

CMOS Gate Array

High Speed CMOS Gate Array BU25000 Series

The BU25000 series gate arrays have a Sea-of-Gates(SOG)structure fabricated with a 0.5 micro metre CMOS process.

The BU25300 is the base family for 3V systems, and the BU25500 Series is the base series for the 5V systems. Each consists of 7 base chips.

For easier design while operating internal circuits at 3V, each pin can be set to interface with 5V I/O.

A noise isolation buffer is used so that even if output logic changes, the power supply will not affect other pins, thus ensuring reliable operation at a high speed.

■ Series overview

Base type	3V supply	BU25306	BU25307	BU25308	BU25309	BU25310	BU25311	BU25312
	5V supply	BU25506	BU25507	BU25508	BU25509	BU25510	BU25511	BU25512
Total number of gates		12,784	20,468	32,184	48,048	63,536	120,384	251,264
The number of usable gates (3AI)		8,681	13,827	21,568	31,848	41,662	75,789	143,054
The number of I/Os		84	104	128	160	180	248	360
The number of PADs		80	100	120	144	160	208	256
Process	0.5 micro metre CMOS silicon gate, 2layers/3layers metal route							
Propagation time	141ps (5V) 208ps (3V)							
Input output level	CMOS, CMOS Schmitt, TTL, TTL Schmitt							
Power supply	Selection from the followings: (1) Internal and I/O: 2.7 to 3.6V (2) Internal : 2.7 to 3.6V, I/O : 2.7 to 3.6V and 5V \pm 5% or 10% (3) Internal and I/O : 5V \pm 5% or 10%							

Standard type CMOS Gate Array BU16000 Series

The BU16000 series is a Gate Array device with a Sea-of-Gates structure using a 0.6 micro metre CMOS process. ROHM offers the BU16300 for 3V systems and the BU16500 series for 5V systems.

These series incorporate the new technology into hardware as well as software and provide high-speed operation, high integration and low power consumption. Because ROHM has developed upward compatible Cell Based libraries with the same technology as the Gate Array libraries, technology conversion between the ICs can be performed easily.

■ Series overview

Base type	3V supply	BU16303	BU16305	BU16307	BU16331	BU16308	BU16332	BU16309	BU16310	BU16333	BU16311	BU16313	BU16315
	5V supply	BU16503	BU16505	BU16507	BU16531	BU16508	BU16532	BU16509	BU16510	BU16533	BU16511	BU16513	BU16515
Total number of gates		10778	16848	20296	25728	32400	39949	49848	62100	84875	110400	172000	228096
The number of usable gates (3AI)		7336	11457	13395	16980	20736	25567	30906	38502	50925	66240	103200	132296
Total number of PADs		80	92	100	112	120	132	144	160	184	208	256	292
The number of I/Os		64	76	84	96	104	116	128	144	168	192	232	268
Process	0.6 micron CMOS silicon gate, 2layers/3layers metal route												
Propagation delay	0.3ns (5.0V) 0.5ns (3.0V)												
Input output level	CMOS, CMOS Schmitt, TTL, TTL Schmitt												
Power supply	Selection from the followings : (1) Internal and I/O : 2.7 to 3.6V (2) Internal : 2.7 to 3.6V, I/O : 2.7 to 3.5V and 5V± 5% or 10% (3) Internal and I/O : 5V ±5% or 10%												