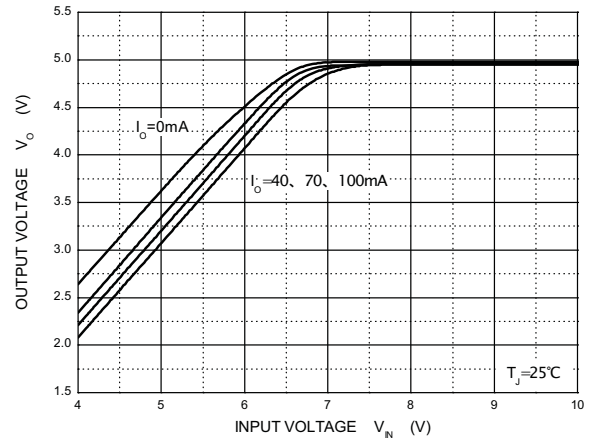
# Typical Characteristics

# CJ78L05

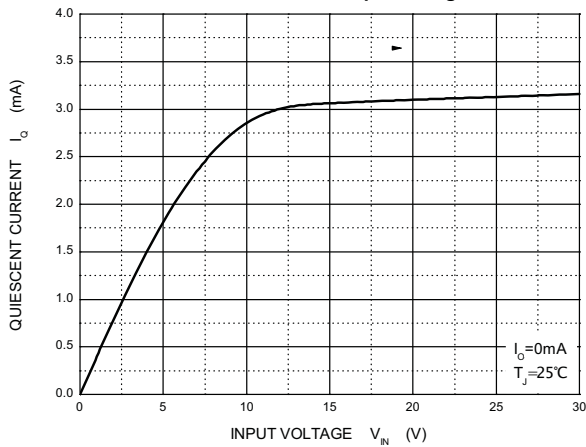
Output Characteristics



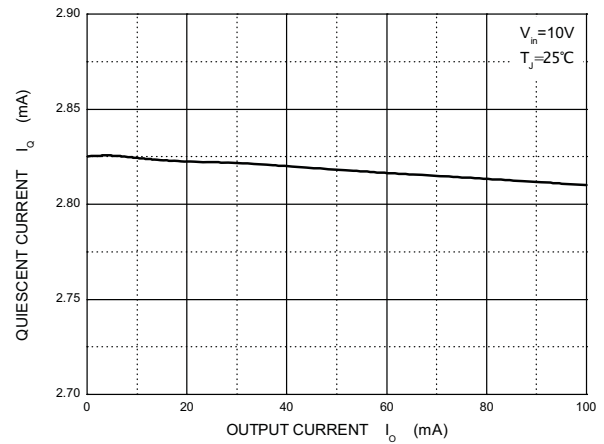
Dropout Characteristics



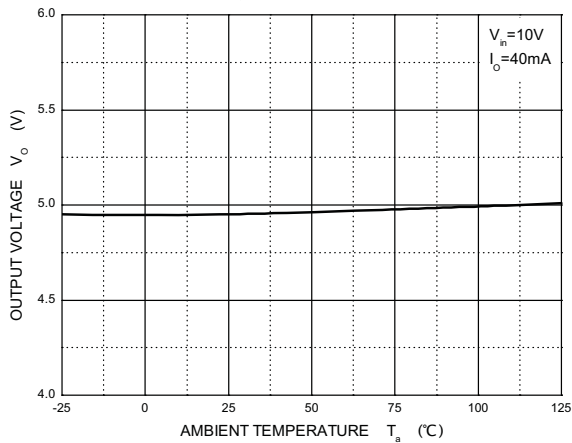
Quiescent Current vs Input Voltage



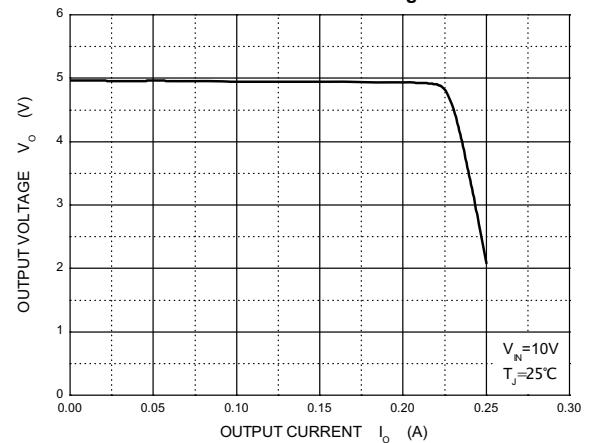
Quiescent Current vs Output Current



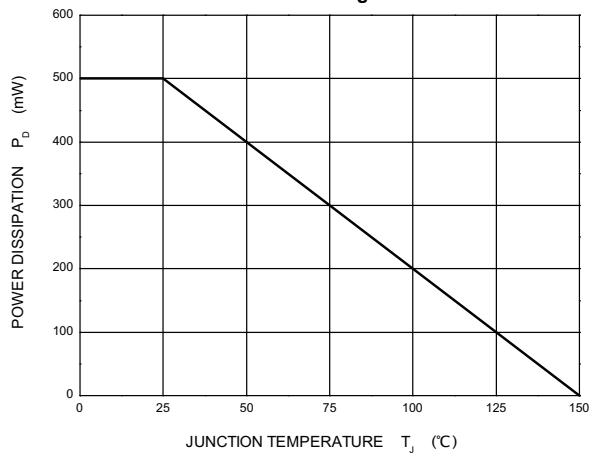
Output Voltage vs Ambient Temperature



Current Cut-off Grid Voltage



Power Derating Curve



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