

### General Description

The rail-to-rail amplifier AMP\_RR01 standard cell is a versatile operational amplifier mostly intended to be used as voltage buffer (follower, gain=1). It's primary purpose is to drive extremely large capacitive loads (up to 150pF). For example it can be used for reference voltage distribution or other stimulation purposes in the lower frequency range. It is designed for low output offset voltage and fast settling behaviour.

### 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	$I_{dd}$		700		$\mu\text{A}$	
Gain Bandwidth	GBW		1		MHz	@ 150pF load
Phase Margin	PM		130		degree	
Output Settling Time	$T_{set}$		125		ns	@ 150pF load
Slew Rate	SR		2		V/ $\mu\text{s}$	@ 150pF load
Output Swing		$V_{GND}+0.1$		$V_{VDD}-0.1$	V	
Bias Current	$I_{ref}$		10		$\mu\text{A}$	
Output Offset Voltage	$V_{offset}$		0.1	5	mV	
<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	
INP	Input	noninverting input	
INN	Input	inverting input	
OUT	Output	amplifier output	

### Symbol / external schematic

