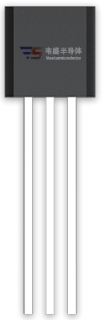
VS78L18 Three-terminal positive voltage regulator

FEATURES

- Maximum output current
  I_{OM}: 0.1A
- Output voltage
  V_O: 18V
- Continuous total dissipation
  P_D: 0.625 W (T_a= 25 ℃)



TO-92

ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
VS78L18	TO-92	Bulk	1000pcs/Bag
VS78L18-TA	TO-92	Tape	2000pcs/Box

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

Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	166.7	℃/W
Operating Junction Temperature Range	T_{OPR}	-40~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

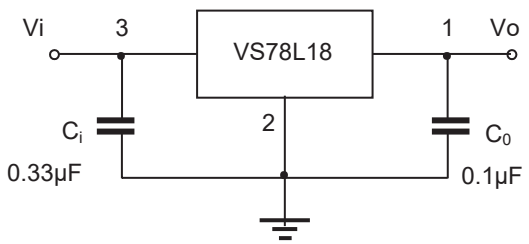
T_a=25℃ unless otherwise specified

(Vi=26V,Io=40mA,Ci=0.33μF,Co=0.1μF, unless otherwise specified)

Parameter	Symbol	Test conditions		Min	Typ	Max	Unit
Output Voltage	Vo		25℃	17.46	18	18.54	V
		20.5V≤V_i≤33V, Io=1mA-40mA	0-125℃	17.1	18	18.9	V
		V_i=26V, Io=1mA-70mA		17.1	18	18.9	V
Load Regulation	△Vo	Io=1mA-100mA, V_i=26V	25℃		27	180	mV
		Io=1mA-40mA, V_i=26V	25℃		19	90	mV
Line Regulation	△Vo	20.5V≤Vi≤33V,Io=40mA	25℃		70	360	mV
		22V≤Vi≤33V, Io=40mA	25℃		64	300	mV
Quiescent Current	Iq		25℃		4.7	6.5	mA
Quiescent Current Change	△Iq	22V≤Vi≤33V, Io=40mA	0-125℃			1.5	mA
	△Iq	1mA≤I_O≤40mA, Vi=26V	0-125℃			0.1	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃		89		μV/Vo
Ripple Rejection	RR	21.5V≤Vi≤31.5V,f=120Hz	0-125℃	32	36		dB
Dropout Voltage	Vd	T_j=25℃	25℃		1.7		V

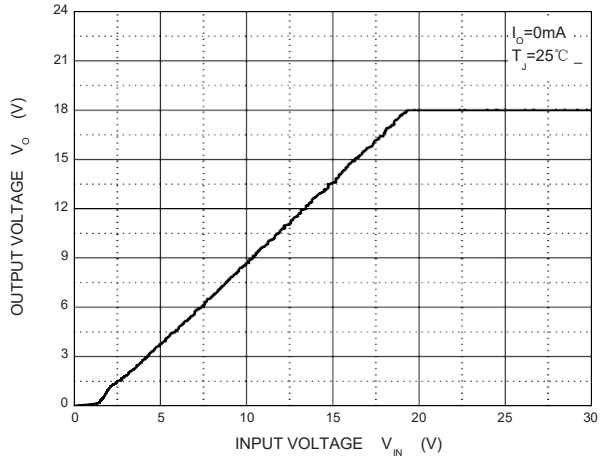
* Pulse test.

TYPICA L APPLICATION

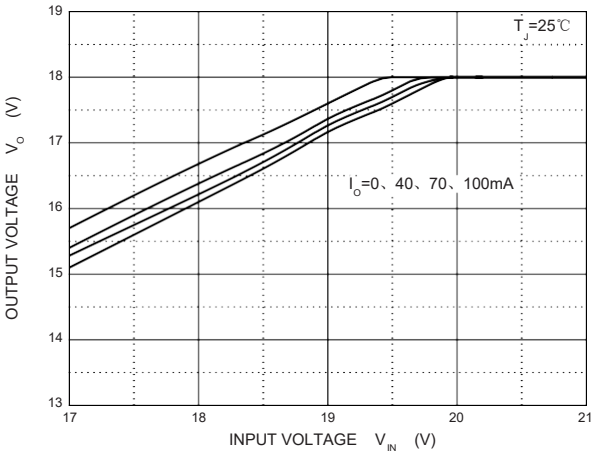


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

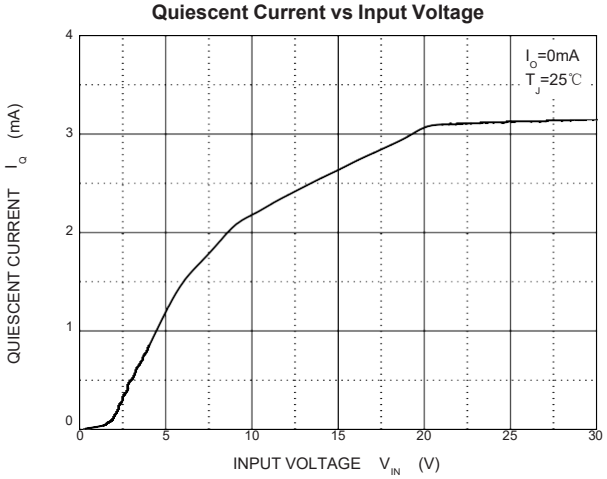
Output Characteristics



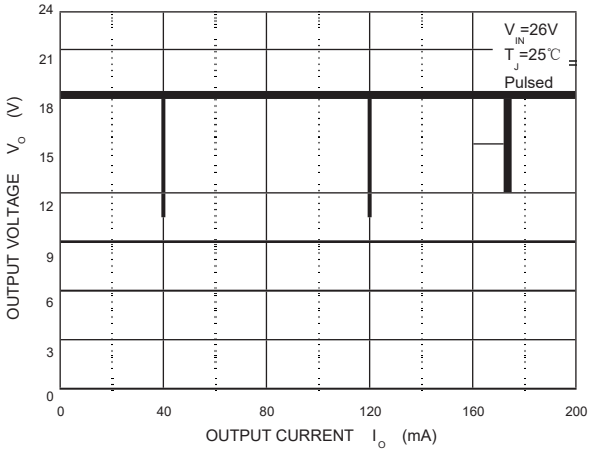
Dropout Characteristics



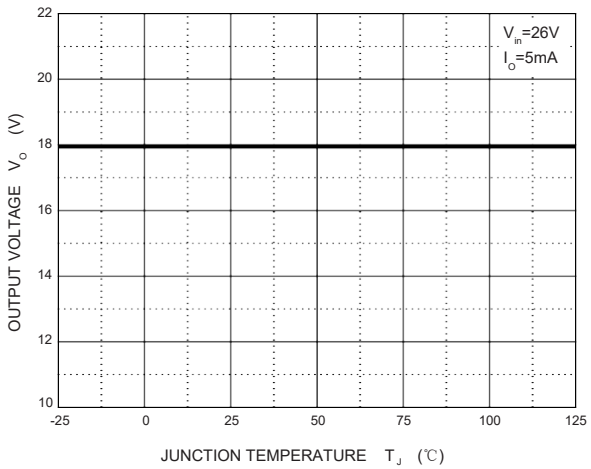
Quiescent Current vs Input Voltage



Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



Power Derating Curve