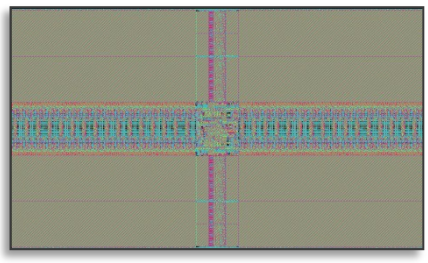
COMMITTED TO MEMORY

SP-ULL-GF22FDX Single Port, Low Leakage Memory Compiler

Low Leakage. Mobile Semiconductor's SP-ULL-GF22FDX memory compiler generates single-port SRAM instances using the GLOBALFOUNDRIES 22nm FDX CMOS process. Each low voltage memory instance primarily uses low leakage HV_T ($LLHV_T$) devices and source biasing to minimize standby currents. Read and write assist circuits ensure reliable operation with a periphery power supply as low as 0.72V.



Ultra low power data retention. Memory instances generated by the SP-ULL-GF22FDX go into a deep sleep mode that retains data at minimal power consumption.

Self biasing. The SP-ULL-GF22FDX's internal self-biasing capabilities provide ease of IP integration.

High yield. To ensure high manufacturing yield, the SP-ULL-GF22FDX utilizes GLOBALFOUNDRIES' low leakage 6T ($0.110\mu^2$) bit cells and is consistent with Design for Manufacturing (DFM) guidelines for the 22nm FDX process.

High usability. All signal and power pins are available on metal 4 while maintaining routing porosity in metal 4. Power pins can optionally be made available on metal 5 to simplify the power connections at the chip level.

Memory Compiler EDA Views & Outputs
GDS II Layout
LVS SPICE Netlist
Liberty File (NLDM, LVF, CCS, ECSM)
Verilog Model
Verilog Netlist
Verilog RTL Wrapper
Verilog Test Bench
ATPG Verilog
LEF
Tessent BIST Synthesis Control File
Signal Integrity Analysis Models
PDF and Text Datasheets

Process Technology	GF 22nm FDX
Standard Supply Voltage	0.8V (0.72V to 0.88V)
Operating Temperature	-40°C to +125°C
# Metal Layers	4
Power	Mesh
BIST Mux Interface	Internal
Operational Modes	Functional, BIST, Scan, Sleep

Max Instance	576Kb
Min Instance	256b
Word Width	4–144
Word Depth	64–8192
Aspect Ratio	Column Fold:4, 8 or 16
Redundancy	Optional (8 repairs)
Bit Write Enable	Optional
User Interface	GUI & Command Line

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