

BST4D8G16

DRAM DDR4 8G Product Overview

I. Functional Description

The BST4D8G16 - 16-bit 8Gb synchronous dynamic random-access memory (SDRAM) is a double-bit DDR4 DRAM fabricated using a high-speed CMOS process. It employs a two- bank group, four- bank structure, with each bank sized at 64M x 16 bits. The circuit's command and address signals are synchronized with an external clock (CLK), while the circuit's data signals are synchronized with the DQS signal. The logic state of each signal is determined by sampling on the rising edge of CLK.

BST4D8G16 circuit's various operating instruction sequences and packaging are compatible with Micron 's MT40A512M 16.

II. Main indicators

- Operating voltage: $V_{CC} = V_{CCQ} = 1.2V \pm 0.06V$, $V_{PP} = 2.5V$ (2.375V to 2.75V)
- Memory capacity: 8Gbit
- Memory structure: 64Mb x 16 x 4 banks x 2 bank groups
- Data rate: 2666Mbps
- Double data rate: Data signal latched on both system clock edges
- Programmable CAS latency
- Burst lengths: 8 or 4 (BC)
- Supports self-refresh and auto-refresh modes
- Auto-refresh interval:
 - 64ms, $TC < 85^{\circ}C$
 - 32ms, $TC > 85^{\circ}C$
 - 16ms, $TC > 95^{\circ}C$
- Package: BGA96 (plastic package)
- Operating temperature range: $-55^{\circ}C \sim +125^{\circ}C$
- Quality Grades: Enhanced temperature grade, QB grade, Aerospace grade
- Radiation Resistance:
 - Total Dose (TID) $\geq 100krad$ (Si)
 - Single Event Lockup (LET) $> 15MeV \cdot cm^2/mg$

