

# Positive Voltage Regulator

## 3 Terminal

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**RoHS  
Compliant**



### Features

- Maximum output current:  $I_{OM}=0.1A$ .
- Output voltage:  $V_O=5V$ .
- Continuous total dissipation:  $P_D$ : 0.625 W ( $T_a=25^{\circ}C$ )

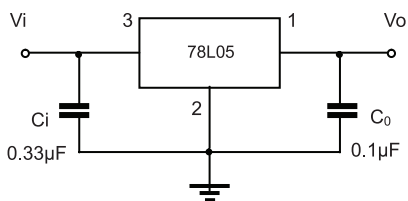
### Absolute Maximum Ratings $T_a = 25^{\circ}C$

Parameter	Symbol	Rating
Input Voltage	$V_I$	30V
Operating junction temperature range	$T_{OPR}$	$0^{\circ}C$ to $+125^{\circ}C$
Storage Temperature Range	$T_{STG}$	$-55^{\circ}C$ 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	Testconditons	Min	Typ	Max	Unit
Output voltage	Vo	Tj=25°C	4.8	5	5.2	V
		7V≤Vi≤20V, Io=1mA-40mA	4.75		5.25	
		Io=1mA-70mA				
Load regulation	△Vo	Tj=25°C, Io=1mA-100mA		15	60	mV
		Tj=25°C, Io=1mA-40mA		8	30	
Line regulation	△Vo	7V≤Vi≤20V, Tj=25°C		32	150	
		8V≤Vi≤20V, Tj=25°C		26	100	
Quiescent current	Iq	Tj=25°C		3.8	6	mA
Quiescent current change	△Iq	0°C<Tj<125°C, 8V≤Vi≤20V			1.5	
		0°C<Tj<125°C, 1mA≤Io≤40mA			0.1	
Output noise voltage	△Iq	10Hz≤f≤100KHz		42		uV
Ripple rejection	VN	8V≤Vi≤20V, f=120Hz, Tj=25°C	41	49		dB
Dropout voltage	Vd	Tj=25°C		1.7		V

### Typical Application



Newark.com/multicomp-pro  
Farnell.com/multicomp-pro  
sg.element14.com/b/multicomp-pro

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### Typical Characteristics

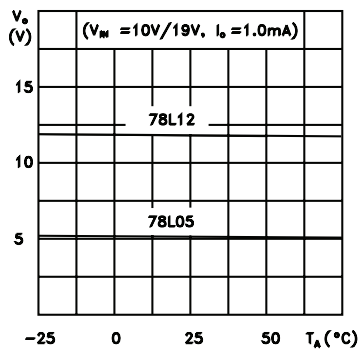


Figure 1 : Output Voltage vs Ambient Temperature

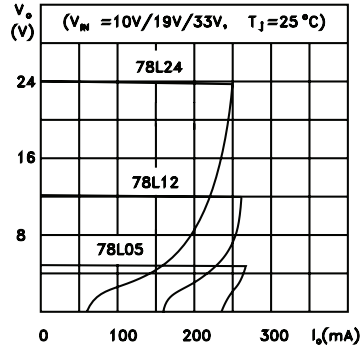


Figure 2 : Load Characteristics

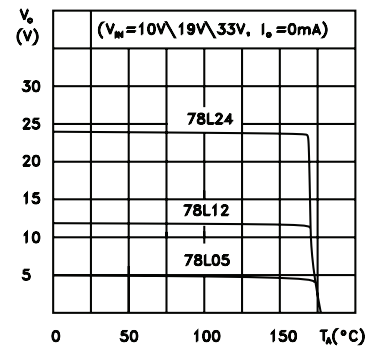


Figure 3 : Thermal Shutdown

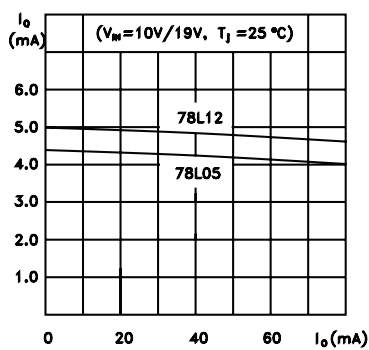


Figure 4 : Quiescent Current vs Output Current

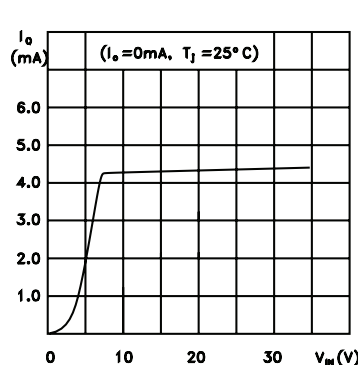


Figure 5 : Quiescent Current vs Input Voltage

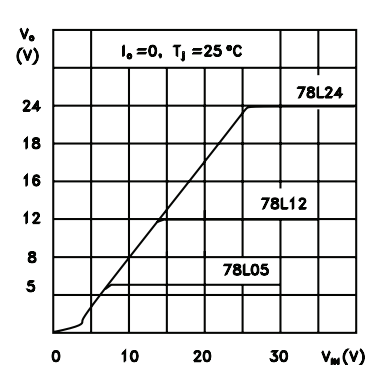


Figure 6 : Output Characteristics

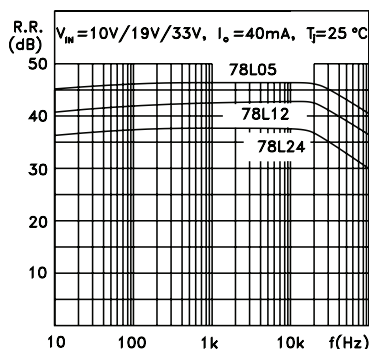


Figure 7 : Ripple Rejection

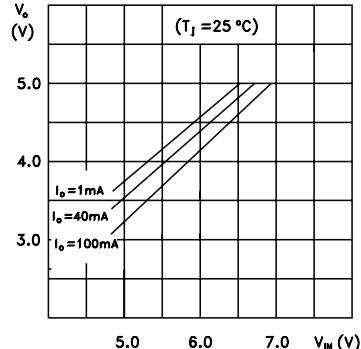


Figure 8 : Dropout Characteristics

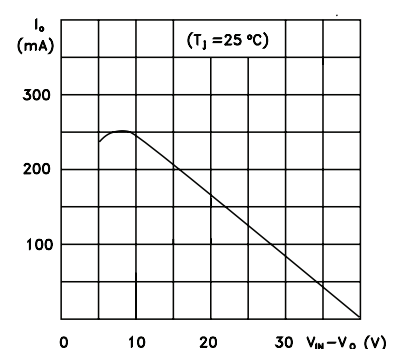


Figure 9 : Short Circuit Output Current

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[illegible]

- 1 OUT  
2 GND  
3 IN

Description	Part Number
Positive Voltage Regulator, Fixed, 5V, 0.1A	78L05

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