

General Description

The Analog Ground Supply standard cell is a versatile building block for mixed signal data processing systems. Because of the limited supply voltage range evoked by today's technology constraints, an analog signal reference level is missing in most cases, when bipolar signal processing is demanded. To generate the reference potential, a reference voltage is low pass filtered (3rd order low pass; cut off frequency at around 100kHz) and buffered by a bipolar follower stage. The reference voltage can be derived from resistive divider stage for example.

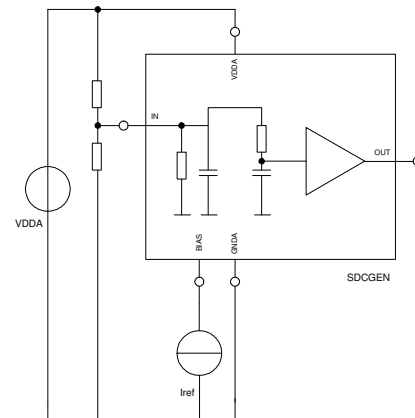
Ratings, Parameters and Conditions

Parameter / Condition	Symbol	Min	Typ.	Max	Unit	Comment
Electrical Parameters:						
Supply Voltage	V_{dd}	4.75	5	5.25	V	
Supply Current	I_{dd}		550		μA	
Input/Output Voltage Range	$V_{in/out}$	$V_{GNDA}+1.5$	$V_{VDDA}/2$	$V_{VDDA}-1.5$	V	
Output Current	I_{out}			500	μA	
Low Pass Cut Off Frequency	F_{cutoff}		100		kHz	
External Load Capacitance	C_{load}	2.2			nF	depending from required rejection of injected load currents
Absolute Maximum Ratings:						
Operating Temperature	T_{range}	-20		80	$^{\circ}\text{C}$	
Supply Voltage	V_{dd}	-0.3		7	V	
Input Voltage	V_{in}	-0.3		$V_{dd}+0.7$		
Output Voltage	V_{out}	-0.3		$V_{dd}+0.7$		
Operating Conditions:						
Ambient Temperature	T_{amb}	-20	27	80	$^{\circ}\text{C}$	

IO-Description

Interface	I/O	Function	Comment
GNDA	Input	Supply	
VDDA	Input	Supply	
BIAS	Input	reference current	
IN	Input	reference voltage input	
OUT	Output	voltage regulator output	

Symbol / external Schematic



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Dieses Projekt wird im Rahmen der Technologieförderung mit Mitteln des Europäischen Fonds für regionale Entwicklung (EFRE) und mit Mitteln des Freistaates Sachsen gefördert.