Austria Mikro Systeme International AG

BG06

0.8 µm (CXT)

Revision: N/C 10-Dec-99

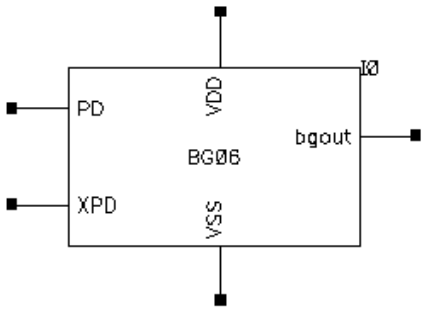
CMOS Bandgap

Voltage Reference

FEATURES

- Output Voltage 1.23 V
- Small Area 0.076mm^2
- Size x= 311µm y= 243µm
- Supply Voltage 4.5 to 5.5 V
- Temperature Range -40 to 125°C
- TK < 100ppm
- Small Supply Current *27*µA

Symbol:



DESCRIPTION

The BG06 cell is a bandgap voltage reference with a constant output voltage of typ. 1.23 volts.

Pin List:

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

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
DC Parameters					
Output voltage	Vref	1.13	1.23	1.33	V
abs. Voltage spread				+/-100	mV
Temperature Coeff. (-30 to 120 °C) *(-40 to 125°C)*	TK		40	100	ppm
Temp. Coeff. @ 27 °C	TKnom		0		ppm
Power Supply Current	Idd	*17*	*27*	*45*	µA
Power Consumption	Pdd	*77*	*135*	*250*	µW
Output Source Current	Isource	*tdb*	*0.2*	*tdb*	µA
Output Sink Current	Isink	*tdb*	*0.2*	*tdb*	µA
AC Parameters					
Output resistance	Rout	*35*	*48*	*64*	kΩ
PowerSupplyRej.Ratio Vdd@1kHz	PSRRVdd	*66*	*74*	*77*	dB
Transient Parameters					
Startup Time (1mV)	Tstart	*29*	*44*	*72*	µs
Noise Parameters					
Equ. Output Noise @ 1Hz	En1	*4.6*	*5.7*	*6.9*	µV/√Hz
Equ. Output Noise @ 1kHz	En1k	*0.36*	*0.47*	*0.65*	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 [ppm]