

# Analog IP Cell

Bandgap Voltage / Current Reference  
BGREF – XFAB XH018

## General Description

This cell is a current and voltage reference. The output current can be trimmed.

## Ratings, Parameters and Conditions

Absolute Maximum Ratings						
Parameter / Condition	Symbol	Min	Typ	Max	Unit	Comment
Operating Temperature	T <sub>OP</sub>	-40		120	°C	
Supply Voltage	V <sub>DD</sub>	-0.3		3.6	V	
Input Voltage	V <sub>IN</sub>	-0.3		V <sub>DD</sub> +0.7	V	
Output Voltage	V <sub>OUT</sub>	-0.3		V <sub>DD</sub> +0.7	V	

Electrical Parameters						
Parameter / Condition	Symbol	Min	Typ	Max	Unit	Comment
Operating Temperature	T <sub>OP</sub>	-40		85	°C	
Supply Voltage	V <sub>DD</sub>	2.4	3.3	3.6	V	
Current Consumption	I <sub>DD</sub>			180	µA	
Reference Voltage	V <sub>REF</sub>	1.15	1.165	1.18	V	
Temperatur Voltage	V <sub>TEMP</sub>	0.65		1.05	V	proportional to ambient temp.
Half Supply Voltage	V <sub>BAT2</sub>		V <sub>BAT</sub> / 2		V	
Bias Current	I <sub>BIAS</sub>		5		µA	trimmable
Startup Time	T <sub>SU</sub>			50	µs	

## Interface and Symbol

IO-Description			
Interface	I/O	Function	Comment
TRIM	input	trim input	
ENABLE	input	enable	
VREF	output	reference voltage	
VTEMP	output	temp prop. voltage	
VBAT2	output	half supply voltage	
IBP1..9	output	bias output current	current source, trimmalble
VBAT, VSS	power	supply voltage	

