

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

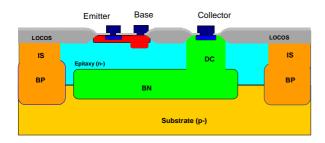
Transistor parameters (3.5 x 3.5um NPN emitter, LPNP 6um base width, Substrate PNP					
Parameter	Condition	NPN	LPNP	SPNP	
Hfe	Ic=10μA Vcb=0	110	300	800	
VAF		160V	42V	30V	
BVceo	Ic=1μA	>32V	>32V	>25V	
BVcbo	Ic=1μA	>45V	>45V	>45V	
BVebo	lb=1μA	>5V	>32V	>45V	
BVibo	lb=1μA	>32V			
BVcsub	Ic=1μA	>45V			
NPN fT	Vce=2V	1.2GHz			
LPNP fT	Vce=2V		20MHz		

Capacitors / Diodes				
Туре	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	

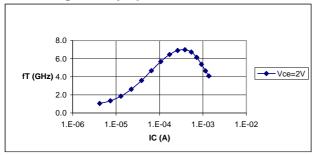
Resistor Values				
parameter	Value	Units		
PC	200	Ω		
Base	600	Ω		
IR	2.0	kΩ		
Poly	1.2*	kΩ		
* Near Zero temperature coefficient				

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	3.5	2.0		
(1µm)				
2 nd layer metal	6.0	3.0		
(2µm)				

npn cross section



Minimum geometry npn fT curve



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