Analog IP Cell

Rail-to-Rail Operational Amplifier
OPVRR XC06

SERMA PRODUCTIVITY ENGINEERING

General Description

The PVRR XC06 analogue IP cell is a Rail-to-Rail operational amplifier designed to be used as general purpose signal processing element in an ASIC. It's Rail-to-Rail common mode capability enables the application as Ground referenced current-to-voltage converter.
The amplifier is unity gain stable and hence can be used in switched capacitor circuits (for example sample and hold elements, filters …). The cell is not designed to drive of chip loads. If this is needed, an additional output stage has to be added.

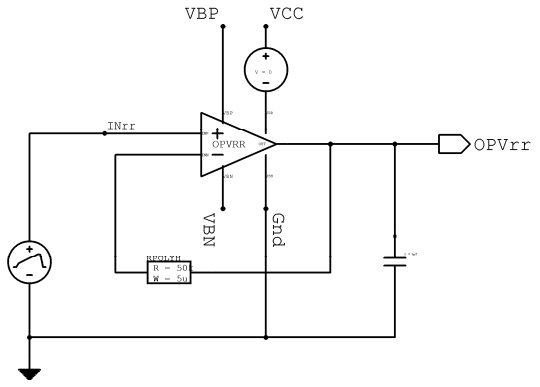
Ratings, Parameters and Conditions

Parameter / Condition	Symbol	Min	Typ.	Max	Unit	Comment
Electrical Parameters:						
Supply Voltage	V_{dd}	4.75	5	5.25	V	
Active Supply Current	I_{dd}		20	30	nA	
Open Loop DC Gain	G_{DC}	60	65	80	dB	
Phase Margin	PM		82		°	
Gain Bandwith	GBW		1.2		MHz	
Common Mode Range	V_{CM}	0		V_{dd}		
Absolute Maximum Ratings:						
Operating Temperature	T_{range}	-40		140	℃	
Supply Voltage	V_{dd}	-0.3		6	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	℃	

IO-Description

Interface	I/O	Function	Comment
VSS	input	Supply	
VDD	Input	Supply	
VBN	Input	Bias	
VBP	Input	Bias	
INP	Input	Amplifier Positive Input	
INN	Input	Amplifier Negative Input	
OUT	Output	Amplifier Output	

Block schematic, ext. component diagram



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