

NAND-Type Flash Memory Controller GBDriver RB4 Conformity to RoHS Directive

PCMCIA, ATA Interface Type

For Embedded Systems/ Silicon Disk

NAND-type Flash Memory has become dominant in the storage market. Doubling capacity and halving price per Mbyte every year has accelerated NAND Flash usage in almost all industries/applications, mushrooming especially where NOR or HDD had been the preferred technology.

In fact, NAND Flash has been increasingly used like NOR or HDD for operating system storage, i.e. arcade game programs or software control of factory automation systems. The market requirement for NAND Flash can be summarized as 'higher performance with higher reliability at a lower cost factor'.

The TDK GBDriver RB4 controls Flash Memory from 16MB up to 8GB by a single chip. This wide coverage enables easy replacement from both NOR- and HDD-base systems, as well as flexible system design for future expansion. Nevertheless, the GBDriver RB4 does not sacrifice high speed or high security control. The GBDriver RB4 builds upon the success of the TDK GBDriver RA4 controller, a recipient of numerous design wins.

FEATURES

- Controls NAND-type Flash Memory from 16MB up to 8GB.
- Compatibility confirmed with Flash Memories of several makers.*
- 1 chip control of up to eight Flash Memory ICs, no external ROM or buffer memory necessary.
- High reliability in Write and Read by TDK original systematic control over NAND-type Flash Memory.
- Features the "Write and Verify" command, checking for read errors after all single sector writes.
- Command and power management specifications conform to the CompactFlash™ standard rev. 1.4.
- Custom settings for the CIS data and the vendor-unique area of "IdentifyDrive" command are supported.
- Conforms to the RoHS directives.

* Please contact us to confirm the Flash Memory compatibility.

MAIN APPLICATIONS

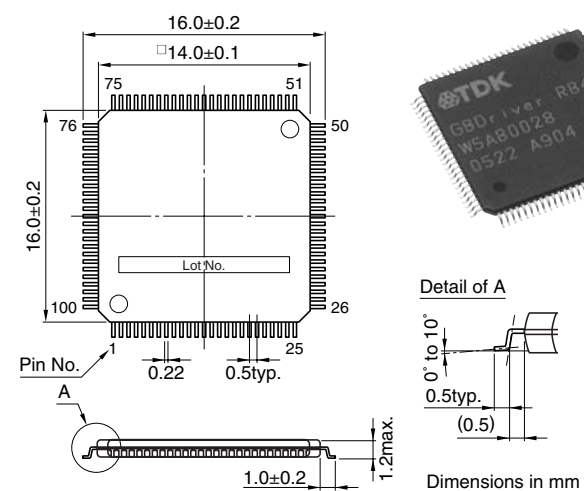
- Silicon Disk
- Embedded Systems

APPLICATIONN EXAMPLES

- For NOR Flash-/HDD- replacement applications,
- For user data storage applications; home information appliances, STBs, PDAs, mobile phones, etc.
- For booting embedded systems of WindowsXP Embedded-base or Linux-base.
- For other applications that require vibration tolerance, low power consumption and downsizing; Medical equipment, logistics, POS system, etc.

SHAPES AND DIMENSIONS

TQFP100pin Single Chip



SPECIFICATIONS

Timing specifications	Host I/F	120ns[BUS cycle]
	Flash I/F	60ns
Power specifications	Host I/F	3.0 to 3.6V
	Core	3.0 to 3.6V
	Flash I/F	3.0 to 3.6V
System clock		33MHz
Temperature ranges	Operating	-40 to +85°C
	Storage	-55 to +125°C

PERFORMANCE(REFERENCE)

Writing	About 9MB/s [Depends on the flash memory program and the erase time.]	
Reading	About 13MB/s [Between HOST-FIFO burst transfer: 8MB/s]	
Power consumption (ref.)	Reading	30mA[3.3V]
	Writing	30mA[3.3V]
	Sleeping	0.3mA[3.3V]

- GBDriver is a registered trademark of TDK Corporation
- CompactFlash™ is a trademark of SanDisk Corporation

• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

• All specifications are subject to change without notice.