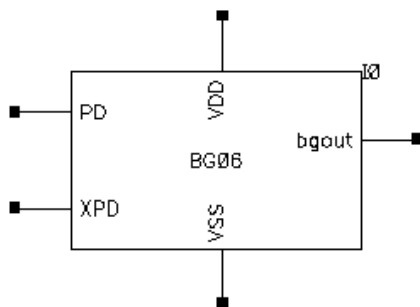


## CMOS Bandgap Voltage Reference

### FEATURES

- Output Voltage 1.2 V
- Small Area 0.08mm<sup>2</sup>
- Size x= 311.1 $\mu\text{m}$  y= 243 $\mu\text{m}$
- Supply Voltage 4.5 to 5.5V
- Temperature Range -40 to 125°C
- TK < 100ppm
- High PSRR > 70dB

Symbol:



### DESCRIPTION

The BG06 cell is a bandgap voltage reference with a constant output voltage of typ. 1.2 volts.

Pin List:

VDDA	pos. supply voltage
VSSA	neg. supply voltage
PD	power down
XPD	power down not
BGOUT	bandgap voltage

## Parameters :

Parameter	Symbol	Min	Typ	Max	Unit
Power Supply Range	Vdd	4.5	5.0	5.5	V
Temperature Range	Temp	-40	27	125	°C
<b>DC Parameters</b>					
Output voltage	Vref	1.1	1.2	1.3	V
abs. Voltage spread				+/-100	mV
Temperature Coeff. (-30 to 120 °C)	TK		30	100	ppm
Temp. Coeff. @ 27 °C	TKnom		0		ppm
Power Supply Current	Idd	<i>15</i>	<i>25</i>	<i>41</i>	μA
Power Consumption	Pdd	<i>68</i>	<i>125</i>	<i>226</i>	μW
Output Source Current	Isource	<i>tbd</i>	<i>0.2</i>	<i>tbd</i>	μA
Output Sink Current	Isink	<i>tbd</i>	<i>0.2</i>	<i>tbd</i>	μA
<b>AC Parameters</b>					
Output resistance	Rout	<i>37</i>	<i>50</i>	<i>67</i>	kΩ
PowerSupplyRej.Ratio Vdd@1kHz	PSRRVdd	<i>70</i>	<i>75</i>	<i>79</i>	dB
<b>Transient Parameters</b>					
Startup Time (1mV)	Tstart	<i>29</i>	<i>44</i>	<i>66</i>	μs
<b>Noise Parameters</b>					
Equ. Output Noise @ 1Hz	En1	<i>6.5</i>	<i>7.9</i>	<i>10</i>	μV/√Hz
Equ. Output Noise @ 1kHz	En1k	<i>0.39</i>	<i>0.5</i>	<i>0.67</i>	μV/√Hz

*italic* .. simulated

normal .. measured

Measurements were done with 5V and -30 to 120°C.

Output buffer is recommended !

$$tk = (vmax-vmin)/(tmax-tmin)/vout@27deg*10e6 \text{ [ppm]}$$