3.3 V OUTPUT, 0.2 A LVR

(SC1019-0)

DATA SHEET Version 1.0, July 2018



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PRODUCT DESCRIPTION:

The SC1019-0 3.3 V output, 200 mA full load current LVR provides a fixed output voltage of 3.3 V for a wide range of input operating voltage from 3.7 V to 6 V. The LVR is stable with an external capacitor not lower than 4.7uF of ESR 0.1 ohm to 10 ohm. SC1019-0 is mainly intended for integration with digital, analog and RF chips.

APPLICATION:

- Battery operated systems
- Integrated solutions for analog, RF and digital chips

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DEVICE SUMMARY:

FEATURES:

- Line voltage: 3.7 V to 6 V
- Fixed output voltage 3.3 V
- 200 mA maximum load current
- Low quiescent current of <1 mA
- Over temperature shut down mechanism
- Short circuit fold-back current limiting feature
- SCL 0.18µ CMOS technology

Reference	Package	pins	Lead Finish	Description	
SC1019-0	СОВ	4	Gold (ENIG)	Engineering Model	

Table 1: Device Summary

BLOCK DIAGRAM:



Figure-1: Device Pin Diagram



PAD CONFIGURATION:



Figure-2: Device Pad Diagram

PIN DESCRIPTION:

Pin Name	Function	Remarks		
bgbit4	Digital trimming bit, MSB	Digital trimming bits for varying bandgap reference output voltage. Voltages of vss or vdd to be applied.		
bgbit3	Digital trimming bit			
bgbit2	Digital trimming bit			
bgbit1	Digital trimming bit			
bgbit0	Digital trimming bit, LSB			
VSS	0V LVR ground			
vin	3.4 V to 6 V LVR input			
out	3.3 V LVR output	Ceramic capacitor of 10uF with ESR 0.1 ohm to 10 ohm to be placed at the output.		
bgref	Bandgap reference output			
tmpsns	Temperature sensor output			

Table 2: Pin Details



DC ELECTRICAL SPECIFICATIONS

Test condition: All Specifications: VIN =3.7V-6V, CIN = 1 μ F, COUT = 10 μ F, BGBIT = 11111 (MSB to LSB), unless otherwise specified. Full Load (FL) = 0.2A

	TEST CONDITIONS		SC1019-0		
FARAMETER			MIN	MAX	UNITS
Nominal Valtage	$Vin = 3.7V, (I_{LOAD} = 10\% \text{ of FL})$		3.316	3.362	V
Nominal Voltage	Vin = 6V, (I_{LOAD} =10% of FL)		3.318	3.364	
Initial Accuracy	$(I_{LOAD}=10\% \text{ of FL})$	0.48	1.94	%	
$\label{eq:load_regulation} \begin{array}{ll} \mbox{Vin}{=} 3.7\mbox{V} \\ (10\% \mbox{ of } FL \leq I_{LOAD} \leq 100\% \mbox{ of } FL \mbox{)} \end{array}$				0.14	%
	$3.7\mathrm{V} \le \mathrm{V_{IN}} \le 6\mathrm{V},$	I _{LOAD} =10% of FL	0.03	0.085	%
Line Regulation		I_{LOAD} =50% of FL	0.025	0.064	
		I_{LOAD} =100% of FL	0.017	0.053	
	$I_{LOAD}=10\%$ of FL		0.011		V
Dropout Voltage	I _{LOAD} =50% of FL		0.058		
	I _{LOAD} =100% of FL		0.118		
Fold-back Current (I _{IN})	Short output to grou	70		mA	
Shutdown Temp. (simulated value)	BGBIT = 11111 (M	165		°C	
	Vin= 5V, I _{LOAD} =10% of FL		0.47	0.5	
Quiescent Current	Vin= 5V, I_{LOAD} =50% of FL		0.48	0.5	mA
	Vin= 5V, I _{LOAD} =100% of FL		0.52	0.545	

Table 3: DC Electrical Specification

Note: All parameters are calculated by using V_{NOM} at $V_{IN} = 3.7V$. Device will go in to Short circuit foldback at twice of FL, i.e., 0.4A.

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