

Hitachi Releases HD74LV1GW-A Series of High-Speed, Low-Voltage Unilogic ICs Employing Small 6-Pin CMLPAK-6 Package

— Providing for smaller size and simpler wiring of high-speed, low-voltage systems for digital cameras and mobile phones, while enabling use of multiple functions in one device through 6-pin configuration —

Tokyo, January 29, 2003— Hitachi, Ltd. (TSE: 6501) today announced the HD74LV1GW-A Series as an extension of the Hitachi Unilogic IC Series enabling systems to be made smaller and system wiring to be simplified. The HD74LV1GW-A Series employs a small 6-pin CMLPAK-6 package (Hitachi package code), and is intended for use in small, high-speed, low-voltage systems for digital cameras, mobile phones, and optical storage devices. A total of seven models are being released, including the initial HD74LV1GW04A model, with sample shipments starting in Japan in March 2003.

Products in this series offer one or two gates mounted in a single package, and are designed for use in low-voltage systems with a power supply voltage in the range of 1.65 V to 5.5 V, the propagation delay time (tpd) of 8.5 ns (max. at Vcc = 3.3 V). The new series offers small size through the use of a 6-pin package tailored to mounting of two gates, and a comprehensive product lineup providing a variety of functions. In addition, configurable multiple-function gate models planned for future development can be used for different functions by changing input pin connections, enabling a number of functions to be handled by a single product. This will simplify users' ordering and stock control procedures, and provide for rapid response to sudden design modifications.

< Background >

With ever smaller and faster models reaching the market in such product fields as digital cameras and optical storage devices such as DVD-R/RW, there is a growing demand for Unilogic ICs supporting distributed matching system design that eliminates the need for circuitous wiring. And as mobile phone becomes functionally more sophisticated, the use of digital signals is growing, and the potential for the use of standard logic ICs has also increased.

To meet such market needs, Hitachi currently has two series of small, high-speed Unilogic ICs in mass production: the HD74LV1G-A/2G-A Series for high-speed systems, and the HD74ALVC1G/2G Series for ultra-high-speed systems. Now, to supplement previous 5- and 8-pin package products, Hitachi is releasing seven models in its new HD74LV1GW-A Series for high-speed systems, employing a 6-pin package, in order to further strengthen the product lineup centered on two-gate devices.

< About these Products >

The HD74LV1GW-A Series employs the same 0.8 μm process as Hitachi's current HD74LV1G-A Series, and offers low-voltage, high-speed operation, with a power supply voltage range of 1.65 V to 5.5 V and a propagation delay time (tpd) of 8.5 ns (max. at $V_{CC} = 3.3$ V). The use of a 6-pin CMPAK-6 package (package size: 2.0 mm \times 2.1 mm \times 0.95 mm (typ.)) has made possible a lineup of two-gate products in configurations not achievable with current 5- and 8-pin packages, enabling a range of models to be offered to suit a variety of users' needs.

Sample distribution of five models in this series, including the configurable multiple-function gate model HD74LV1GW57A, is scheduled to begin in May. Configurable multiple-function gate models can be used as different logic circuits by changing input pin connections, enabling a number of functions to be handled by a single product. This will simplify users' ordering and stock control procedures, and provide for rapid response to sudden design modifications.

Products in the new series incorporate an input/output tolerant function, enabling them to be used in interfaces between signal levels in systems with a mix of different power supply voltages, for example.

- The following seven models are being released as initial products in the HD74LV1GW-A Series.

HD74LV1GW04A (Dual inverter function)

HD74LV1GW16A (Dual buffer function)

HD74LV1GWU04A (Dual unbuffered inverter function)

HD74LV1GW06A (Dual open-drain inverter function)

HD74LV1GW07A (Dual open-drain buffer function)

HD74LV1GW14A (Dual Schmitt-trigger inverter function)

HD74LV1GW17A (Dual Schmitt-trigger buffer function)

- The following five models are planned to begin sample distribution in May.

HD74LV1GW53A (Analog switch 2-channel multiplexer/demultiplexer function)

HD74LV1GW57A (Configurable multiple-function gate function)

HD74LV1GW58A (Configurable multiple-function gate function)

HD74LV1GW97A (Configurable multiple-function gate function)

HD74LV1GW98A (Configurable multiple-function gate function)

< Typical Applications >

Small, high-speed systems for digital cameras, mobile phones, optical storage devices such as DVD-R/RW, notebook PCs, etc.

< Prices in Japan >(For Reference)

Product Code	Unit Price for 10,000-Unit Lot (Yen)
HD74LV1GW04A	20
HD74LV1GW16A	20
HD74LV1GWU04A	20
HD74LV1GW06A	20
HD74LV1GW07A	20
HD74LV1GW14A	20
HD74LV1GW17A	20

[HD74LV1GW-A Series Electrical Characteristics and Specifications]

	Item	Symbol	Test Conditions	Value		Unit
				min.	max.	
Maximum ratings	Power supply voltage	V _{cc}		-0.5	7.0	V
	Input voltage	V _I		-0.5	7.0	
	Power supply current	I _{cc}			± 50	mA
Recommended conditions	Power supply voltage	V _{cc}		1.65	5.5	V
	Input voltage	V _I		0	5.5	
	Slew rate	Δt / Δv	V _{cc} = 3.3 V ± 0.3 V	0	100	ns / V
	Operating temperature	T _a		-40	85	°C
Electrical characteristics	Output voltage	V _{OL}	V _{cc} = 3.0 V, I _{OL} = 6 mA		0.44	V
		V _{OH}	V _{cc} = 3.0 V, I _{OH} = -6 mA	2.48		
	Power supply off leakage current	I _{OFF}	V _{cc} = 0 V, V _{in} or V _{out} = 0 V to 5.5 V		5	μA
	Static current dissipation	I _{cc}	V _{cc} = 5.5 V, V _{in} = V _{cc} or GND, I _o = 0		10	μA
	Propagation delay time	t _{pd}	V _{cc} = 3.3 V ± 0.3 V, CL = 15 pF	1.0	8.5	ns
Package	CMPAK-6V (Hitachi package code. End of the package code "V" means a lead-free device.) Package size: 2.0 mm × 2.1 mm × 0.95 mm (typ.)					

Information contained in this news release is current as of the date of the press announcement, but may be subject to change without prior notice.
