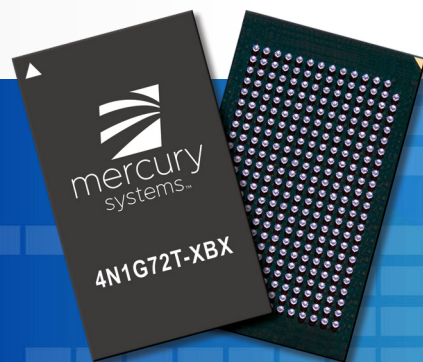


# High Density Secure Memory

## 8GB (1Gx64/x72) DDR4 SDRAM

Models 4N1G64T-XBX and 4N1G72T-XBX

- **Advanced miniaturization technology**
- **Data transfer speed up to 2400 Mb/s**
- **-55 to +125°C operating temperature**
- **Including Decoupling and Terminations**
- **Manufactured in a DMEA-trusted US facility**



**ADVANCED\***

Mercury Systems' unique miniaturization technology densifies [DDR4 SDRAM](#) memory in a compact, highly ruggedized package. This device is ideally suited for applications requiring high-speed DDR4 memory optimized for size, weight, and power.

Mercury Systems is currently engaging with customers in design opportunities requiring DDR4 memory performance. Please contact Mercury to participate in this design program.

### Product Features

- DDR4 Data Rate = DDR4-1600, DDR4-1866, DDR4-2133, DDR4-2400
- $V_{CC} = V_{CCQ} = 1.2V$
- $V_{PP} = 2.5V$
- Military and Industrial temperature ranges
- Output driver calibration
- Configured as 1-Rank x64 or x72-bit data
- 16 internal banks: 4 groups of 4 banks each
- 8n-bit prefetch architecture
- Programmable data strobe preambles
- Command/Address latency (CAL)
- Multipurpose register READ and WRITE capability
- Write and read leveling
- Self refresh mode and low-power auto self refresh (LPASR)

- Nominal, park, and dynamic on-die termination (ODT)
- Data bus inversion (DBI) for data bus
- Command/Address (CA) parity
- Databus write cyclic redundancy check (CRC)

### Benefits

- 75% space-savings vs discrete chip packages
- Military-grade performance without sacrificing the benefits of DDR4 memory
- Eutectic solder balls for superior board-level reliability
- Up to 88% component reduction
- 100% burn-in and electrical test for the highest quality assurance
- Manufactured in a DMEA-trusted facility
- Available component End of Life management for long-term supply continuity

### Plastic Ball Grid Array (PBGA) Package

- 13 x 20 x  $\leq 2.1$  mm package
- 321 pin count
- 0.8 mm pitch
- Moisture Sensitivity Level (MSL) 3

\* Advanced Product Development — This product is under development, is not qualified or characterized and is subject to change or cancellation without notice.

Mercury Systems is a leading commercial provider of secure processing subsystems designed and made in the USA. Optimized for customer and mission success, Mercury's solutions power a wide variety of critical defense and intelligence programs.



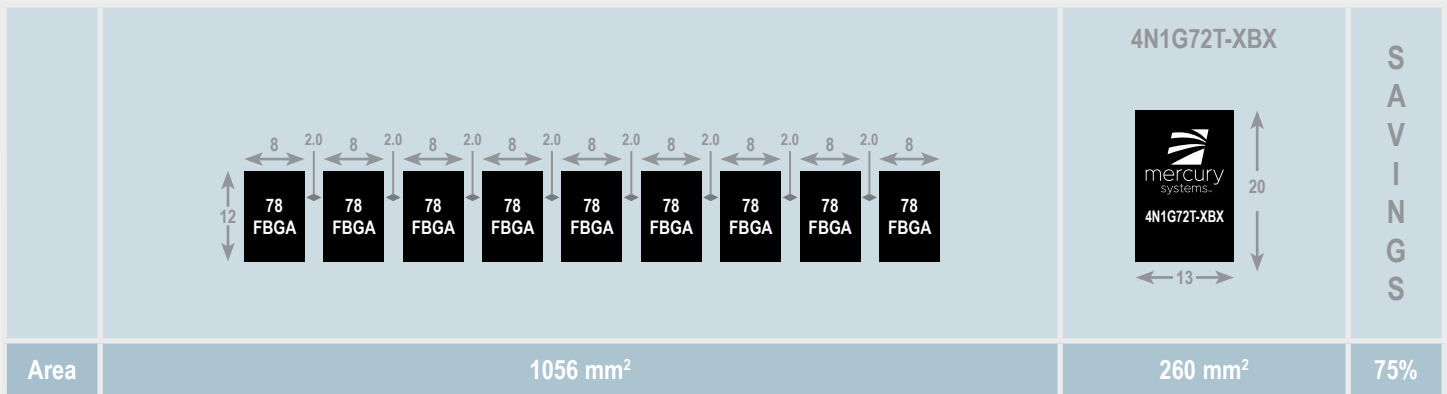


Figure 1 - Density Comparison for the x72 Device

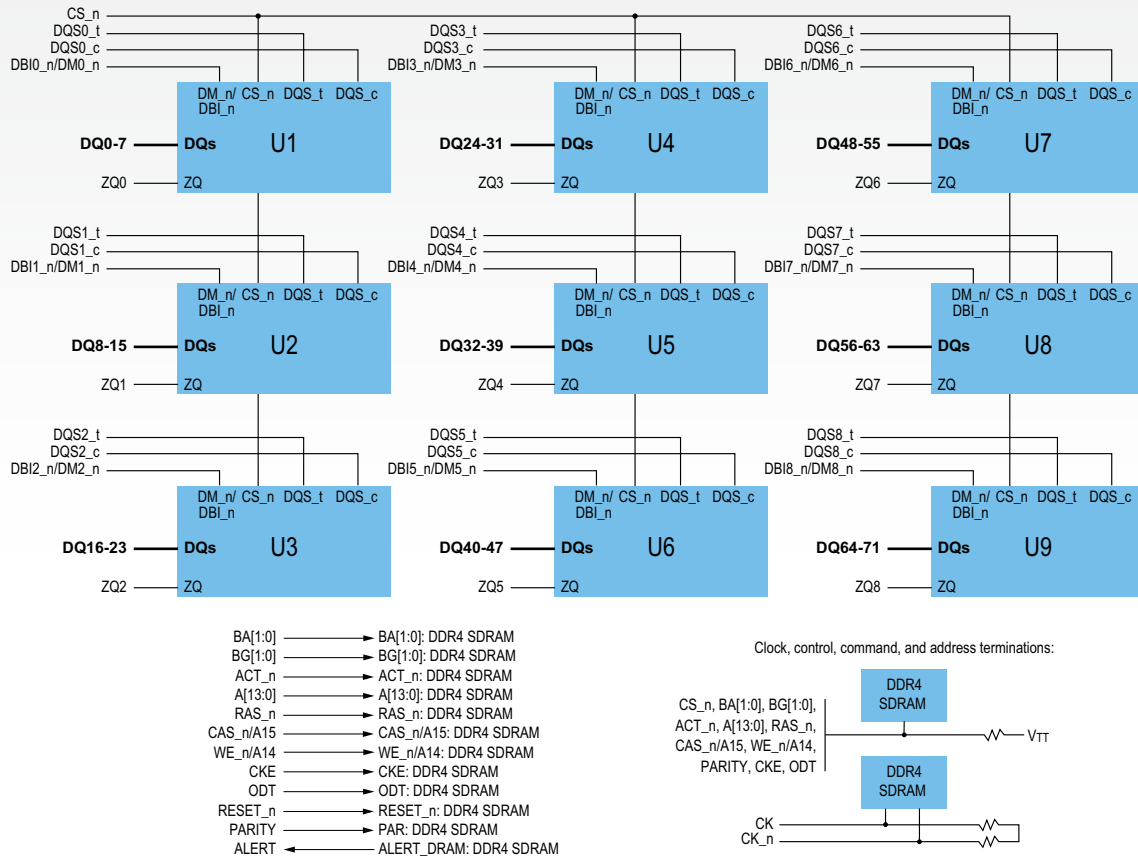


Figure 2 - Block Diagram for the x72 Device

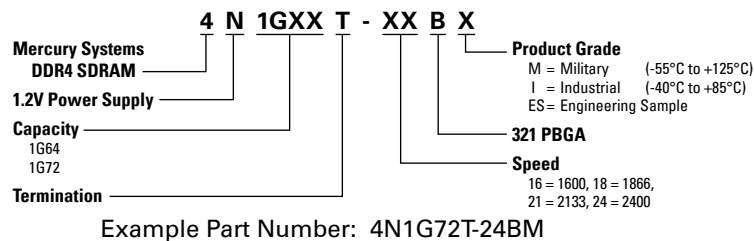


Figure 3 - Part Numbering Matrix

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