

2.5 inch ATA-5 hard disk drives  
Capacities: 20, 30, 40, & 60 GB.

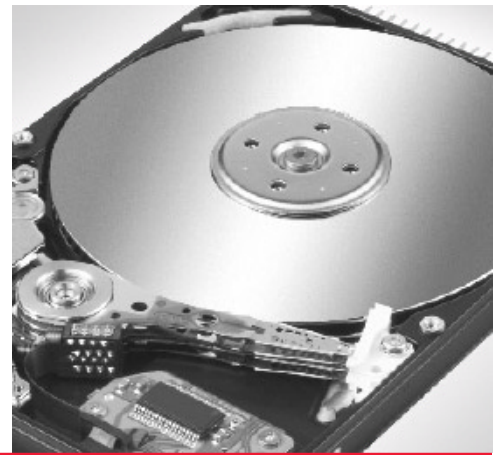
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## Hitachi Travelstar DK23EA /DK23EB hard disk drives

### Highlights

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- ▶ *20,30,40 or 60 GB 4200 RPM in 9.5mm high package for maximum capacity slimline portable applications*
- ▶ *20 and 40 GB 5400 RPM in 9.5mm high package for applications that require increased performance*
- ▶ *250G/2ms operating shock*
- ▶ *ATA-5 interface with 2048kB read/write cache*
- ▶ *Ultra DMA mode 5 (100 MB/s max.) supported*
- ▶ *GMR head and ME<sup>2</sup>PRML read channel technology*
- ▶ *3-bit RISC microprocessor, shock sensor, S.M.A.R.T.*
- ▶ *Fluid Dynamic Bearing Motors for improved acoustic and shock characteristics*



## Hitachi Travelstar DK23EA and DK23EB hard disk drives specifications

Product name	Travelstar DK23EA	Travelstar DK23EB
Model number	DK23EA-60, DK23EA-40, DK23EA-30, DK23EA-20	DK23EB-40, DK23EB-20
<b>Performance</b>		
Interface	ATA-5	ATA-5
Capacity (GB)	60/40/30/20	40/20
Sector size (bytes)	512	512
Number of cylinders	42,0091	42,091
Disks	2/2/1/1	2/1
Data heads	4/3/2/2	4/2
Seek Time (nominal)		
1 track (ms)	3	3
Average (ms)	13	13
Full track (ms)	24	24
Average latency (ms)	71	56
Rotational speed (RPM)	4,200	5,400
Read technology	ME <sup>2</sup> PRML, ID-less format	ME <sup>2</sup> PRML, ID-less format
Internal transfer rate (MB/s)	22.1 – 42.8/19.4 – 37.1/22.1 – 42.8/19.4–37.1	278 – 44.1
Recording density (Max.(Mtpm))	28.6/25.4/28.6/25.54	24.1
Track density (Mtpm)	2.76	2.48
Interface transfer rate	100MB/sec Ultra DMA mode-5 16.6MB/sec PIO mode-4	100MB/sec Ultra DMA mode-5 16.6MB/sec PIO mode-4
Data buffer (MB) <sup>1</sup>	2	2
<b>Physical size</b>		
Height (mm)	9.5	9.0
Width (mm)	70	70
Depth (mm)	100	100
Weight (g)	95/95/91/91	95/91
<b>Power</b>		
Requirement	+5VDC(±5%)	+5VDC(±5%)
Dissipation (typical)		
Seek (max. peak)	0.45	0.45
Spin up (average)	0.90	0.90
Idle (average)	0.14	0.17
Read/Write (average)	0.40	0.42/0.40
Sleep (average)	0.02	0.02
Stand-by (average)	0.03	0.03
Temperature		
Operating	5° to 55° C (41° to 131° F)	5° to 55° C (41° to 131° F)
Non-operating	-40° to 70° C (140° to 158° F)	-40° to 70° C (140° to 158° F)
<b>Reliability</b>		
Error rate (non-recoverable)	< 1 per 10 <sup>13</sup> bits transferred	< 1 per 10 <sup>13</sup> bits transferred
Preventive Maintenance	Non required	Non required
<b>Environmental characteristics</b>		
Relative humidity		
Operating	5% - 90%	5% - 90%
Non-operating	5% - 95%	5% - 95%
Maximum wet bulb (non-condensing)		
Operating	29° C (84.2° F)	29° C (84.2° F)
Non-operating	40° C (140° F)	40° C (140° F)
Shock (half sine wave)		
Operating	2,450m/s <sup>2</sup> (250G) or less (2ms)	2,450m/s <sup>2</sup> (250G) or less (2ms)
Non-operating	7,840m/s <sup>2</sup> (800G) or less (2ms)	7,840m/s <sup>2</sup> (800G) or less (2ms)
Vibration		
Operating	1G (22 - 500Hz)	1G (22 - 500Hz)
Non-operating	5G (22 - 500Hz)	5G (22 - 500Hz)
Acoustic noise (Bels)		
Idle (typical)	2.4	2.8
Seek	3.1	3.1

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### For more information

#### Internet and e-mail:

- [www.hgst.com](http://www.hgst.com)
- N. America: [support\\_usa@hgst.com](mailto:support_usa@hgst.com)
- EMEA: [support\\_uk@hgst.com](mailto:support_uk@hgst.com)
- Asia Pacific: [support\\_ap@hgst.com](mailto:support_ap@hgst.com)

#### Hitachi hard drive product information:

- US: 1 888 426-5214
- For a complete list of worldwide phone numbers, visit [www.hgst.com/support](http://www.hgst.com/support)

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