# NAND-type Flash Memory Controller IC GBDriver XR   **Conformity to RoHS Directive**

## Memory Bus Interface Type

## For Small Embedded Systems without an ATA/IDE interface

NAND-type Flash Memory has occupied significant place in embedded systems. In many cases the system size is small and an ATA interface is not used.  The TDK GBDriver XR bridges those host interfaces without an ATA bus to NAND-type Flash Memory. The built-in engine is the TDK GBDriver RA3 controller.  The GBDriver RA3 is the recipient of numerous design wins and strong interest from our customer base.

GBDriver XR interfaces with a common memory bus such as SRAM bus, enabling CPU to connect with and thus control NAND-type Flash Memory directly. GBDriver XR makes it possible to build storage systems even if they do not have hard disk interface such as ATA/IDE. The XR is packaged in an ultra-small, ultra-thin VFBGA.  This simplifies insertion into portable devices, mobile terminals, and small IT home appliances.

## FEATURES

- World's first NAND-type Flash Memory controller interfacing with common memory bus, such as a one chip LSI solution.
- Realizes 6MB/s burst writes when directly connected with the system bus.
- Controls NAND-type Flash Memory up to 4GB. Confirmed compatibility with Flash Memories of several makers.*
- High reliability in Write and Read by TDK original systematic control over NAND-type Flash Memory.
- ATA compatible register interface, suitable for use with the FAT file system, only low level driver required.
- Available in 8mm□VFBGA100pin package.
- Supports auto recovery function (option)
- Conforms to the RoHS directives.
- * Please contact us to confirm the Flash Memory compatibility.

## MAIN APPLICATIONS

- Flash memory modules
- Silicon storage
- Boot devices for 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.

## SHAPES AND DIMENSIONS
### VFBGA100pin Single Chip



Dimensions in mm
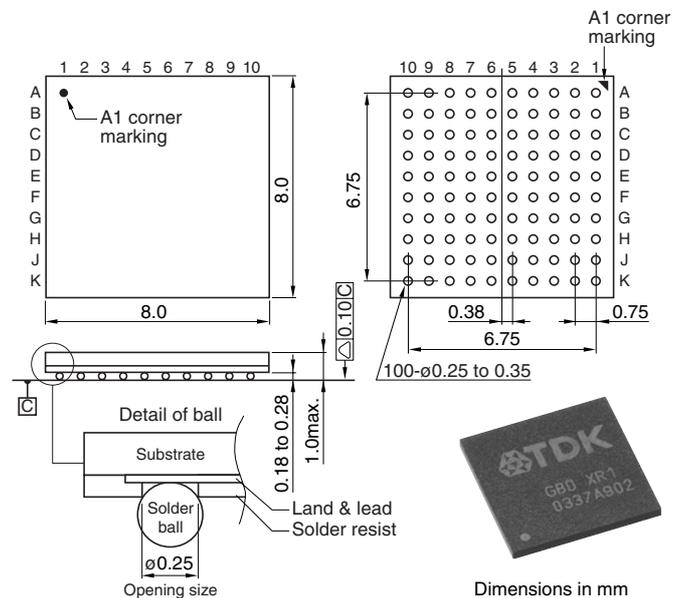
## SPECIFICATIONS

| | | |
|---|---|---|
| Timing specifications | Host I/F | 120ns[Burst cycle] |
| | | 180ns[Single cycle] |
| | Flash I/F | 90ns |
| Power specifications | Host I/F | 2.7 to 3.6V |
| | Core | 2.7 to 3.6V |
| | Flash I/F | 2.7 to 3.6V |
| System clock | | 33.33MHz [External clock support] |
| Temperature ranges | Operating | −40 to +85°C |
| | Storage | −55 to +125°C |
| Power consumption (ref.) | Reading | 41mA[3.0V] |
| | Writing | 40mA[3.0V] |