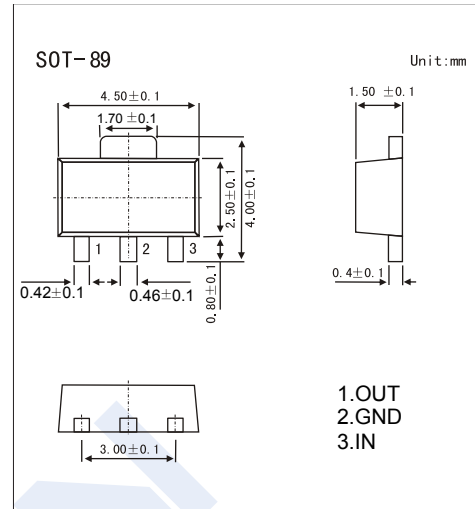


Three-Terminal Voltage Regulator

78L05

■ Features

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



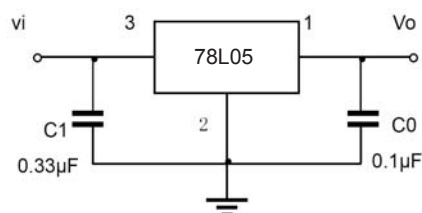
■ Absolute Maximum Ratings $T_a = 25^\circ C$

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)

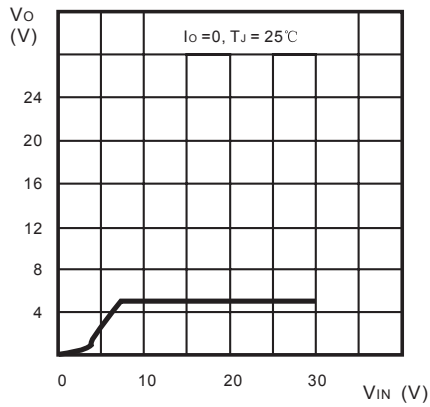
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	V_o	$T_j=25^\circ C$	4.8	5.0	5.2	V
		$7V \leq V_I \leq 20V, I_o=1mA-40mA$	4.75	5.0	5.25	V
		$I_o=1mA-70mA$	4.75	5.0	5.25	V
Load regulation	ΔV_o	$T_j=25^\circ C, I_o=1mA-100mA$		15	60	mV
		$T_j=25^\circ C, I_o=1mA-40mA$		8	30	mV
Line regulation	ΔV_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	ΔI_q	$0^\circ C < T_j < 125^\circ C, 8V \leq V_I \leq 20V$			1.5	mA
	ΔI_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		μV
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.

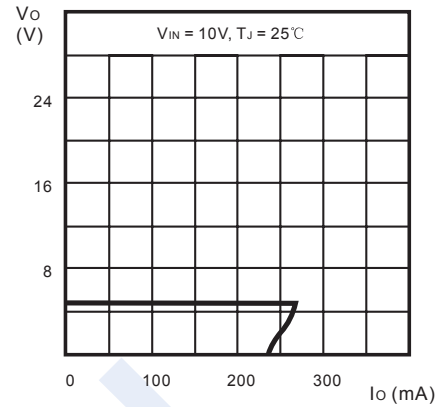


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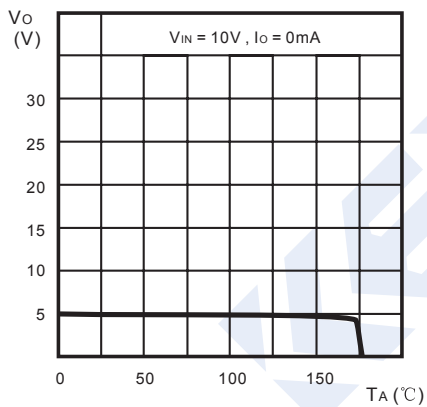
■ Typical Characteristics



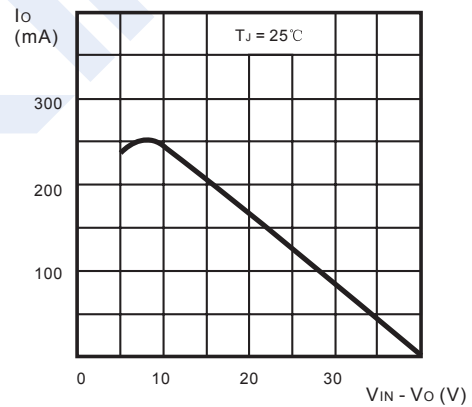
Output Characteristics



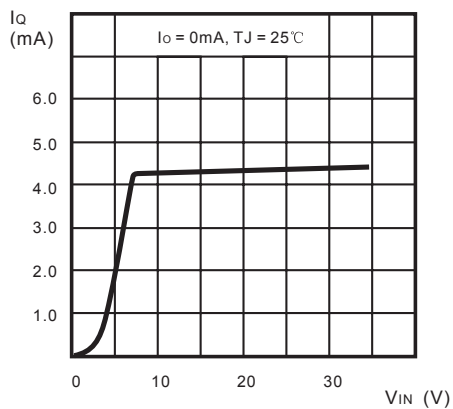
Load Characteristics



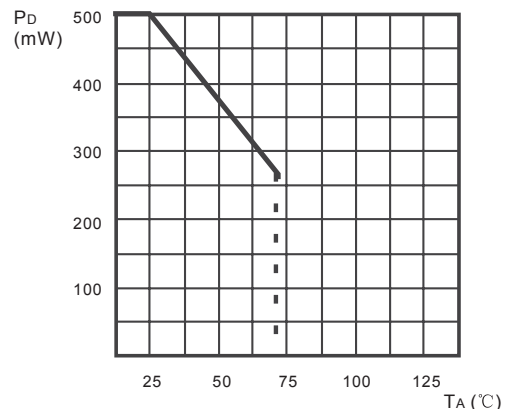
Thermal Shutdown



Short Circuit Output Current



Quiescent Current vs Input Voltage



Power Dissipation vs. Ambient Temperature