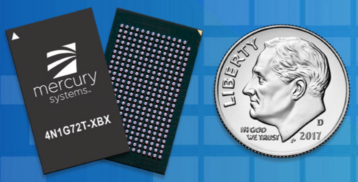
High Density Secure Memory
DDR4 SDRAM

Models 4N512M32T-XBX, 4N512M64T-XBX, 4N512M72T-XBX, 4N1G64T-XBX, 4N1G72T-XBX

- **Advanced miniaturization technology**
- **Data transfer speeds up to 2666 Mb/s**
- **-55 to +125°C operating temperatures**
- **Including Decoupling and Terminations**
- **Manufactured in a DMEA-trusted US facility**



Mercury Systems' BuiltSECURE™ technology miniaturizes DDR4 SDRAM memory in a compact, highly ruggedized package. This device is ideally suited for military and commercial aerospace 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. To participate in this design program, please contact your Mercury Systems representative or contact us at Secure.Memory@mrcy.com

Product Features

- DDR4 Data Rate = DDR4-1600, DDR4-1866, DDR4-2133, DDR4 2400 and DDR4-2666
- $V_{CC} = V_{CCQ} = 1.2V$
- $V_{PP} = 2.5V$
- 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 ≤2.36 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 sensor and safety-critical processing subsystems. Optimized for customer and mission success, Mercury's solutions power a wide variety of critical defense and intelligence programs.

ACQUIRE **DIGITIZE** **PROCESS** **STORAGE** **EXPLOIT** **DISSEMINATE**

Figure 1 *- Part Numbers*

DDR4 SDRAM MCPs

Size	Organization	Part Number	Data Rate (Mb/s)	Voltage (V)	Package	Dimensions	Temperature
2GB	512M x 32	4N512M32T-XBX	1333-2400	1.2	143 PBGA	8mm x 14mm	C, I, M
4GB	512M x 64	4N512M64T-XBX	1333-2400	1.2	321 PBGA	13mm x 20mm	C, I, M
4GB	512M x 72	4N512M72T-XBX	1333-2400	1.2	321 PBGA	13mm x 20mm	C, I, M
8GB	512M x 64	4N1G64T-XBX	1333-2400	1.2	321 PBGA	13mm x 20mm	C, I, M
8GB	512M x 72	4N1G72T-XBX	1333-2400	1.2	321 PBGA	13mm x 20mm	C, I, M

Figure 2 *- Part Numbering Matrix*

4 N 1GXX T - XX B X

Mercury Systems
DDR4 SDRAM

1.2V Power Supply

Capacity
1G64
1G72

Termination

Speed
16 = 1600
18 = 1866
21 = 2133
24 = 2400
26 = 2666

321 PBGA
140 PBGA - 2GB only

Product Grade
M = Military (-55°C to +125°C)
I = Industrial (-40°C to +85°C)
ES = Engineering Sample

Example Part Number: 4N1G72T-24BM

Need More Help?

Contact Mercury's Secure Memory application engineering team at

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INNOVATION THAT MATTERS™

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