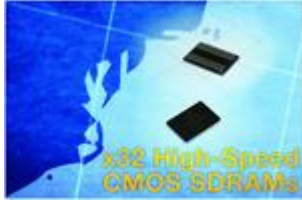# Alliance Memory's new High-Speed AS4C2M32S & AS4C4M32S CMOS SDRAMs



Alliance Memory extends its 64M and 128M lines of high-speed CMOS synchronous DRAMs (SDRAM) with new 2M x 32 and 4M x32 devices in the 90-ball 8mm by 13mm by 1.2mm TFBGA packages and 86-pin 400mil plastic TSOP II packages.

**Key Specifications:**
- Fast access time from clock down to 5.4ns
- Fast clock rates of 143MHz and 166MHz
- Commercial temperatures range of 0°C to 70°C
- Programmable read/write burst lengths of 1, 2, 4, 8, or full page, with a burst termination option
- Auto pre-charge function provides a self timed row pre-charged initiated at the end of the burst sequence
- Easy to use refresh functions include auto or self refresh
- Programmable mode register allows the system to choose the most suitable modes to maximize performance
- Lead (Pb) and halogen free
- Industrial, telecom, and consumer products.

The AS4C2M32S and AS4C4M32S provide reliable drop-in, pin-for-pin compatible replacements for a number of similar solutions in products requiring high memory bandwidth. The devices are the latest in Alliance Memory's full line of high-speed SDRAMs, which includes devices with densities of 16 Mb, 64 Mb, 128 Mb, 256 Mb, and 512 Mb in the 50-pin TSOP II, 54-pin TSOP II, 54-ball TFBGA, 86-pin TSOP II, and 90-ball TFBGA packages

| Density | 64M | 64M | 128M | 128M |
|---|---|---|---|---|
| Alliance Memory Part Number | AS4C2M32S-7BCN | AS4C2M32S-7TCN | AS4C4M32S-7BCN | AS4C4M32S-7TCN |
| Technology | 63 nm | 63 nm | 63 nm | 63 nm |
| Package | 90 ball BGA | 86 pin TSOP 11 | 90 ball BGA | 86 pin TSOP 11 |

Datasheets and additional information can be found on www.alliancememory.com