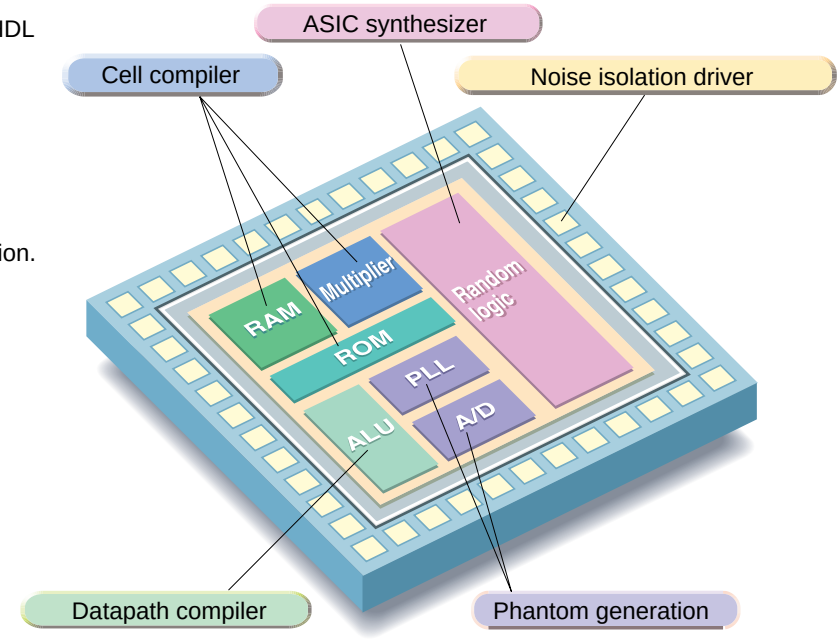
CMOS Cell Based

ROHM supplies three Cell Based families using 0.35 micro metre, 0.5 micro metre, or 0.6micro metre processes. These CMOS Cell Based products are highly integrated, high-speed, low power ICs incorporating both advanced EDA technology and deep submicron processes. ROHM offers to its customers not only multiple cell libraries, but also on-chip designing of ROHM's original ASSP.

■ Features

- Top down design support using VHDL and Verilog HDL
- Automatic test circuit generation
- 32-bit RISC (ARM7TDMI), 16-bit (V20HL, V30HL), 8-bit CPU Core and Multimedia Mega Cells
- Common libraries
- Upward compatible libraries and the BU25000 and BU16000 gate array families for technology conversion.
- Numerous libraries and compilers to provide advanced design support.



0.35 micro metre CMOS cell based BU35S Family

	BU35S family
Process	0.35 micro metre CMOS
Routing layer	1poly 4Al
Propagation delay *1	126ps
Power consumption *2	0.08 micro metre W/MHz (low power consumption cell) 0.31 micro metre W/MHz (standard cell)
Supply voltage	2.7~3.6V
Library cell	312 cells
Compiler cell	271 cells of ROM, RAM, Datapath etc.
Comments	32 bit RISC (ARM7TDMI), JPEG, MPEG etc. ISM model

*1 2-input Power NAND × 1 FANOUT = 2 AI = 1mm *2 2-input NAND × FANOUT = 1

0.5 micro metrecell based IC BU25S Family

	BU25S family	
	BU253S	**BU255S**
Process	0.5 micro metre CMOS	
Routing layer	1poly 3Al	
Propagation delay *1	208ps	141ps
Power consumption *2	0.38 micro W/MHz	1.04 micro W/MHz
Supply voltage	2.7~3.6V	5V±10%
Library cell	312 cells	
Compiler cell	271 cells of ROM, RAM, Datapath etc.	
Comments	32bit RISC (ARM7TDMI), JPEG, MPEG etc. ISM model Noise isolation function	

*1 2-input Power NAND × 1 FANOUT = 2 AI = 1mm *2 2-input NAND × FANOUT = 1

0.6 micro metre cell based IC BU16S Family

	BU16S family			
	BU163S-HP	**BU165S-HP**	**BU163S-HD**	**BU165S-HD**
Process	0.6 micro metre CMOS			
Routing layer	1poly 3Al(2Al)			
Propagation delay *1	376ps	249ps	1.1ns	0.75ns
Power consumption *2	1.21 micro W/MHz	3.27 micro W/MHz	0.28 micro W/MHz	0.63 micro W/MHz
Supply voltage	2.7~3.6V or 4.5~5.5V			
Library cell	245 cells			
Compiler cell	426 cells of ROM, RAM, Datapath etc.			
Comments	32bit RISC (ARM), JPEG, MPEG etc. ISM model Noise isolation function 5V I/O is available at internal 3V operation			

*1 2-input Power NAND × 1 FANOUT = 2 AI = 1mm *2 2-input NAND × FANOUT = 1