Plastic-Encapsulate Voltage Regulators

Three-terminal positive voltage regulator

FEATURE

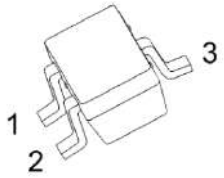
Maximum Output Current $I_{O:}$ 0.1 A

Output Voltage V_O: 5 V

Continuous Total Dissipation

P_D: 0.25 W (T_a= 25 ℃)

SOT-23



1. OUT
2. IN
3. GND

Solid dot = Green molding compound device,
if none,the normal device.

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

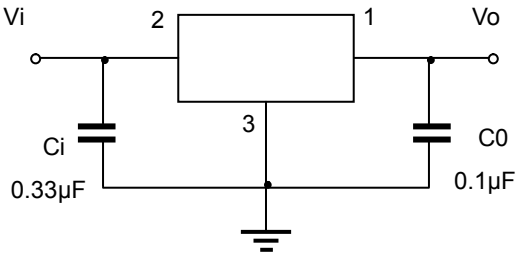
Parameter	Symbol	Value	Unit
Input Voltage	V_i	30	V
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	160	℃/W
Operating Junction Temperature Range	T_{OPR}	-40~+125	℃
Storage Temperature Range	T_{STG}	-65~+150	℃

ELECTRICAL CHARACTERISTICS AT SPECIFIED VIRTUAL JUNCTION TEMPERATURE (Vi=10V,Io=40mA,Ci=0.33uF,,Co=0.1uF, unless otherwise specified)

Parameter	Symbol	Test conditions			Min	Typ	Max	Unit
			25℃	4%	4.80	5.0	5.20	V
				3%	4.85	5.0	5.15	V
				2%	4.90	5.0	5.10	V
Output voltage	Vo	7V≤Vi≤20V, Io=1mA~40mA	0-125℃		4.75	5.0	5.25	V
		Io=1mA~70mA			4.75	5.0	5.25	V
Load Regulation	ΔVo	Io=1mA~100mA	25℃			15	60	mV
		Io=1mA~40mA	25℃			8	30	mV
Line regulation	ΔVo	7V≤V_I≤20V				32	150	mV
		8V≤Vi≤20V	25℃			26	100	mV
Quiescent Current	Iq		25℃			3.8	6	mA
Quiescent Current Change	ΔIq	8V≤Vi≤20V	0-125℃				1.5	mA
	ΔIq	1mA≤V_I≤40mA	0-125℃				0.1	mA
Output Noise Voltage	V_N	10Hz≤f≤100KHz	25℃			42		μV/Vo
Ripple Rejection	RR	8V≤Vi≤20V,f=120Hz	0-125℃		41	49		dB
Dropout Voltage	Vd		25℃			1.7		V

* Pulse test.

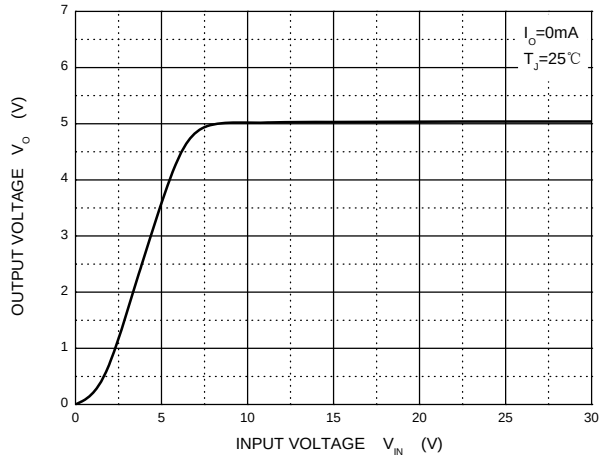
TYPICAL APPLICATION



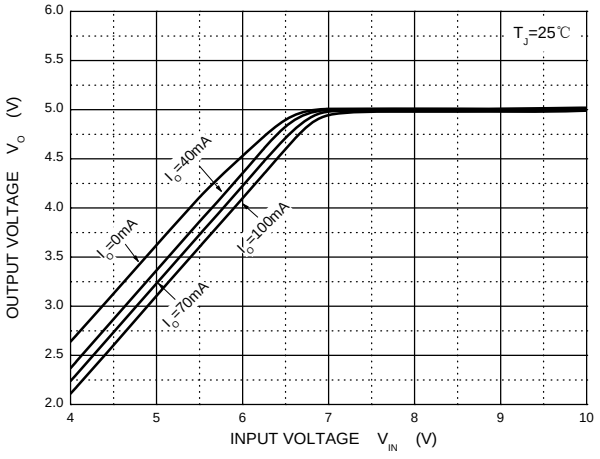
Note: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as Possible to the regulators.

Typical Characteristics

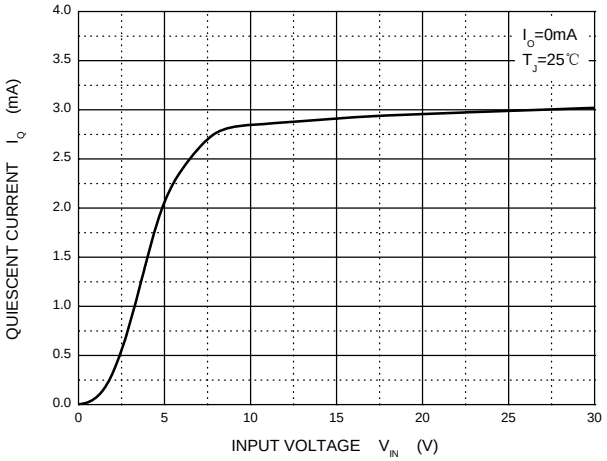
Output Characteristics



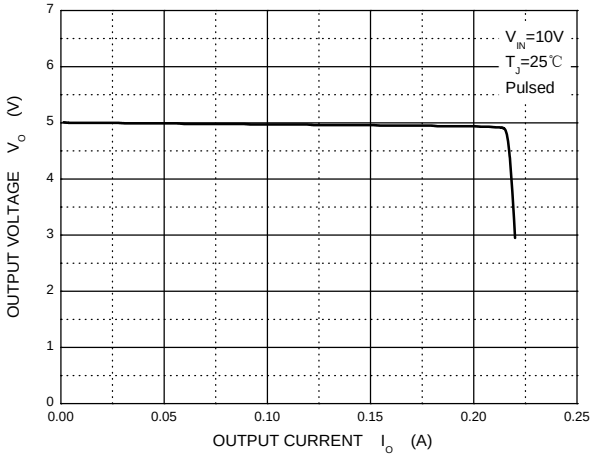
Dropout Characteristics



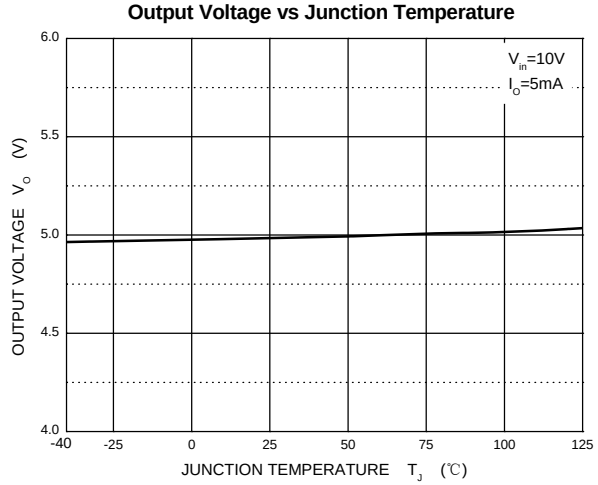
Quiescent Current vs Input Voltage



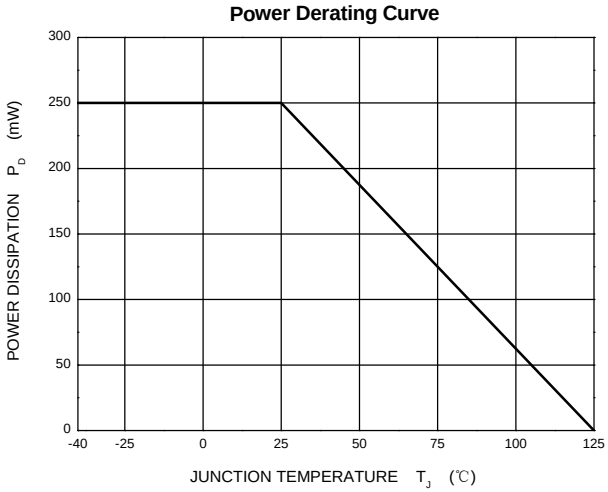
Current Cut-off Grid Voltage



Output Voltage vs Junction Temperature



Power Derating Curve



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