

### 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 (3<sup>rd</sup> 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
<b>Electrical Parameters:</b>						
Supply Voltage	$V_{dd}$	4.75	5	5.25	V	
Supply Current	$I_{dd}$		550		$\mu\text{A}$	
Input/Output Voltage Range	$V_{in/out}$	$V_{GND}+1.5$	$V_{VDD}/2$	$V_{VDD}-1.5$	V	
Output Current	$I_{out}$			500	$\mu\text{A}$	
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
<b>Absolute Maximum Ratings:</b>						
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		$V_{dd}+0.7$		
<b>Operating Conditions:</b>						
Ambient Temperature	$T_{amb}$	-20	27	80	$^{\circ}\text{C}$	

### IO-Description

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

### Symbol / external Schematic

