

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

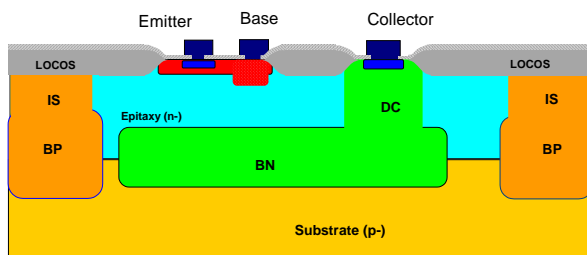
- Linear Applications
- DC to DC converters
- Switching regulators
- Power management

Key Process Feature

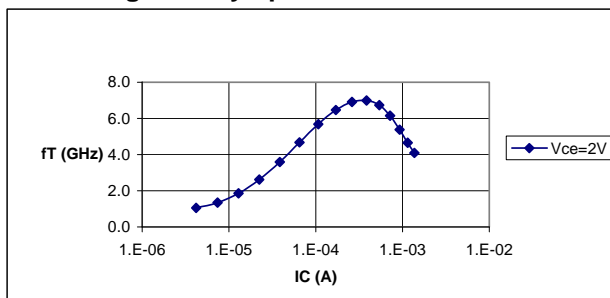
- 1.8nF/sq μm MIS capacitors
- High value polysilicon resistor
- Very low leakage currents
- Low flicker noise

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

npn cross section



Minimum geometry npn fT curve



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 |

Resistor Values

| parameter | Value | Units |
|-----------|-------|------------|
| PC | 200 | Ω |
| Base | 600 | Ω |
| IR | 2.0 | k Ω |
| Poly | 1.2* | k Ω |

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