



KHX16000D3ULT1K3/3GX

3GB (1GB 128M x 64-Bit x 3 pcs.) PC3-16000

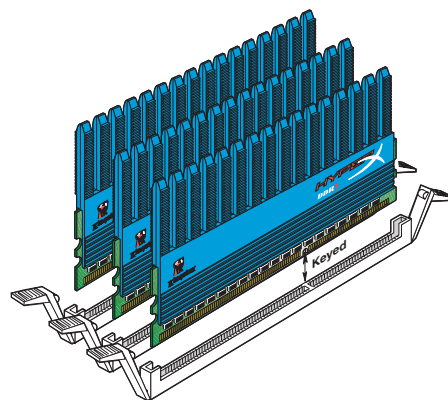
Triple-Channel CL9 240-Pin DIMM Kit

DESCRIPTION:

Kingston's KHX16000D3ULT1K3/3GX is a triple-channel kit of three 128M x 64-bit 1GB (1024MB) DDR3-2000MHz CL9 SDRAM (Synchronous DRAM) memory modules, based on eight 128M x 8-bit DDR3 FBGA components per module. Total kit capacity is 3GB. Each module kit supports **Intel® XMP** (Extreme Memory Profiles). Each module kit has been tested to run at DDR3-2000MHz at an ultra-low latency timing of 8-8-8-24 at 1.65V. The SPDs are programmed to JEDEC standard latency DDR3-1333MHz timing of 9-9-9 at 1.5V. Each 240-pin DIMM uses gold contact fingers and requires +1.5V. The JEDEC standard electrical and mechanical specifications are as follows:

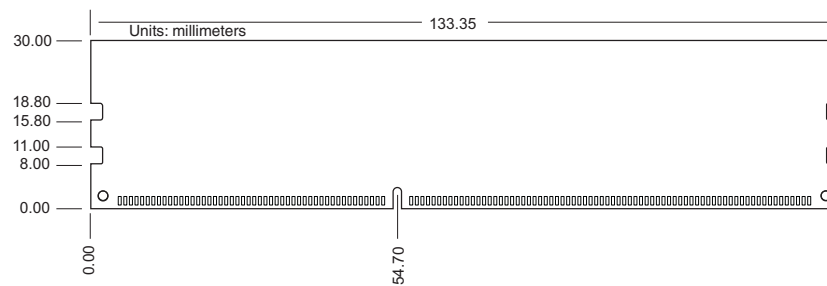
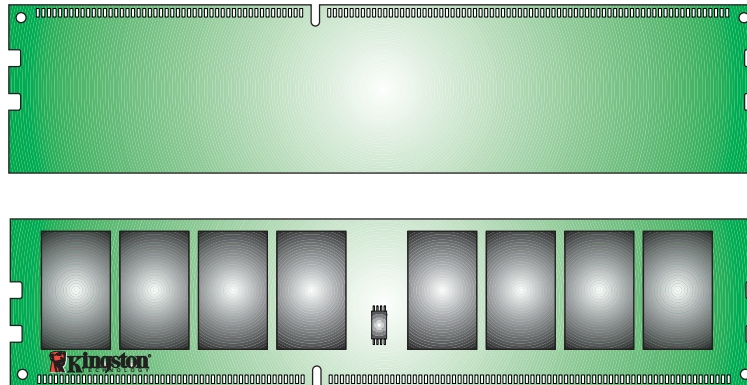
FEATURES:

- ✓ JEDEC standard 1.5V $\pm$ 0.075V Power Supply
- ✓ VDDQ = 1.5V $\pm$ 0.075V
- ✓ 667MHz fCK for 1333Mb/sec/pin
- ✓ 8 independent internal bank
- ✓ Programmable CAS Latency: 6,7,8,9
- ✓ Posted CAS
- ✓ Programmable Additive Latency: 0, CL - 2, or CL - 1 clock
- ✓ Programmable CAS Write Latency(CWL) = 7(DDR3-1333)
- ✓ 8-bit pre-fetch
- ✓ Burst Length: 8 (Interleave without any limit, sequential with starting address "000" only), 4 with tCCD = 4 which does not allow seamless read or write [either on the fly using A12 or MRS]
- ✓ Bi-directional Differential Data Strobe
- ✓ Internal(self) calibration : Internal self calibration through ZQ pin (RZQ : 240 ohm $\pm$ 1%)
- ✓ On Die Termination using ODT pin
- ✓ Average Refresh Period 7.8us at lower then TCASE 85°C, 3.9us at 85°C < TCASE . 95°C
- ✓ Asynchronous Reset
- ✓ PCB : Height 2.401" (61.00mm) w/ heatsink, single sided component



PERFORMANCE:

- | | |
|--|--------------------------------|
| ✓ CL(IDD) | 9 cycles |
| ✓ Row Cycle Time (tRCmin) | 49.5ns (min.) |
| ✓ Refresh to Active/Refresh Command Time (tRFCmin) | 110ns |
| ✓ Row Active Time (tRASmin) | 36ns (min.) |
| ✓ Power | 1.296 W (operating per module) |
| ✓ UL Rating | 94 V - 0 |
| ✓ Operating Temperature | 0° C to 85° C |
| ✓ Storage Temperature | -55° C to +100° C |

MODULE DIMENSIONS:

w/ heatsink assembly

