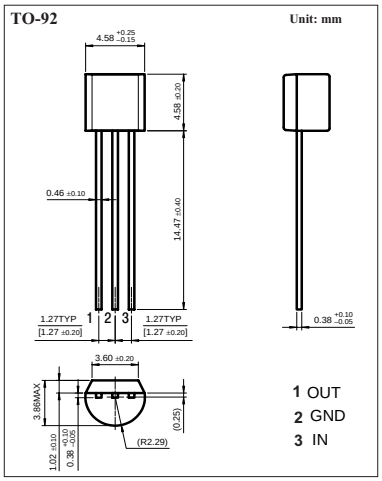
Three-Terminal Positive Voltage Regulator
78L05



Features

- Maximum output current:I_{OM}=0.1A.
- Output voltage:V_O=5V.
- Continuous total dissipation:P_D: 0.625 W (Ta=25℃)

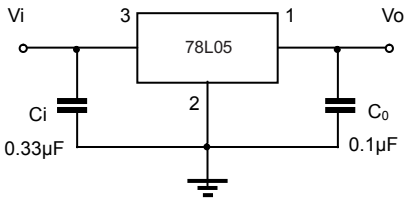
Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Input Voltage	V_I	30	V
Operating junction temperature range	T_{OPR}	0 to +125	℃
Storage Temperature Range	T_{STG}	-55 to +150	℃

Electrical Characteristics (V_I=10V,Io=40mA,0℃<Tj<125℃,C1=0.33μF,Co=0.1μF,unless otherwise specified)

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Output voltage	V_O	Tj=25℃	4.8	5.0	5.2	V
		7V≤V_I≤20V, Io=1mA-40mA	4.75	5.0	5.25	V
		Io=1mA-70mA	4.75	5.0	5.25	V
Load regulation	$\triangle V_O$	Tj=25℃, Io=1mA-100mA		15	60	mV
		Tj=25℃, Io=1mA-40mA		8	30	mV
Line regulation	$\triangle V_O$	7V≤V_I≤20V, Tj=25℃		32	150	mV
		8V≤V_I≤20V, Tj=25℃		26	100	mV
Quiescent current	I_q	Tj=25℃		3.8	6	mA
Quiescent current change	$\triangle I_q$	0℃<Tj<125℃,8V≤V_I≤20V			1.5	mA
	$\triangle I_q$	0℃<Tj<125℃,1mA≤Io≤40mA			0.1	mA
Output noise voltage	V_N	10Hz≤f≤100KHz		42		uV
Ripple rejection	RR	8V≤V_I≤20V,f=120Hz,Tj=25℃	41	49		dB
Dropout voltage	V_d	Tj=25℃		1.7		V

Typical Application



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■ Typical Characteristics

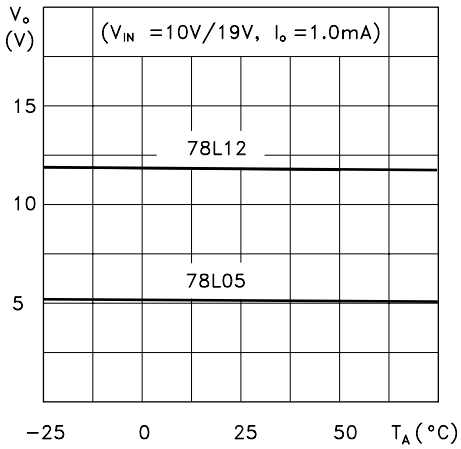

Figure 1 : Output Voltagevs Ambient Temperature

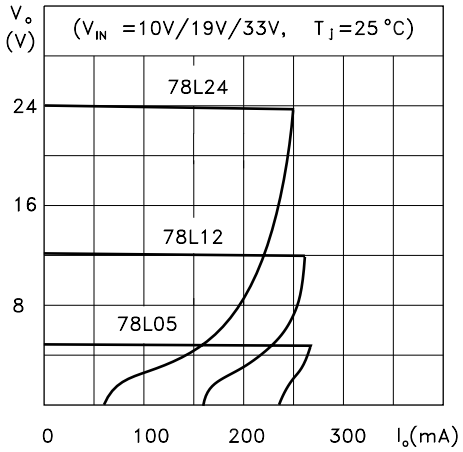

Figure 2 : Load Characteristics

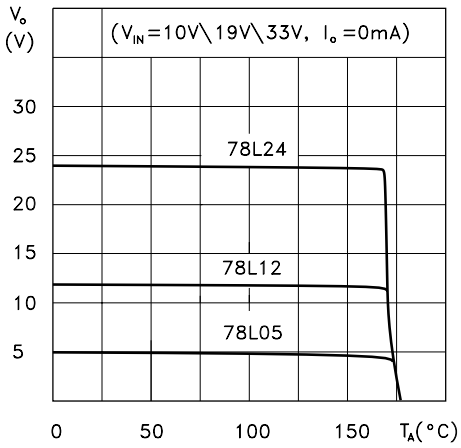

Figure 3 : Thermal Shutdown

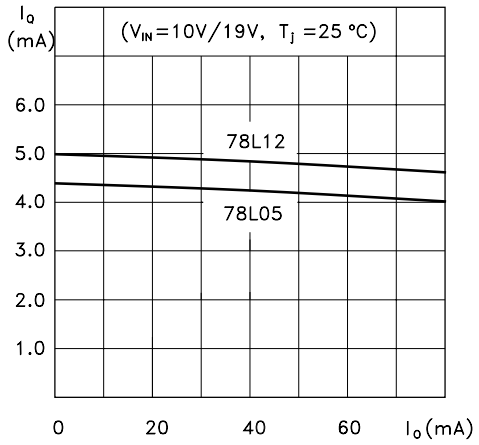

Figure 4 : Quiescent Currentvs Output Current

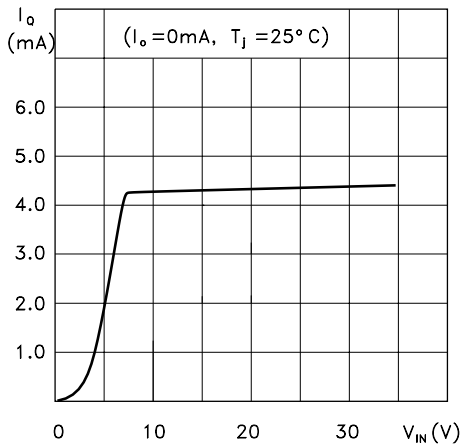

Figure 5 : Quiescent CurrentvsInput Voltage

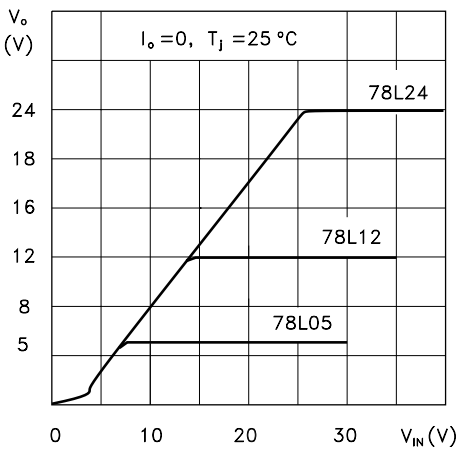

Figure 6 : Output Characteristics

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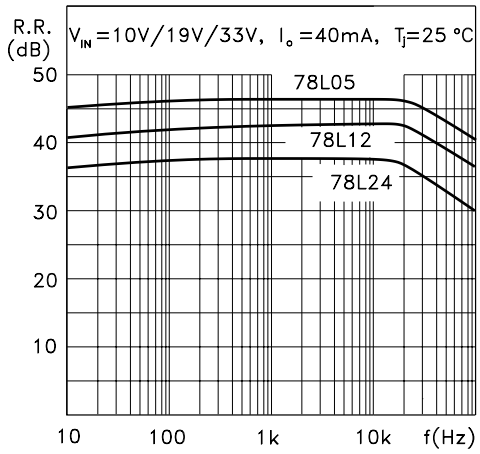

Figure 7 : Ripple Rejection

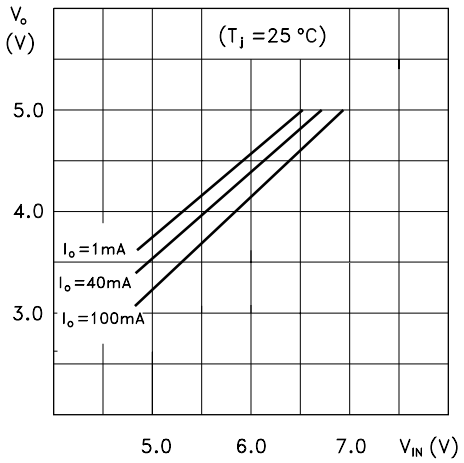

Figure 8 : Dropout Characteristics

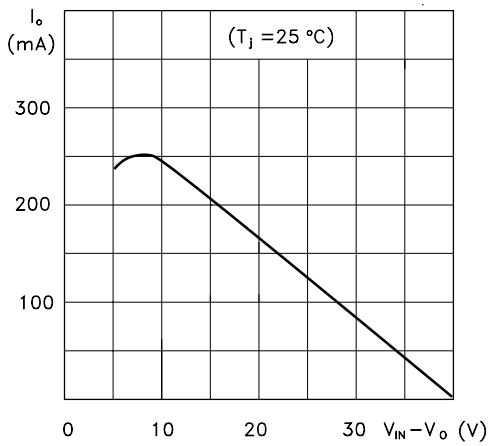

Figure 9 : Short Circuit Output Current