VS78M06 Three-terminal positive voltage regulator

FEATURES

- Maximum output current
  I_{OM}: 0.5 A
- Output voltage
  V_O: 6V
- Continuous total dissipation
  P_D: 1.25 W (T_a= 25 ℃)

TO-252

1.IN
2.GND
3.OUT

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

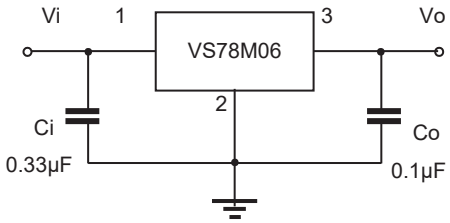
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	80	℃/W
Operating Junction Temperature Range	T_{OPR}	-40~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JINCTION TEMPERATURE (Vi=11V, IO=350mA,Ci=0.33μF,Co=0.1μF, unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output Voltage	Vo	T_J=25℃	5.82	6	6.18	V
		8V≤V_i≤21V, Io=5mA-350mA	5.7	6	6.3	V
Load Regulation	ΔVo	Io=5mA-0.5A,T_J=25℃		18	120	mV
		Io=5mA-200mA,T_J=25℃		10	60	mV
Line Regulation	ΔVo	8V≤V_i≤25V, Io=200mA,T_J=25℃		5	100	mV
		9V≤V_i≤25V, Io=200mA,T_J=25℃		1.5	50	mV
Quiescent Current	Iq	T_J=25℃		4.3	6	mA
Quiescent Current Change	ΔIq	9V≤V_i≤25V, Io=200mA			0.8	mA
	ΔIq	5mA≤I_O≤350mA			0.5	mA
Output Noise Voltage	V_N	10Hz≤ f ≤100KHz,T_J=25℃		45		μV/Vo
Ripple Rejection	RR	9V≤V_i≤19V,f=120Hz,Io=300mA	59	80		dB
Dropout Voltage	Vd	Io=350mA,T_J=25℃		2		V
Short Circuit Current	Isc	Vi=11V,T_J=25℃		270		mA
Peak Current	Ipk	T_J=25℃		0.5		A

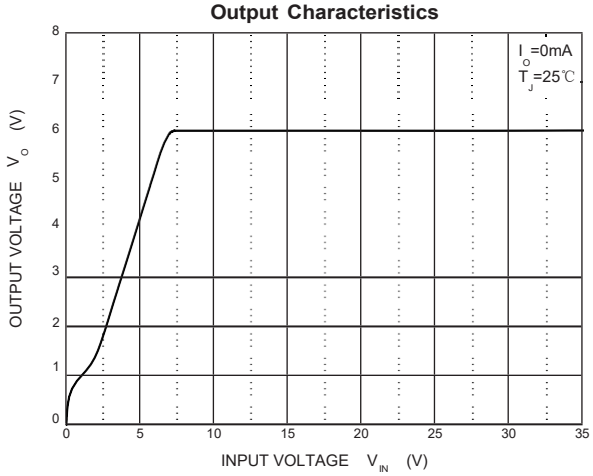
* Pulse test.

TYPICAL APPLICATION

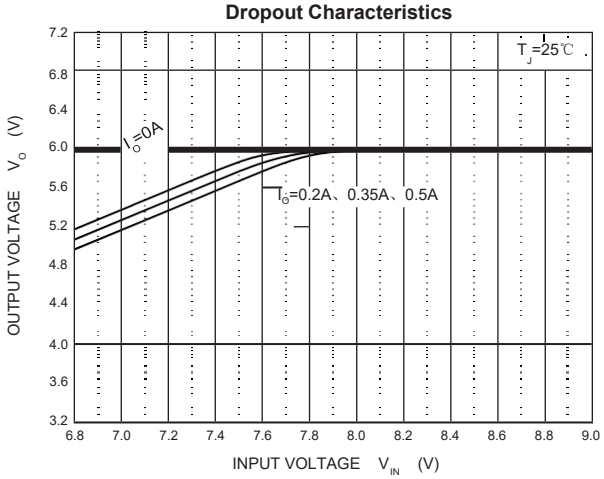


Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as possible to the regulators.

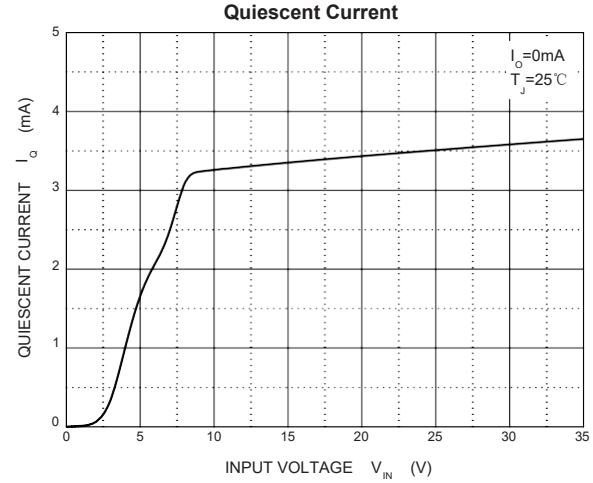
Output Characteristics



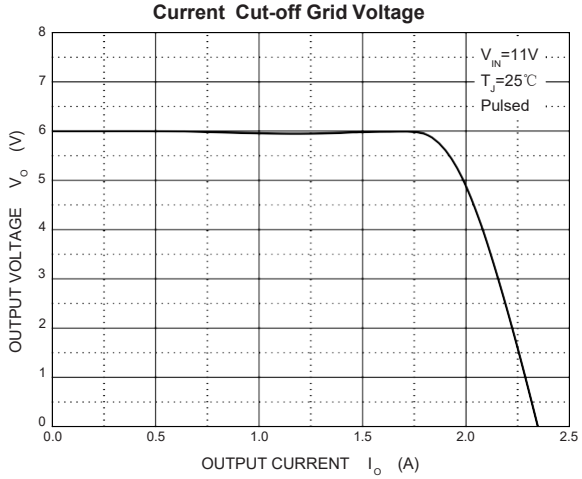
Dropout Characteristics



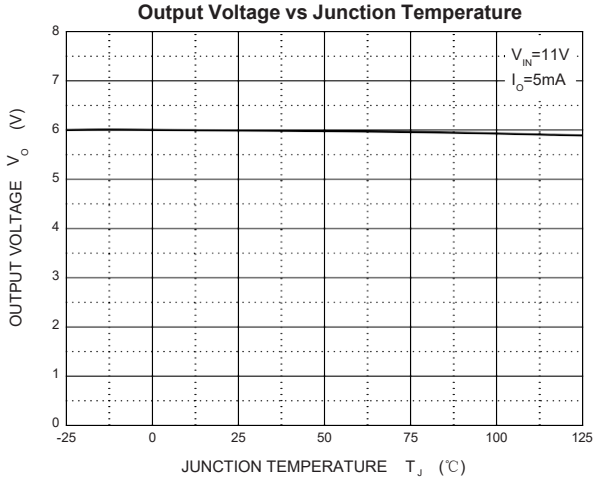
Quiescent Current



Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



Power Derating Curve