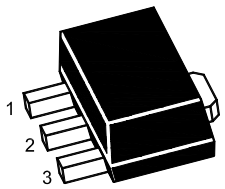
3-Terminal Positive Voltage Regulator

FEATURES

- Maximum output current
  I_{OM}: 0.1A
- Output voltage
  V_O: 5V
- Continuous total dissipation
  P_D: 0.6 W (T_a= 25 ℃)



1.OUT 2.GND 3.IN

SOT-89 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

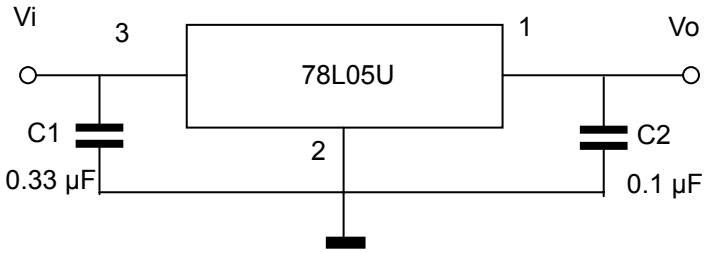
Parameter	Symbol	Rating	Unit
Input Voltage	V_I	30	V
Power Dissipation	P_{tot}	600 [1)]	mW
Operating Temperature	T_{opr}	- 20 to + 120	°C
Storage Temperature Range	T_{stg}	- 55 to +150	°C

[1)] 15 mm X 25 mm X 0.7 mm alumina ceramic board, $T_a \leq 25$ °C

Electrical Characteristics (T_a = 25 °C)

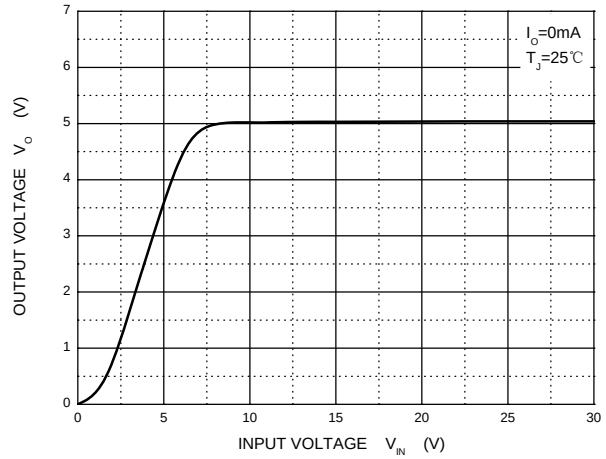
(Unless otherwise specified, 0 °C ≤ T_J ≤ 125 °C, V_I = 10 V, I_O = 40 mA, C_I = 0.33 μF, C_O = 0.1 μF)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Output Voltage	V_O	T_j = 25 °C	4.8	5	5.2	V
		7 V ≤ V_I ≤ 20 V, 1 mA ≤ I_O ≤ 40 mA	4.75	-	5.25	V
		V_I = 10 V, 1 mA ≤ I_O ≤ 70 mA	4.75	-	5.25	V
Line Regulation	Regline	7 V ≤ V_I ≤ 20 V, T_j = 25 °C	-	-	150	mV
		8 V ≤ V_I ≤ 20 V, T_j = 25 °C	-	-	100	
Load Regulation	Regload	1 mA ≤ I_O ≤ 100 mA, T_j = 25 °C	-	-	60	mV
		1 mA ≤ I_O ≤ 40 mA, T_j = 25 °C	-	-	30	
Quiescent Current	I_Q	T_j = 25 °C	-	-	5.5	mA
Quiescent Current Change	ΔI_Q	8 V ≤ V_I ≤ 20 V	-	-	1.5	mA
		1 mA ≤ I_O ≤ 40 mA	-	-	0.1	
Output Noise Voltage	V_N	10 Hz ≤ f ≤ 100 KHz, T_j = 25 °C	-	40	-	μV
Ripple Rejection	RR	f = 120 Hz, 8 V ≤ V_I ≤ 18 V, T_j = 25 °C	41	-	-	dB
Dropout Voltage	V_{Drop}	T_j = 25 °C	-	1.7	-	V

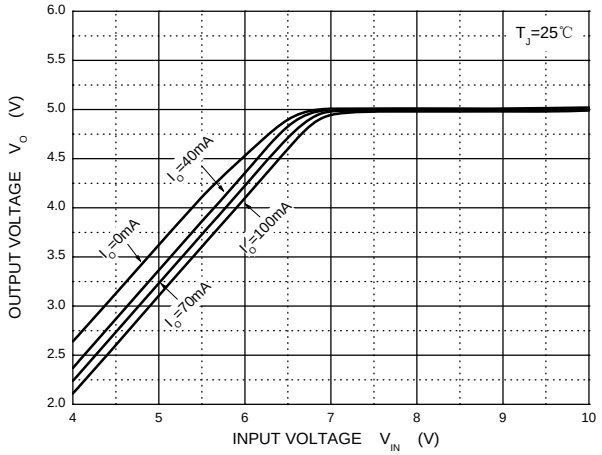


Typical Characteristics

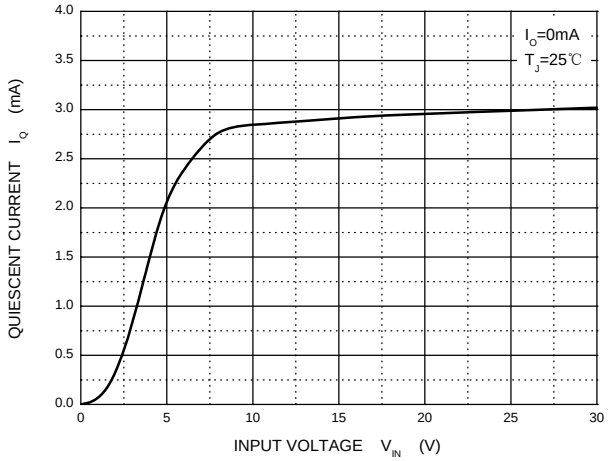
Output Characteristics



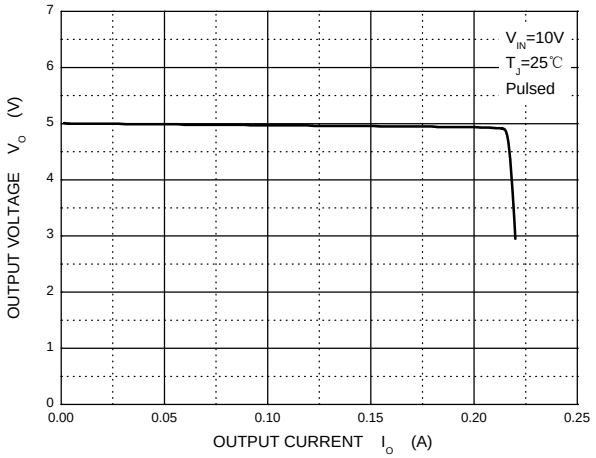
Dropout Characteristics



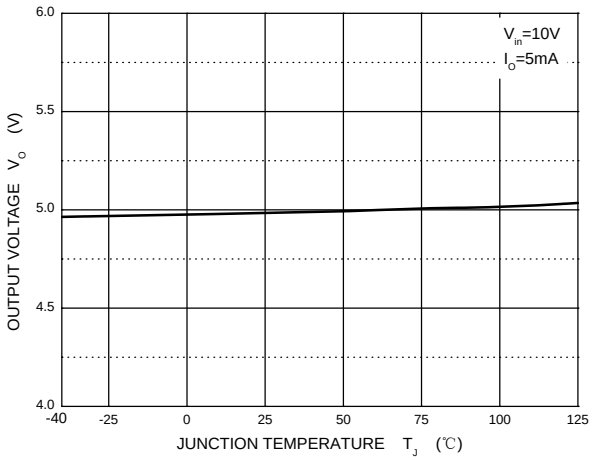
Quiescent Current vs Input Voltage



Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



Power Derating Curve