

SATA 240/120/80GB 1.8-Inch Hard Disk Drives

Market-Leading Capacity

High-Performance

Durability



MK2431GAH
MK1231GAS
MK8031GAS

Offering up to 240GB¹ in the 1.8-inch form factor, the Toshiba MK**31GAL/GAH hard disk drive series provides industry-leading storage solutions for compact and handheld applications using the Parallel ATA interface. The MK**31GAL line features two single-platter, 5 millimeter-high 80¹ and 120GB¹ models, while the high-end, MK2431GAH uses 2-platters in an 8 millimeter-tall package to achieve 240GB¹ in storage capacity.

The media design and low-power consumption options make the MK**31GAL/GAH drives suitable for integration into portable media players, digital video camcorders and Linux-based, ultra-portable PC applications. The 1.8-inch series represents Toshiba's commitment to enhancing the environmental soundness of its products by eliminating certain hazardous and toxic substances³ used in the drive components, as well as enhancing the power-efficiency of all new hard drives designed and produced by Toshiba since late 2008.

- 1.8-inch Footprint Offering up to 240GB¹ in Capacity
- 4200 RPM Rotational Speed
- Parallel-ATA Interface
- Low Power Consumption
- RoHS-compatible² and Eco-conscious Design³

Hard Drive

SATA 240/120/80GB

1.8-Inch Hard Disk Drives



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Leading Innovation >>>

Specifications

Specifications		MK2431GAH (HDD1905)	MK1231GAS (HDD1813)	MK8031GAS (HDD1814)
Series Overview	Interface	Parallel ATA (PATA)	Parallel ATA (PATA)	Parallel ATA (PATA)
	Capacity	240GB ¹	120GB ¹	80GB ¹
	Number of Platters	2	1	1
	Number of Data Heads	4	2	2
	RoHS Compatible ²	Y	Y	Y
Performance	Max Transfer Rate to Host	100MB/s	100MB/s	100MB/s
	Media Transfer Rate (max)	488 Mbits/sec	488 Mbits/sec	324 Mbits/sec
	Rotational Speed	4200rpm	4200rpm	4200rpm
	Average Latency	7.14	7.14	7.14
	Buffer ⁴	8MB	8MB	8MB
	Track-to-track Seek Time	3ms	3ms	3ms
	Average Seek Time	15ms	15ms	15ms
	Load/Unload Cycles	600,000	600,000	600,000
	Power Requirements	Voltage	3.3V ±5%	3.3V ±5%
Energy Consumption Efficiency ⁵		0.0013W/GB	0.0025W/GB	0.0038W/GB
Spin-up		1.8watts	1.8watts	1.8watts
Seeking		0.9watts	0.9watts	0.9watts
Reading		0.8watts	0.8watts	0.8watts
Writing		0.8watts	0.8watts	0.8watts
Active Idle		0.4watts	0.4watts	0.4watts
Low Power Idle		0.3watts	0.3watts	0.3watts
Standby		0.1watts	0.1watts	0.1watts
Sleep		0.07watts	0.07watts	0.07watts
Dimensions/Weight		Height	0.31" (8mm)	0.2" (5mm)
	Width	2.13" (54mm)	2.13" (54mm)	2.13" (54mm)
	Depth	2.79" (71.0mm)	3.09" (78.5mm)	3.09" (78.5mm)
	Weight	2.08 oz (59g)	1.69oz (48g)	1.69oz (48g)
Environmental	Operating Temperature	41 - 140°F (5 to 60°)	41 - 140°F (5 to 60°)	41 - 140°F (5 to 60°)
	Non-Operating Temperature	-4 - 148°F (-20 to 65°)	-4 - 148°F (-20 to 65°)	-4 - 148°F (-20 to 65°)
	Operating Humidity	8 - 90% R.H.	8 - 90% R.H.	8 - 90% R.H.
	Non-Operating Humidity	8 - 90% R.H.	8 - 90% R.H.	8 - 90% R.H.
	Operating Vibration	2.0G (15-500 Hz)	2.0G (15-500 Hz)	2.0G (15-500 Hz)
	Non-Operating Vibration	5.0G (15-500 Hz)	5.0G (15-500 Hz)	5.0G (15-500 Hz)
	Operating Shock	600G/2.0ms	600G/2.0ms	600G/2.0ms
	Non-Operating Shock	1,500G/1.0ms	1,500G/1.0ms	1,500G/1.0ms
Acoustics	Idle Mode (Average)	1.4Bels	1.4Bels	1.4Bels
	Seek Mode (Average)	2.0Bels	2.0Bels	2.0Bels

- One Gigabyte (1 GB) means $10^9 = 1,000,000,000$ bytes using powers of 10. A computer operating system, however, reports storage capacity using powers of 2 for the definition of 1 GB = $2^{30} = 1,073,741,824$ bytes, and therefore shows less storage capacity. Available storage capacity will also be less if the computer includes one or more pre-installed operating systems, pre-installed software applications, or media content. Actual formatted capacity may vary.
- RoHS Compatible: This product is compatible with European Union Directive 2002/95/EC. Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS), which restricts use of lead, cadmium, mercury, hexavalent chromium, PBB, and PBDE.
- Free of brominated flame retardants (BFR) and polyvinyl chloride (PVC); hazardous halogens, antimony trioxide and red phosphorous also eliminated from all components in the hard drive.
- Buffer space available to the user.
- Energy consumption efficiency is calculated based on power consumption divided by formatted capacity, as defined by Japanese law.

Subject to Change: While Toshiba has made every effort at the time of publication to ensure the accuracy of the information provided herein, product specifications, configurations, prices, system/component/options availability are all subject to change without notice.

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