

## DDR3 SDRAM 1600/1333/1066 204-PIN SO\_DIMM 1GB 128Mx16

### DESCRIPTION:

This document describes Aplus 128M x 64-bit 1GB DDR3 SDRAM (Synchronous DRAM) Dual In-Line Memory Module. The components on this module include four 128M x 16-bit DDR3 SDRAMs in FBGA packages and a 2048-bit serial EEPROM. Those components were mounted on a 204-pin printed circuit board. This 204-pin SO\_DIMM is used to be mounted into 204-pin edge connector sockets and data I/O transactions could be apply on both edges of DQS. The electrical and mechanical specifications are as follows:

### FEATURES:

DDR3 functionality and operations supported as defined in the component data sheet

204-pin, small-outline dual in-line memory module (SODIMM)

Fast data transfer rates: PC3-12800, PC3-10600, PC3-8500

1GB (128 Meg x 64)

VDD = 1.5V  $\pm$ 0.075V

VDDSPD = 3.0–3.6V

Nominal and dynamic on-die termination (ODT) for data, strobe, and mask signals

Single rank

Serial presence-detect (SPD) EEPROM

8 internal device banks

Fixed burst chop (BC) of 4 and burst length (BL) of 8 via the mode register set (MRS)

Selectable BC4 or BL8 on-the-fly (OTF)

Gold edge contacts

Halogen-free

Fly-by topology

Terminated control, command, and address bus

### Options

Operating temperature

– Commercial (0°C  $\leq$ TA  $\leq$ +70°C)

Frequency/CAS latency

– 1.25ns @ CL = 11(DDR3-1600)

– 1.5ns @ CL = 9 (DDR3-1333)

– 1.87ns @ CL = 7 (DDR3-1066)

### PERFORMANCE:

Industry Nomenclature	Data Rate (MT/s)					tRCD (ns)	tRP (ns)	tRC (ns)	Module Bandwidth	Memory Clock/ Data Rate	Clock Cycles (CL-tRCD-t RP)
	CL = 11	CL = 10	CL = 9	CL = 8	CL = 7						
PC3-12800	1600	1333	1333	1066	1066	13.125	13.125	48.125	12.8 GB/s	1.25ns/1600 MT/s	11-11-11
PC3-10600	–	1333	1333	1066	1066	13.125	13.125	49.125	10.6 GB/s	1.5ns/1333 MT/s	9-9-9
PC3-8500	–	–	–	1066	1066	13.125	13.125	50.625	8.5 GB/s	1.87ns/1066 MT/s	7-7-7

