

### DESCRIPTION:

This document describes Aplus 64M x 72-bit 512MB DDR400 CL3 SDRAM (Synchronous DRAM) ECC memory module. The components on this module include nine 64M x 8-bit (4 Bank) DDR400 SDRAM in TSOP packages. This 184-pin DIMM uses gold contact fingers and requires +2.6V. The electrical and mechanical specifications are as follows:

### FEATURES:

- Power supply: Vdd:  $2.6V \pm 0.1V$ , Vddq:  $2.6V \pm 0.1V$
- Max clock Freq: 200Mhz
- Double-data-rate architecture; two data transfers per clock cycle
- Bidirectional data strobe (DQS)
- Differential clock inputs (CK and CK)
- DLL aligns DQ and DQS transition with CK transition
- Programmable Read latency 3 (clock)
- Programmable Burst length (2,4,8)
- Programmable Burst type (sequential & interleave)
- Timing Reference: CL-tRCD-tRP (3-3-3)
- Edge aligned data output, center aligned data input
- Auto & Self refresh, 7.8us refresh interval (8K/64ms refresh)
- Serial presence detect with EEPROM

### PERFORMANCE:

Clock Cycle Time ( tCK )	5ns (min.) /10ns (max.)
Row Cycle Time ( tRC )	55ns (min.)
Refresh Row Cycle Time ( tRFC )	70ns (min.)
Row Active Time ( tRAS )	40ns (min.) /70,000ns (max.)
Power Dissipation	13.5W
Operating Temperature	0°C to 70°C
Storage Temperature	-55°C to +150°C

