

# 219 PBGA INTEGRATED PLASTIC ENCAPSULATED MICROCIRCUIT



## 2.4 Gb & 1.2 Gb SDRAM-DDR MCP iPEM

### FEATURES

- Throughput = 200, 250, 266 & 333 MHz
- Core Frequencies = 100, 125, 133 & 166 MHz
- Impedance Controlled, Microcircuit Interposer
- Core Supply Voltage = 2.5V +/- 0.2V
- I/O Supply Voltage = 2.5V +/- 0.2V
- Bi-directional Data Strobe (DQS) Per Byte
- Pipeline Double Data Rate Architecture
- Differential Input Clock
- DLL on I/O for Data Alignment
- Quad-Bank, Internal Architecture for Support of Concurrent Operations
- Data Mask Control (DM) for Masking WRITE
- Data at Byte Level
- Programmable IOH/IOL
- Programmable Burst Length: 2, 4 or 8
- Auto Precharge and Auto Refresh
- Self Refresh Modes on Industrial and Enhanced product

### BENEFITS:

- 40+% Space Savings
- 34% Reduction in I/O
- Reduction in Parts / Placement Count
- 100% Tested / Processed to:
  - ~Industrial [IT] -40°C to 85°C
  - ~Enhanced [ET] -40°C to 105°C
  - ~Military [XT] -55°C to 125°C
- 100% DC / AC Tested
- One Package Footprint Across Multiple Families / Densities
- Upgradeable

### OPTIONS

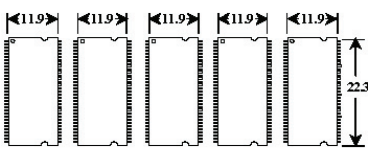
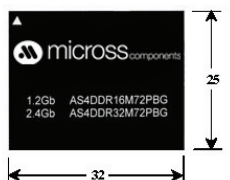
AS4DDR32M72PBG  
2.4 Gb, SDRAM-DDR, 32M x 72/80,  
32mm x 25mm - 219 PBGA

AS4DDR16M72PBG  
1.2 Gb, SDRAM-DDR, 16M x 72/80,  
32mm x 25mm - 219 PBGA

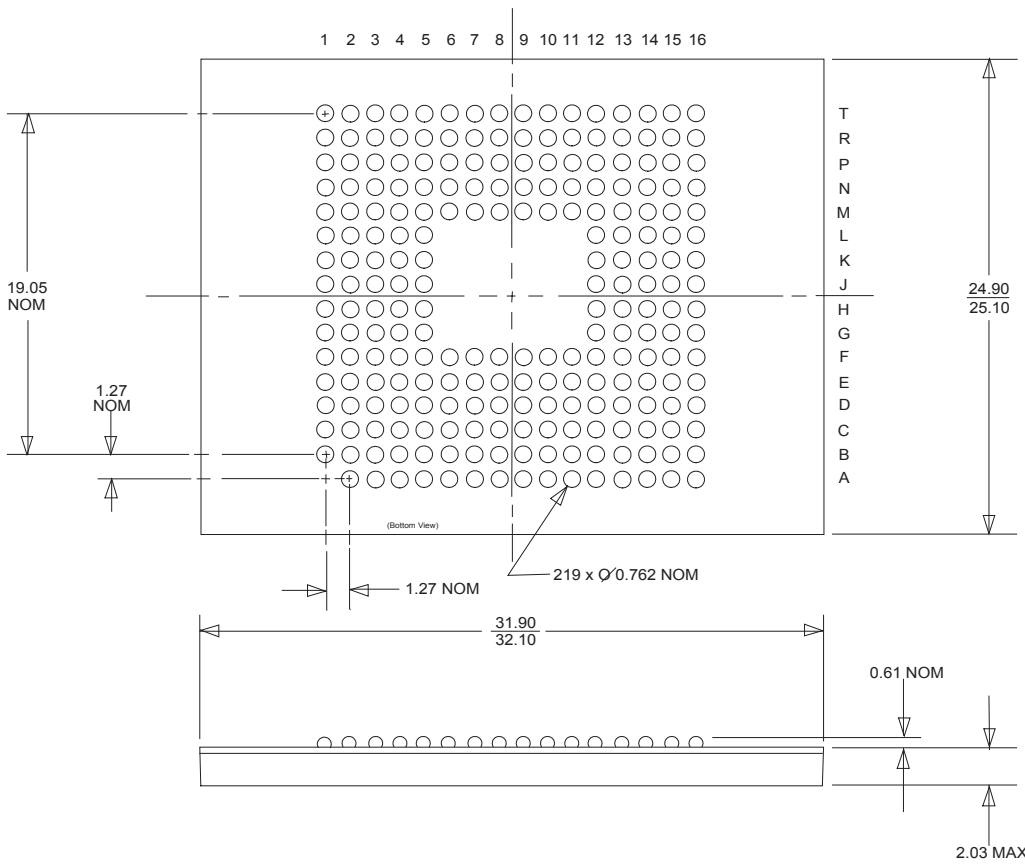
### APPLICATIONS

Examples include:

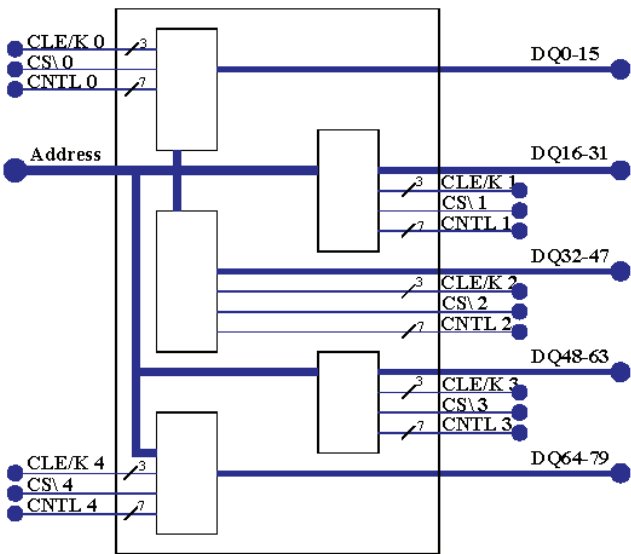
- Compact digital computing
  - ~Digital radio
  - ~Handheld GPS
  - ~Secure communications systems
- Missile guidance & navigation
- Smart munitions
- Portable manpack designs where weight & size is critical

	Monolithic Solution	Integrated MCP Solution	S A V I N G S
O P T I O N S			
Area	5 x 265mm <sup>2</sup> = 1328mm <sup>2</sup> Plus	800mm <sup>2</sup>	40+%
I/O Count	5 x 66 pins = 330 pins	219 Balls	34%

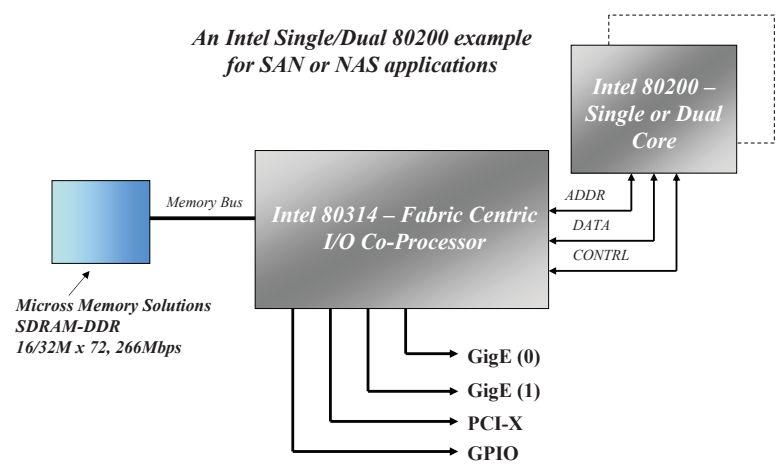
# MECHANICAL DEFINITIONS



# BLOCK DIAGRAM



# SYSTEM BLOCK DIAGRAM



For more information or to view a complete datasheet, please visit our website at [www.microcross.com](http://www.microcross.com) or call (512) 339-1188.

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