

### DESCRIPTION:

This document describes Aplus 64M x 64-bit 512MB DDR333 CL2.5 SDRAM (Synchronous DRAM) memory module. The components on this module include eight 64M x 8-bit (4 Bank) DDR333 SDRAM in TSOP packages. This 184-pin DIMM uses gold contact fingers and requires +2.5V. The electrical and mechanical specifications are as follows:

### FEATURES:

- Power supply: V<sub>dd</sub>: 2.5V ± 0.2V, V<sub>ddq</sub>: 2.5V ± 0.2V
- All inputs and outputs SSTL\_2 compatible
- Max clock Freq: 166MHz
- 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 2.5 (clock)
- Programmable Burst length (2,4,8)
- Programmable Burst type (sequential & interleave)
- Timing Reference: CL-tRCD-tRP (2.5-3-3)
- 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 )	6ns (min.) /12ns (max.)
Row Cycle Time ( tRC )	60ns (min.)
Refresh Row Cycle Time ( tRFC )	72ns (min.)
Row Active Time ( tRAS )	42ns (min.) /70,000ns (max.)
Power Dissipation	12W
Operating Temperature	0°C to 70°C
Storage Temperature	-55°C to +150°C

