200mA Low Dropout Linear Voltage Regulator

Features

·Low Power Consumption 65μA (TYP.)
·Dropout Voltage: 150mV @ 100mA
·Output Current: more than 200mA
·Thermal Shutdown Protection
·Highly Accurate: ± 2%
·Typical 300mA Current Limit
·Output Voltage Range: 1.5V to 5.0V

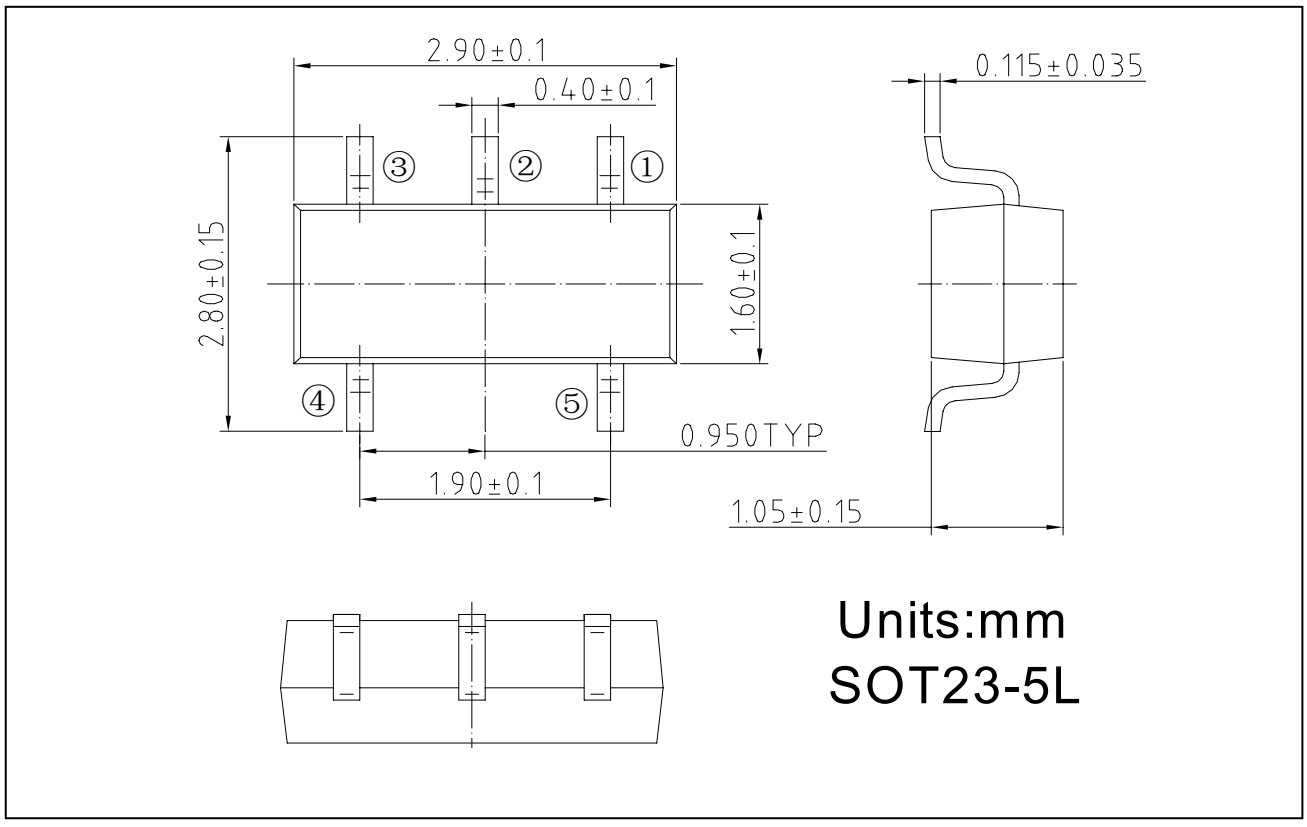
General Description

The SSC1333 series are CMOS precise, low power consumption, high voltage; positive voltage regulators designed for portable applications with low quiescent current (65μA) and dropout voltage (150mV at 100mA). The SSC-1333 have typical current limit of 300mA and are available in high accuracy (2%), The output voltages are 1.5V、1.8V、2.0V、2.5V、3.0V、3.3V 、5.0V and adjust. These products feature thermal shutdown protection and current limit with fold-back in short circuit. SOT23-5L packages are available.

Applications

·Battery powered equipment
·Reference voltage sources
·Cameras, Video cameras
·Portable AV systems
·Mobile phones
·Communication tools
·Portable games

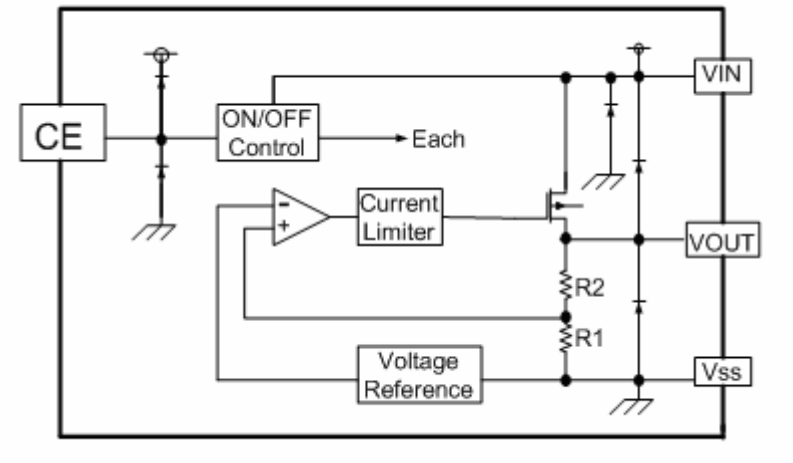
Package Information



Pin Configurations

Pin No.	Pin Name	Pin Function
1	IN	Input positive power pin of SSC1333.
2	G	Ground
3	EN	Enable Input. High level enables the LDO. Connect this pin to IN if not used; do not leave EN unconnected.
4	NC	Not use
5	OUT	Output pin.

- **Functional Block Diagram**



- **Ordering Information**

SSC1333 □ □ □ □ - □ □ □

Output Voltage

...1V5 = 1.5V; 1V8 = 1.8V; 2V0 = 2.0V; 2V5 = 2.5V;

3V0=3.0V; 3V3 = 3.3V; 5V0 = 5.0V **...**

Package Type

SA : SOT23-5L

Pin Type

G: G-Type;

Indicate The Product Number

- **Absolute Maximum Ratings**

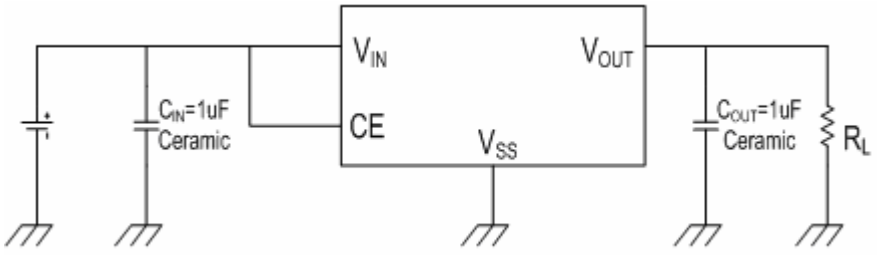
Parameter	Symbol	Ratings	Unit
IN Supply Voltage	V_{IN}	-0.3 TO 9	V
OUT Voltage	V_{OUT}	-0.3V to V_{IN}+0.3	V
EN Voltage		-0.3V to 9	V
Continuous OUT Current	I_{MAX}	Internally limited	
Power Dissipation (T_{AMB} = 25℃)	P_D	300	mW
Operating Temperature	T_{OPR}	–25 to +85	℃
Storage Temperature Range	T_{STG}	–40 to +125	℃

- **Electrical Characteristics**

V_{IN} = V_{OUT} + 1V, V_{EN} = V_{IN}, C_{IN} = C_{OUT} = 1μF, T_J = 25°C unless otherwise specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage Accuracy	ΔV_{OUT}		-2	0	2	%
Line Regulation		V_{IN} = V_{OUT}+1V to 8V	--	6	--	mV
Load Regulation		I_{OUT} =1mA to 100 mA	--	20	--	mV
Power Supply Rejection Ratio	PSRR	V_{IN}=V_{OUT}+1V_{P-PAC}, F = 120Hz, I_{OUT} ＝ 40mA, C_{OUT} ＝1uF	--	60	--	dB
		V_{IN}=V_{OUT}+1V_{P-PAC},F =1 KHz, I_{OUT} ＝40mA, C_{OUT}＝1uF	--	62	--	
Supply Current	I_Q	EN = 1.4V	--	65	90	μA
		EN = 0.4V	--	0.6	1	
Dropout Voltage	V_{DO}	I_{OUT} = 100mA	--	140	170	mV
Current Limit	I_{LIM}		--	300	--	mA
Current Limit Short Circuit	I_{LIMSC}		--	80	--	mA
Output Noise	en	C_{OUT} = 1μF, I_{OUT} = 40mA, F = 300H_Z to 50KH_Z	--	50	--	μV_{RMS}
EN Input Logic Low Threshold	V_{IL}	T_J = -40℃ to 125℃	--	--	0.3	V
EN Input Logic High Threshold	V_{IH}	T_J = -40℃ to 125℃	0.8	--	--	V
EN Input Current		V_{EN} = V_{IN} = 5.5V	--	0	0.1	uA

- **Typical Application Circuit**



- **Typical Performance Characteristics(for SSC1333GSA3V0)**

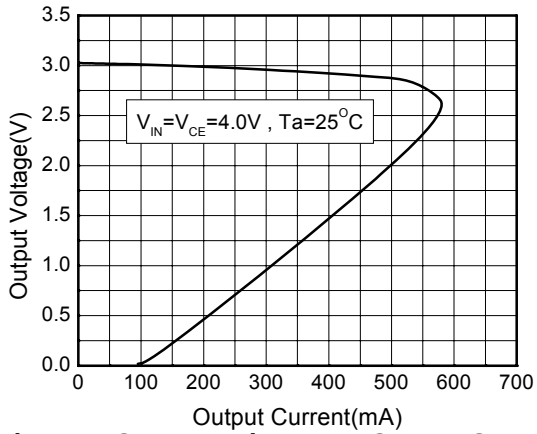


Figure1. Output Voltage vs. Output Current

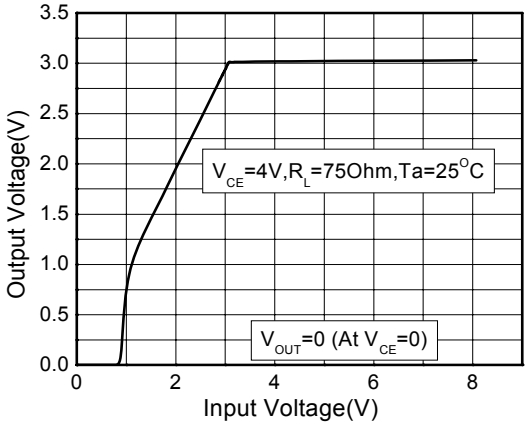


Figure 2. Output Voltage vs.Input Voltage

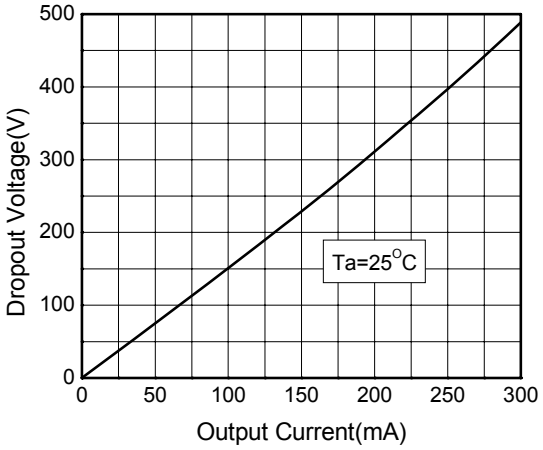


Figure 3. Dropout Voltage vs. Output Current

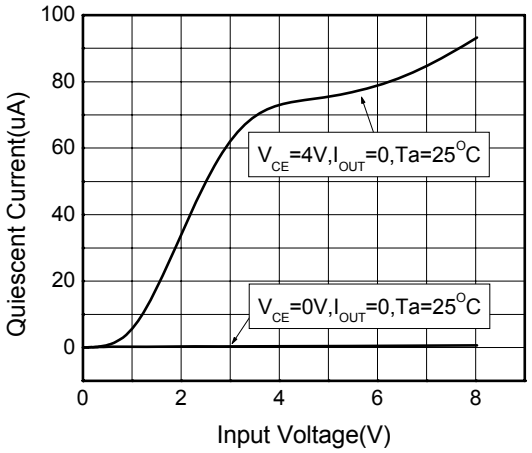


Figure 4. Quiescent Current vs. Input Voltage

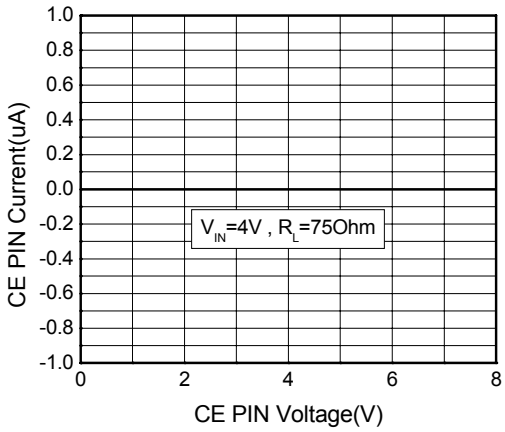


Figure 5. CE PIN Current vs. CE PIN Voltage

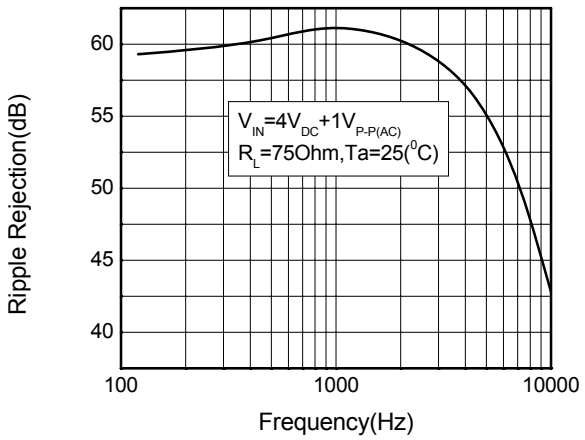


Figure 6. Power Supply Rejection Ratio

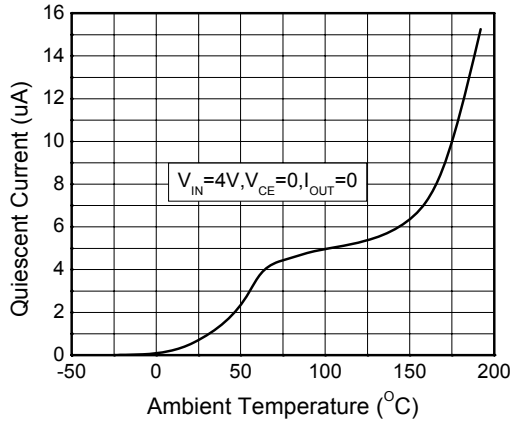


Figure 7. Quiescent Current vs. Ambient Temperature

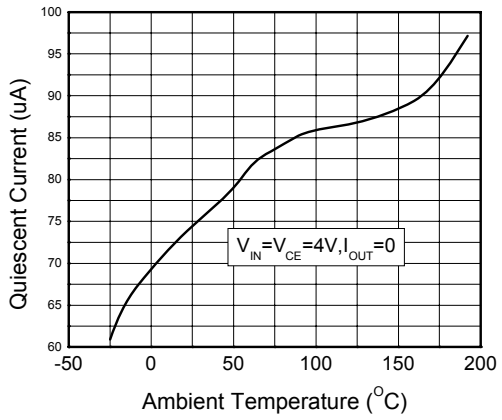


Figure 8. Quiescent Current vs. Ambient Temperature

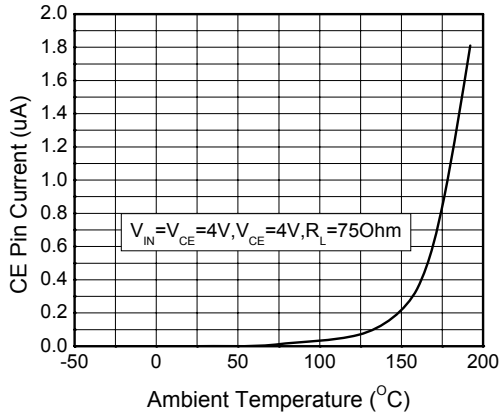


Figure 9. CE Pin Current vs. Ambient Temperature

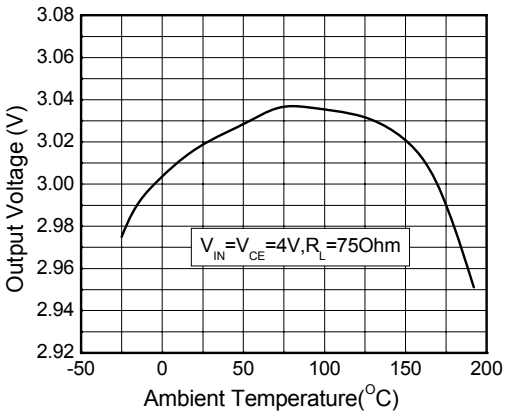


Figure 10. Output Voltage vs. Ambient Temperature

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