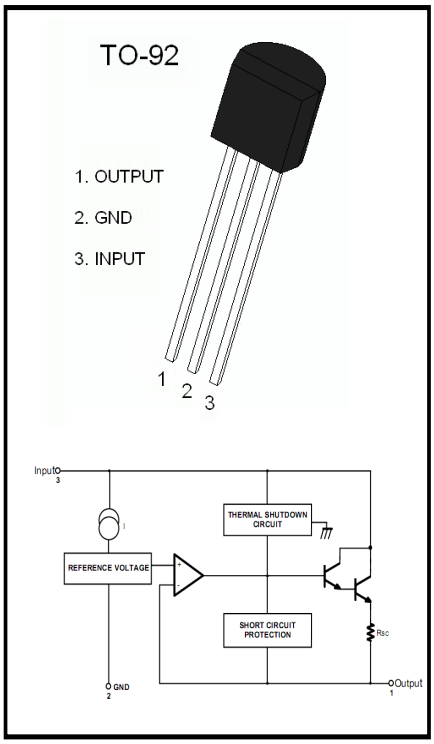
3-terminal 5V 0.1A positive voltage regulator

Description

The 78L05 of fixed voltage monolithic integrated circuit voltage regulators are suitable for application that required supply current up to100mA.



Features

- Maximum Output Current of 100mA
- Output Voltage of 5V
- Thermal Overload Protection
- Short Circuit Current Limiting
- Output Voltage Offered in ±5% Tolerance

Internal Block Digram

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage	V_{IN}	30	V
Operating Temperature Range	T_{OPR}	0 ~ + 125	℃
Storage Temperature Range	T_{STG}	-55 ~ + 150	℃

Electrical Characteristics

(V_I = 10V, I_O = 40mA, 0℃≤TJ ≤125℃, C_I = 0.33μF, C_O = 0.1μF, unless otherwise specified. (Note)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Output Voltage	V_O	Tj = 25℃	4.8	5	5.2	V
Line Regulation(Note)	ΔV_O	V_I = 7 ~ 20V，Tj = 25℃			150	mV
		V_I = 8 ~ 20V，Tj = 25℃			100	
Load Regulation(Note)	ΔV_O	I_O= 1 ~ 100mA ，Tj = 25℃			60	mV
		I_O= 1 ~ 40mA， Tj = 25℃			30	
Quiescent Current	I_Q	Tj = 25℃			6	mA
Quiescent Current Change	ΔI_Q	I_O=1 ~ 40mA			0.1	mA
		I_O=40mA，V_I = 8 ~ 20V			1.5	
Output Voltage Drift	$\Delta V / \Delta T$	I_O = 5mA，T_J = 0 to +125		-0.65		mV/℃
Output Noise Voltage	V_N	$10H_Z$≤ f ≤$100KH_Z$		40		μV
Ripple Rejection	RR	f = 120Hz, V_I = 8 to 18V， = 25℃	41			dB
Dropout Voltage	V_d			1.7		V

Notes:The maximum steady state usable output current and input voltage are very dependent on the heat Sinking and/or lead lengthof the package. The data above represent pulse test conditions with junction temperature as indicated at the initiation of tests.

Typical Characteristics

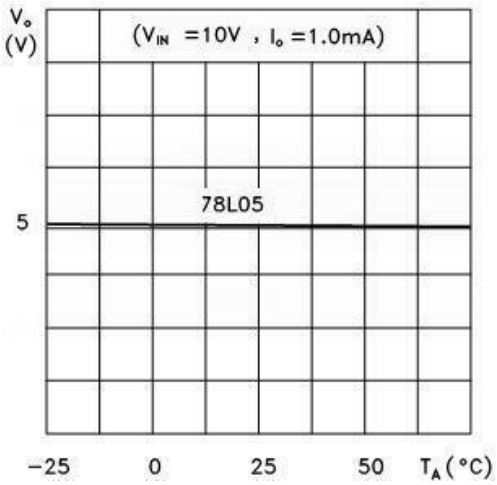


Figure 1 : Output Voltage vs AmbientTemperature

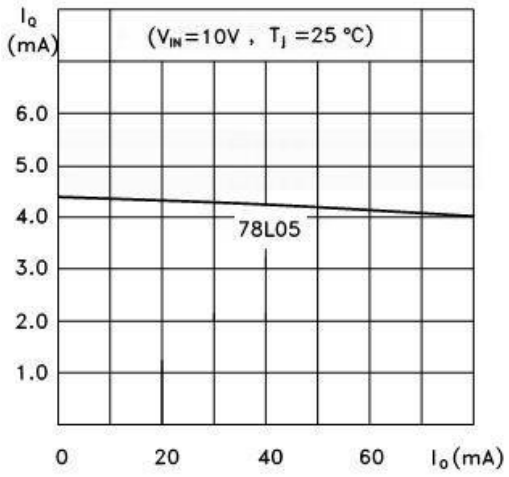


Figure 2 : Quiescent Current vs Output Current

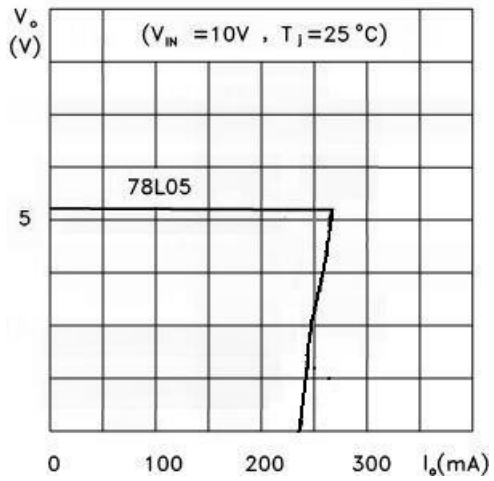


Figure 3 : Load Characteristics

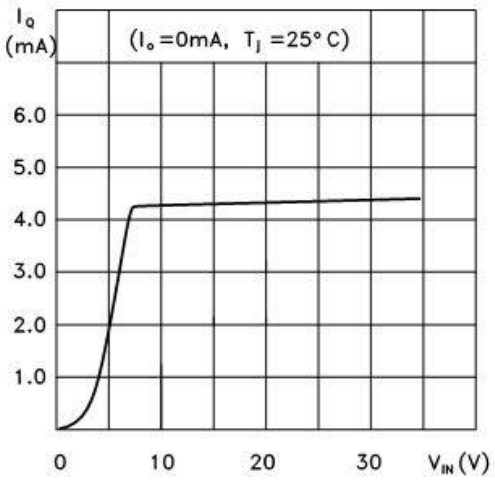


Figure 4 : Quiescent Current vs Input Voltage

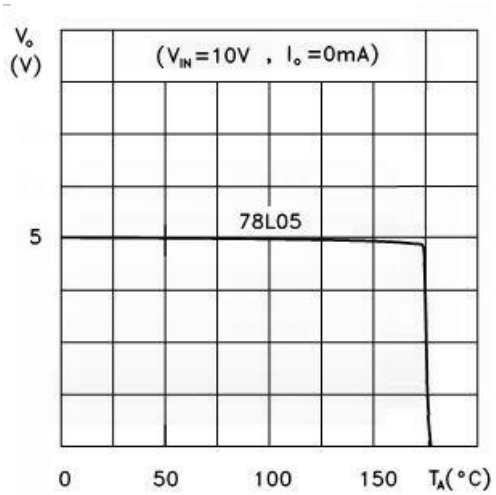


Figure5 : Thermal Shutdown

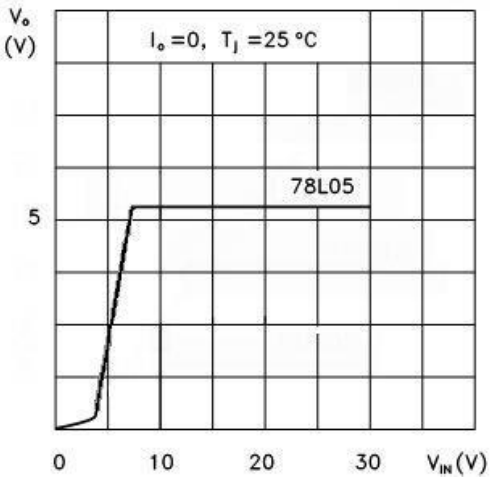


Figure 6 : Output Characteristics

Typical Characteristics

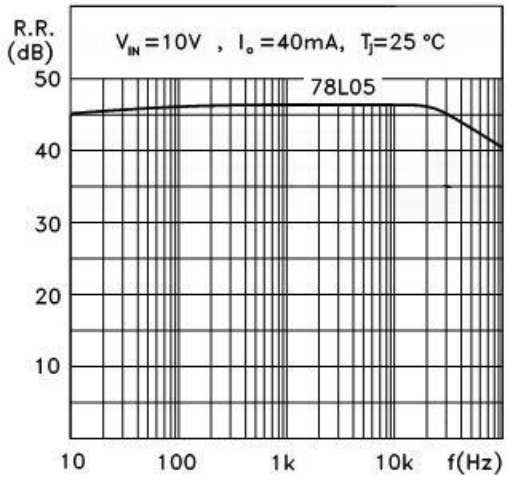


Figure 7 : Ripple Rejection

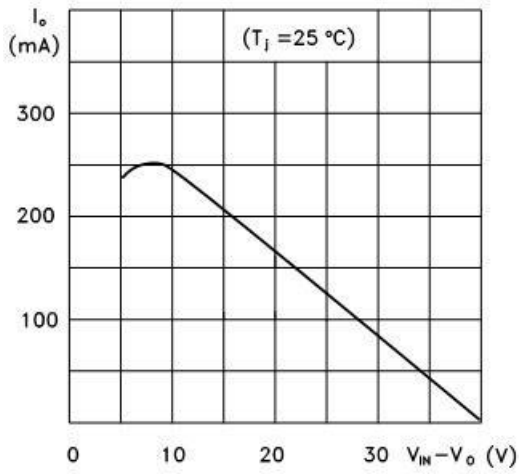


Figure 8 : Series Short Circuit Output Current

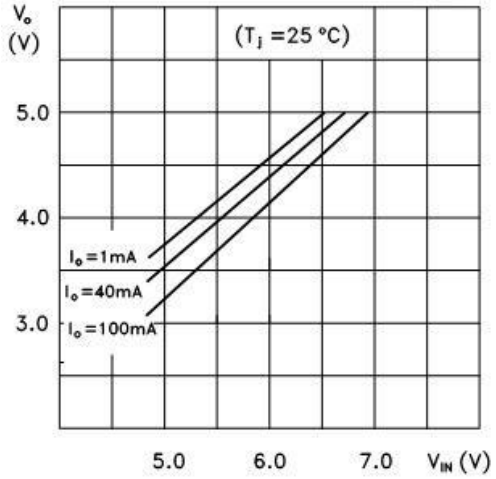


Figure 9 : Dropout Characteristics

Package Dimensions (Unit:mm)

