VS78D05 Three-terminal positive voltage regulator

FEATURES

- Maximum output current
  I_{OM}: 1 A
- Output voltage
  V_O: 5V
- Continuous total dissipation
  P_D: 1.25 W

TO-252

1.IN
2.GND
3.OUT

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

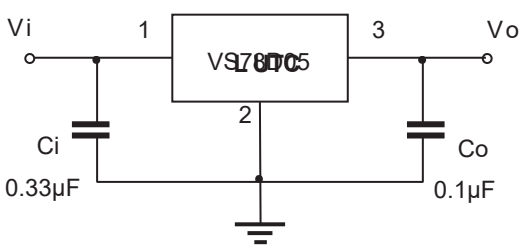
Parameter	Symbol	Value	Unit
Input Voltage	V_i	35	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	100	℃/W
Operating Junction Temperature	T_J	150	℃
Operating Temperature	T_{OPR}	-30~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE (Vi=10V,Io=500mA,Ci=0.33μF, Co=0.1μF, unless otherwise specified)

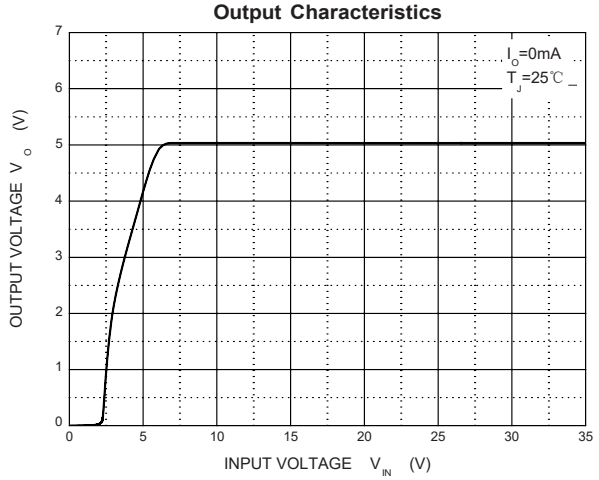
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output voltage	Vo	T_J=25℃	4.85	5.0	5.15	V
		8V≤V_i≤20V, Io=5mA-1A	4.75	5.0	5.25	V
Line regulation	△Vo	7.5V ≤V_i≤25V ,T_J=25℃			50	mV
		8V≤V_i≤12V,T_J=25℃			50	mV
Load Regulation	△Vo	Io=5mA-1A,T_J=25℃			100	mV
		Io=250mA-750mA,T_J=25℃			50	mV
Quiescent Current	Iq	T_J=25℃		3.5	8	mA
Quiescent Current Change	△Iq	8V≤V_i≤25V			1.3	mA
		5mA≤I_O≤1A			0.5	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz,T_J=25℃		10		μV/Vo
Output voltage drift	△Vo/△T	I_O=5mA		-0.3		mV/ ℃
Ripple Rejection	RR	8V≤V_i≤18V,f=120Hz		68		dB
Dropout Voltage	Vd	Io=1A,T_J=25℃		2		V
Short Circuit Current	Isc	T_J=25℃		200		mA

* Pulse test.

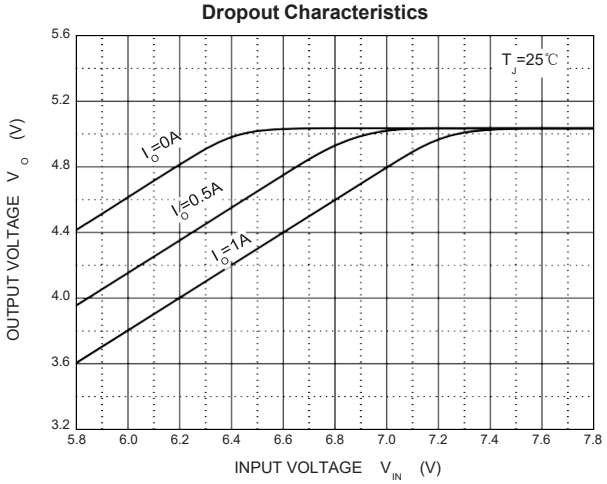
TYPICAL APPLICATION



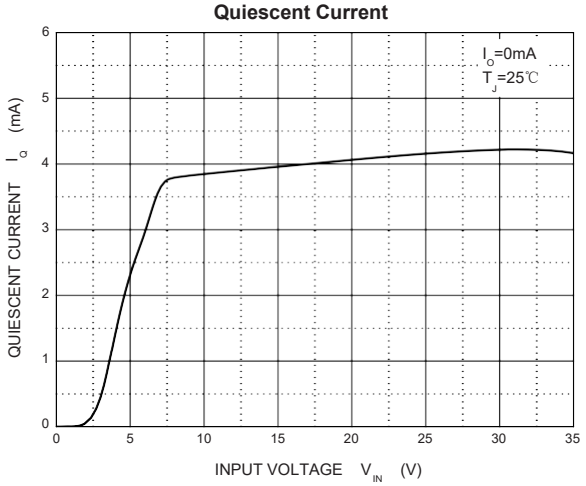
Output Characteristics



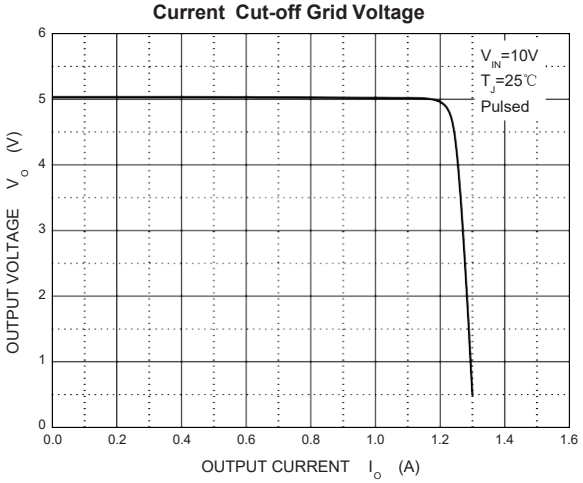
Dropout Characteristics



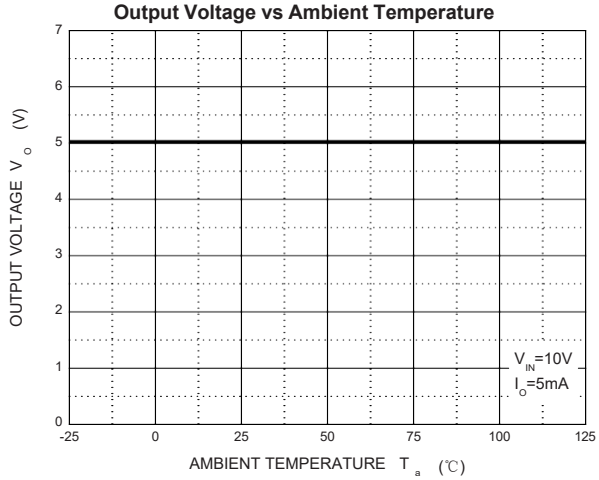
Quiescent Current



Current Cut-off Grid Voltage



Output Voltage vs Ambient Temperature



Power Derating Curve