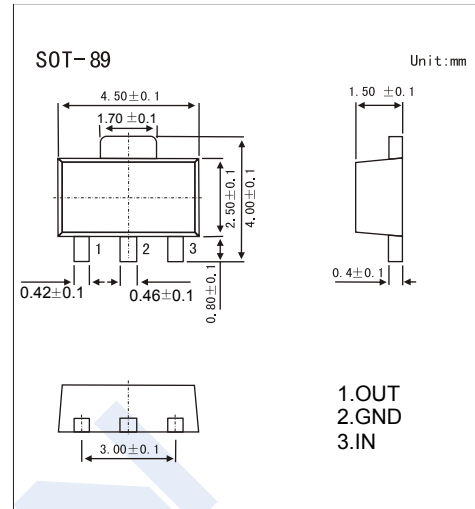


## Three-Terminal Voltage Regulator

### 78L05

#### ■ Features

- Maximum output current:  $I_{OM}=0.1A$ .
- Output voltage:  $V_o=5V$ .
- Continuous total dissipation:  $P_D: 0.5 W$



#### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Input Voltage	$V_I$	30	V
Operating junction temperature range	$T_{OPR}$	-55 to +125	$^\circ C$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^\circ C$

#### ■ Electrical Characteristics ( $V_I=10V, I_o=40mA, 0^\circ C < T_j < 125^\circ C, C_1=0.33 \mu F, C_o=0.1 \mu F$ , unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	$V_o$	$T_j=25^\circ C$	4.8	5.0	5.2	V
		$7V \leq V_I \leq 20V, I_o=1mA-40mA$	4.75	5.0	5.25	V
		$I_o=1mA-70mA$	4.75	5.0	5.25	V
Load regulation	$\Delta V_o$	$T_j=25^\circ C, I_o=1mA-100mA$		15	60	mV
		$T_j=25^\circ C, I_o=1mA-40mA$		8	30	mV
Line regulation	$\Delta V_o$	$7V \leq V_I \leq 20V, T_j=25^\circ C$		32	150	mV
		$8V \leq V_I \leq 20V, T_j=25^\circ C$		26	100	mV
Quiescent current	$I_q$	$T_j=25^\circ C$		3.8	6	mA
Quiescent current change	$\Delta I_q$	$0^\circ C < T_j < 125^\circ C, 8V \leq V_I \leq 20V$			1.5	mA
	$\Delta I_q$	$0^\circ C < T_j < 125^\circ C, 1mA \leq I_o \leq 40mA$			0.1	mA
Output noise voltage	$V_N$	$10Hz \leq f \leq 100KHz$		42		$\mu V$
Ripple rejection	RR	$8V \leq V_I \leq 20V, f=120Hz, T_j=25^\circ C$	41	49		dB
Dropout voltage	$V_d$	$T_j=25^\circ C$		1.7		V

#### ■ Typical application.

