

Three-terminal positive voltage regulator

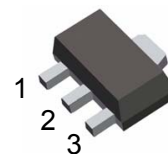
Maximum output current I_O : 0.1 A

Output voltage V_O : 5 V

Continuous total dissipation

SOT-89 0.5 W ($T_a = 25^\circ\text{C}$)

SOT-89



1. OUT 3. GND 3. IN

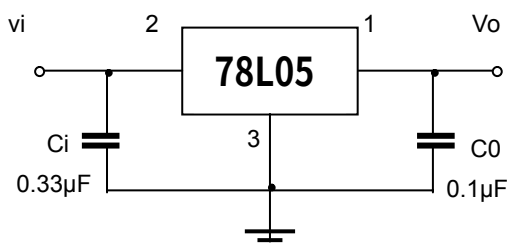
ABSOLUTE MAXIMUM RATINGS (Operating temperature range applies unless otherwise specified)

Parameter	Symbol	Value	Unit
Input Voltage	V_I	30	V
Operating Junction Temperature Range	T_{OPR}	$0 \sim +125$	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	$-55 \sim +150$	$^\circ\text{C}$

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°C	4.8	5.0	5.2	V
		$7\text{V} \leq V_I \leq 20\text{V}$, $I_O = 1\text{mA} \sim 40\text{mA}$	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	ΔV_O	$I_O = 1\text{mA} \sim 100\text{mA}$		15	60	mV
		$I_O = 1\text{mA} \sim 40\text{mA}$		8	30	mV
Line regulation	ΔV_O	$7\text{V} \leq V_I \leq 20\text{V}$		32	150	mV
		$8\text{V} \leq V_I \leq 20\text{V}$		26	100	mV
Quiescent Current	I_q	25°C		3.8	6	mA
Quiescent Current Change	ΔI_q	$8\text{V} \leq V_I \leq 20\text{V}$			1.5	mA
	ΔI_q	$1\text{mA} \leq V_I \leq 40\text{mA}$			0.1	mA
Output Noise Voltage	V_N	$10\text{Hz} \leq f \leq 100\text{KHz}$		42		μV
Ripple Rejection	RR	$8\text{V} \leq V_I \leq 20\text{V}$, $f = 120\text{Hz}$	41	49		dB
Dropout Voltage	V_d	25°C		1.7		V

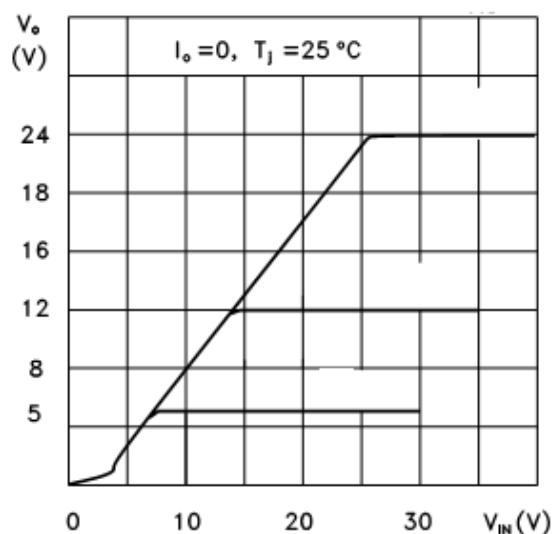
TYPICAL APPLICATION



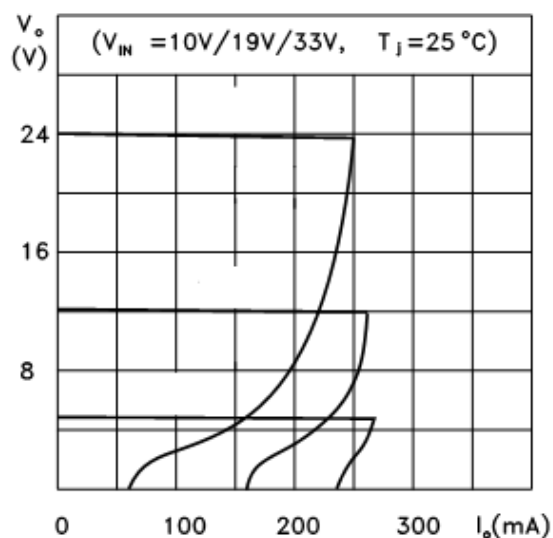
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as Possible to the regulators.

Typical Characteristics

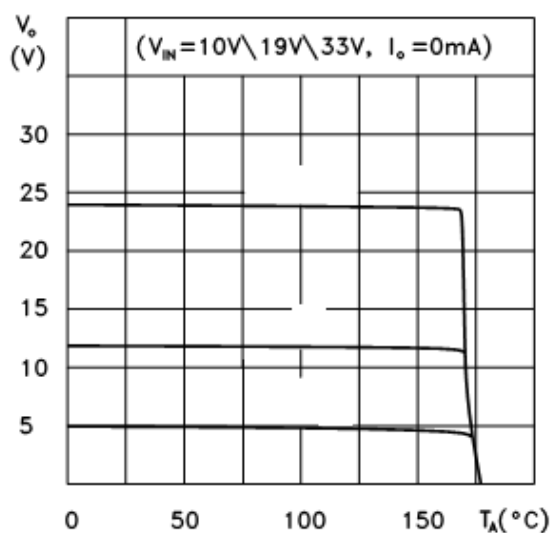
Output Characteristics



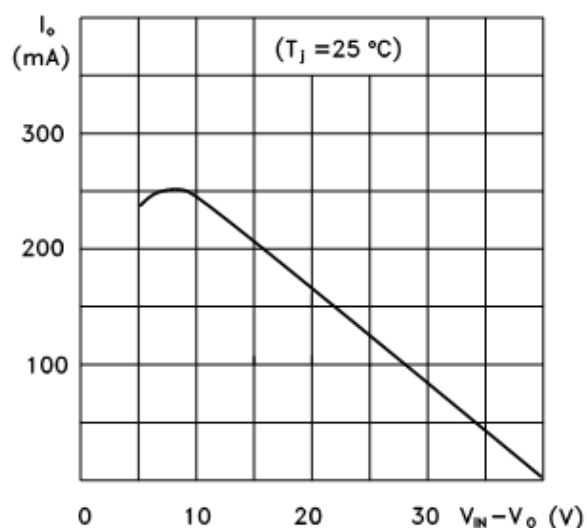
Load Characteristics



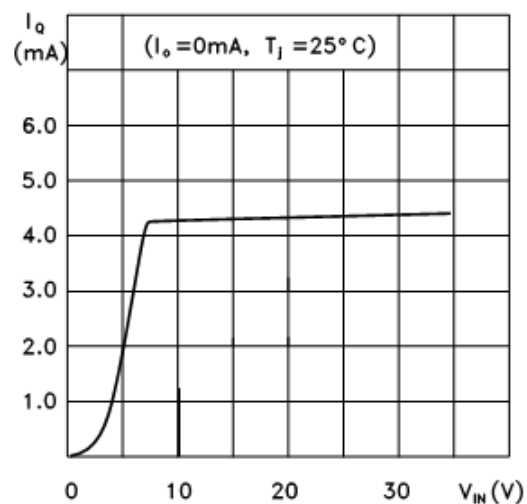
Thermal Shutdown



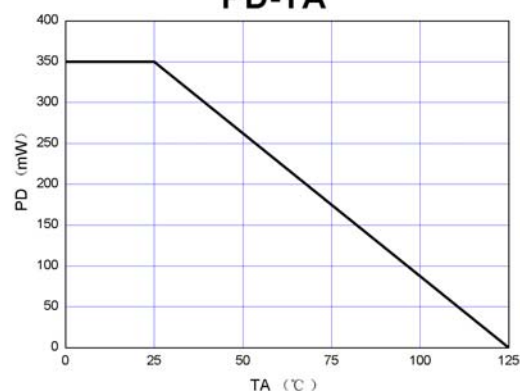
Series Short Circuit Output Current



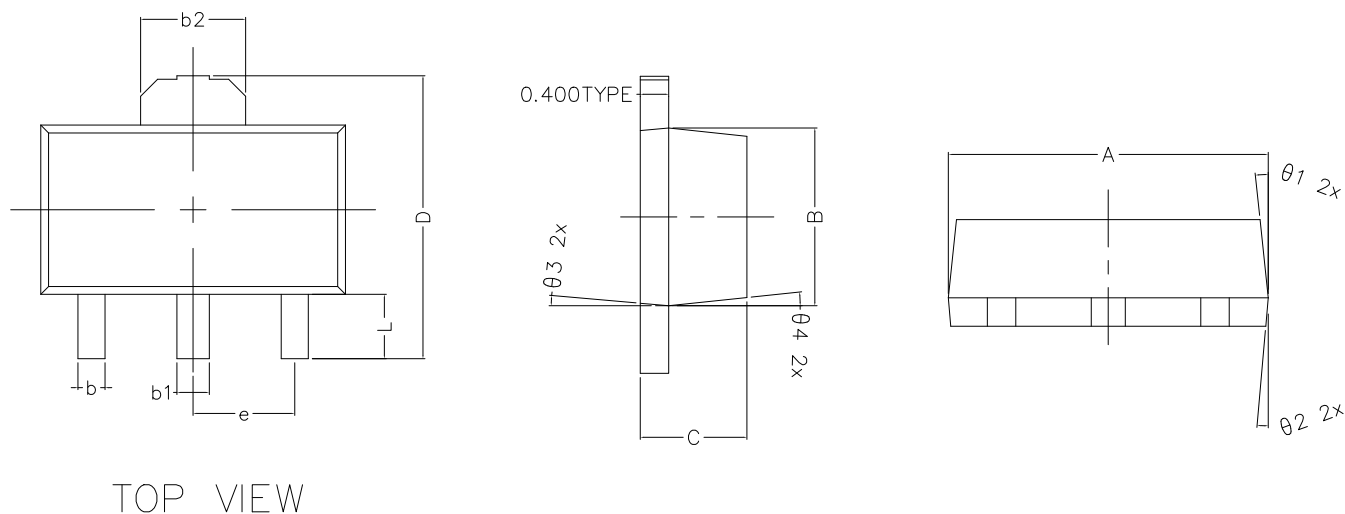
Quiescent Current vs Input Voltage



PD-TA



SOT-89 Package Outline Dimensions (Units: mm)



	MIN	NORMAL	MAX
A	4.450	4.550	4.650
B	2.450	2.550	2.650
C	1.400	1.500	1.600
D	4.100	4.200	4.300
L	0.850	0.950	1.050
b	0.350	0.400	0.450
b1	0.430	0.480	0.530
b2	1.500	1.550	1.600
e	1.500TYPE		
θ_1	6° TYPE		
θ_2	5° TYPE		
θ_3	5° TYPE		
θ_4	6° TYPE		