

MK**54GSY Series Hard Disk Drive



Superior Quality, Performance in a Mobile Platform Geared for Gaming, Multimedia & Entertainment

The MKxx54GSY series is Toshiba's newest, top-on-the-line, 7,200 RPM hard disk drive offering which spans capacities ranging from 320 to 80GB. The drive combines superior quality and performance in a mobile platform geared for data-intensive and productivity-sensitive environments such as gaming, multimedia, entertainment as well as office applications.

With the MKxx54GSY, Toshiba continues its corporate initiative in providing environmentally conscious solutions through the integration of a printed circuit board assembly that is completely free of halogens. Usage of MKxx54GSY drives can also reduce operating power consumption by as much as 70 percent over even the most power-conservative 3.5-inch hard disk drives, without compromising valuable storage space.

Capacity

Up To 320 Gigabytes Of
Storage Capacity

Speed

7,200 RPM Spin Speed

Interface

Serial ATA 3.0 Gbps and
Extended SATA Features

Performance

16MB Cache Buffer For
User Data

Reliability

Optional Free Fall Sensor

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Specifications

Series Overview	MK8054GSY HDD2E41	MK1254GSY HDD2E42	MK1654GSY HDD2E43	MK2554GSY HDD2E44	MK3254GSY HDD2E45
Interface	SATA 3Gb/s (Serial ATA Revision 2.6 / ATA-8)				
Storage Capacity	80GB*	120GB*	160GB*	250GB*	320GB*
Sector Size	12 Bytes				
Data Heads (Physical)	1	2	2	4	4
Number of Disks	1	1	1	2	2
Max. Areal Density	247.1 Gbits/sq. inch				
Performance					
Rotational Speed	7,200 RPM				
Average Latency	4.16 (avg)				
Media Transfer Rate	1,020 Mbits/sec. (max)				
Interface Transfer Rate	300 MB/sec. (max)				
Data Buffer	16MB**				
Seek Time					
Track-to-track	1ms				
Average	10.5ms (Read), 12ms (Write)				
Full Stroke	19ms				
Power Requirements					
Voltage	+5V(+/-5%)				
Spin-up	5.5watts (typ)				
Seek	2.2watts (typ)				
Read/Write	1.9watts (typ)				
Active Idle	1.2watts (typ)				
Low Power Idle	0.9watts (typ)				
Standby	0.18watts (typ)				
Sleep	0.13watts (typ)				
Physical Size					
Height	0.37" (9.5mm)				
Width	2.75" (69.85mm)				
Depth	3.94" (100mm)				
Weight	3.88oz (110g)	3.88oz (110g)	3.88oz (110g)	4.02oz (114g)	4.02oz (114g)
Environmental (Operating)					
Shock (half sine wave)	300G, 2ms (2,940 m/s ²)				
Vibration (sweeping sine wave)	1.0G, 5-500 Hz (9.8 m/s ²)				
Ambient Temperature	41° - 131°F (5 to 55°C)				
Relative Humidity	8% to 90% RH (non-condensing)				
Altitude	-300 to 3,000 Meters				
Environmental (Non-Operating)					
Shock (half sine wave)	900G, 1ms (8,820 m/s ²)				
Vibration (sweeping sine wave)	5.0G, 15-500 Hz (49 m/s ²)				
Ambient Temperature	-40° - 140°F (-40 to 60°C)				
Relative Humidity	8% to 90% RH (non-condensing)				
Altitude	-300 to 12,000 Meters				
Acoustics (A-Weighted Sound Power)					
Idle Mode (Average)	2.0	2.0	2.0	2.5	2.5
Seek Mode (Average)	2.5	2.5	2.5	2.8	2.8
Reliability					
Load/Unload Cycles	600,000				

Toshiba Model Numbers

Ordering Number = **HDD2E4x**

MK = Toshiba HDD **12/80** = First two digits of the capacity **16** = Model generation **G** = GB **S** = SATA **Y** = 2.5-inch, 9.5mm z-height, 7,200 RPM

* One Gigabyte (1 GB) means 10⁹ = 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 = 2³⁰ = 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.

** Buffer space available to the user.

*** S-ATA power management features applied.

320GB

250GB

160GB

120GB

80GB

For over 20 years, Toshiba has been developing and manufacturing small form factor hard disk drives that are used in every major brand of notebook computer. Toshiba HDDs are consistently rated by our customers the highest in quality and reliability.

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