

Process Introduction

1.5um / 15V Bipolar Process Technology

Process features

- Up-down isolation
- 7um space from Base to Iso
- Deep N+ collector plug
- NPN transistor
- Lateral PNP transistor
- Vertical (Substrate) PNP transistor
- Implant resistor (optional)
- MOS capacitor (optional)
- Double metal (optional)
- Applications: motor driver, communication

Key Design Rules

9 Masks	Min. Width/Space(um)
Diffusion(DN)	3
Diffusion(others)	4
Contact	1.5x3.5
Metal	3/2

Electrical Specification

Device	Parameter	Specification			
		Min	Typ	Max	Unit
NPN transistor (5.5x5.5 um ² emitter)	Hfe (Ic=100uA)	50	110	250	-
	BVceo(Ic=10uA)	15	-	-	V
	BVebo(I=10uA)	5.9	6.2	6.5	V
XBASE-LPNP (Wb=7um)	Hfe (Ic=10uA)	150	390	800	-
	BVceo(Ic=10uA)	15	-	-	V
Vertical (substrate) PNP	Hfe (Ic=10uA)	80	320	700	-
	BVceo(Ic=10uA)	15	-	-	V
Sheet Resistance	PBASE-R	310	360	390	Ω/□
	Implant-R	1.8	2.2	2.6	kΩ/□
Capacitance (Si ₃ N ₄)	C(100x100um ²)	8.5	10.8	13.5	pF