WXC
Bipolar Process

Data Sheet DS00113 / June 2010

WXC is a 32 Volt Linear Bipolar Process featuring vertical NPN and lateral PNP transistors with diffused resistors, polysilicon resistors, Schottky diodes and nitride capacitors.

Applications

- **Linear Applications**
- **DC to DC converters**
- **Switching regulators**
- **Power management**

Key Process Feature

- **1.8nF/sq µm MIS capacitors**
- **High value polysilicon resistor**
- **Very low leakage currents**
- **Low flicker noise**

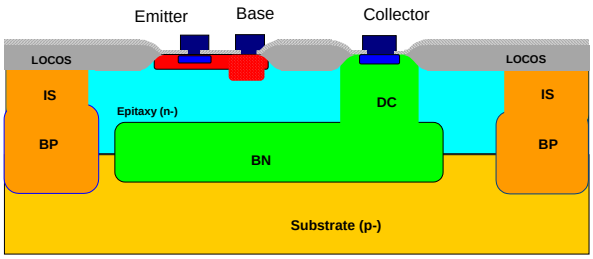
Transistor parameters
(3.5 x 3.5um NPN emitter, LPNP 6um base width, Substrate PNP

Parameter	Condition	NPN	LPNP	SPNP
Hfe	Ic=10µA Vcb=0	110	300	800
VAF		160V	42V	30V
BVceo	Ic=1µA	>32V	>32V	>25V
BVcbo	Ic=1µA	>45V	>45V	>45V
BVebo	Ib=1µA	>5V	>32V	>45V
BVibo	Ib=1µA	>32V		
BVcsub	Ic=1µA	>45V		
NPN fT	Vce=2V	1.2GHz		
LPNP fT	Vce=2V		20MHz	

Capacitors / Diodes

Type	Value	Units	Max V
MIS Cap	0.5	fF/sq µm	32V
J Cap	2.0	fF/sq µm	5V
Schottky	0.5	Volt(Vf)	32V

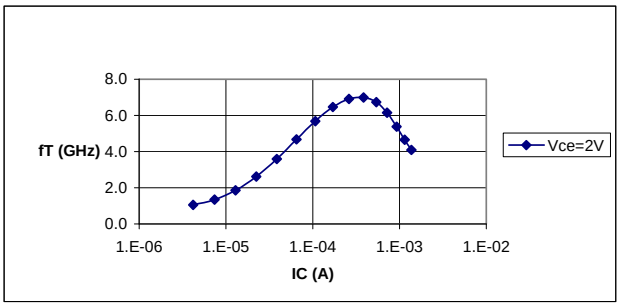
npn cross section



Resistor Values

parameter	Value	Units
PC	200	Ω
Base	600	Ω
IR	2.0	kΩ
Poly	1.2*	kΩ
* Near Zero temperature coefficient		

Minimum geometry npn fT curve



Design Rules

Feature	Min µm	Spacing µm
Emitter	3.5	2.0
Resistors	3.0	4.0
Contact	1.5	3.0
1st Layer metal (1µm)	3.5	2.0
2nd layer metal (2µm)	6.0	3.0

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