

DESCRIPTION

Body biasing is a disruptive 22FDX feature enabling on-the-fly adaptation of transistor threshold voltages. Racyics adaptive body biasing platform (Racyics ABX Platform) provides reliable and predictable ultra-low voltage (ULV) operation down to 0.4 V, compensating process, supply voltage and temperature variations (PVT) to guarantee timing and power with high yield. For automotive applications, Racyics ABX enables significant leakage reduction at 0.8 V high temperature corners.



PLATFORM KIT

Standard Cells incl. PMK

Dual Rail SRAM

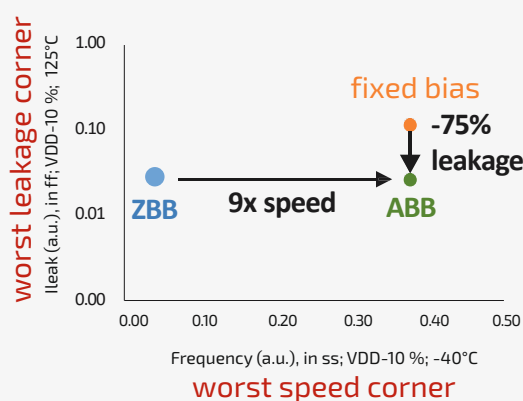
ABX Generator IP

Single Rail SRAM

KEY FACTS

- ▶ Comprehensive Racyics ABX Platform for ULV operation
- ▶ Racyics adaptive body bias generator, standard cells, SRAM
- ▶ Up to 9 X performance¹
- ▶ 75 % leakage reduction²
- ▶ Corner tightening and adaptive body biasing-aware implementation for improved PPA
- ▶ Guaranteed performance and power
- ▶ Easy-to-use turnkey Racyics ABX solution based on standard design flow and sign-off
- ▶ No overhead in test and operation
- ▶ Automotive grade-1 compliant library available
- ▶ Interoperable with foundation IP standard cells and SRAM

ABX SPEED AND LEAKAGE IMPROVEMENTS



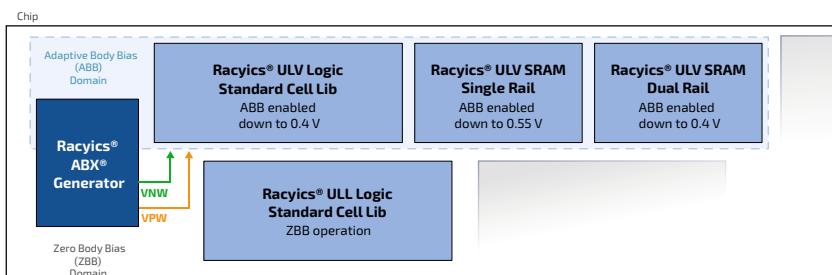
EXAMPLE ULV SOC WITH RACYICS ABX IP

¹ at 0.50 V compared to zero bias | ² at 0.50 V compared to fixed bias

TARGET APPLICATION

- ▶ Automotive
- ▶ Low Power
- ▶ IoT
- ▶ High Speed Computing

IP OFFERING



IP Type	Supplier	Description	Ready for Evaluation	Ready for Testchip	Ready for Production
Standard Cell Libraries incl. PMK	Racyics	116CPP 9T CNRX STD-cell library, fully ABX enabled (RBB), supply voltage 0.80 V	now	now	now
	Racyics	116CPP 8T CNRX STD-cell library, fully ABX® enabled (FBB, RBB), supply 0.40 V / 0.45 V / 0.55 V / 0.60 V / 0.80 V	now	now	now
Single Rail SRAM	Racyics	Single-Rail SP SRAM generator for ULV designs, supply 0.55 V / 0.65 V / 0.80 V	now	now	now
Dual Rail SRAM	Racyics	Dual-Rail SP SRAM generator for ULV designs, supply 0.40 V / 0.45 V / 0.50 V / 0.60 V / 0.80 V (core) 0.80 V (bitcells)	now	now	now
ABX Generator IP	Racyics	Racyics ABB generator, includes PVT monitors, bias generator, digital control loop, supports FBB and RBB	now	now	now



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