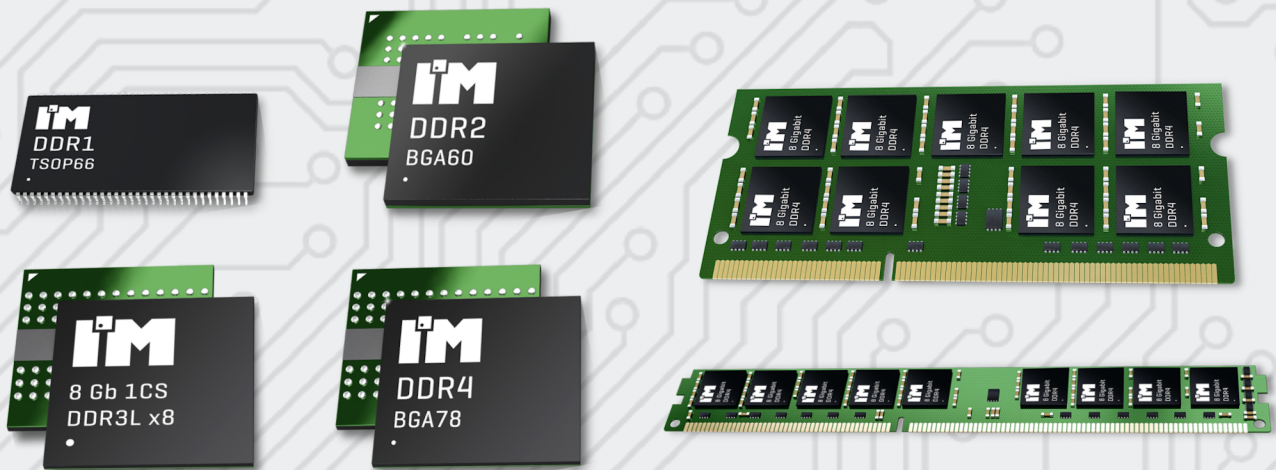


# DRAM PRODUCT FAMILY



Meet selected members of our family. They represent the whole clan - one of the largest in the industry.

**IM** products are designed to meet the most excruciating requirements for industrial electronic applications, working at just about any temperatures and speeds you can imagine. We provide a unique blend of DRAM components and modules that exceed the standards for commercial reliability and quality. In addition, IM not only offers the first DDR3 8 Gigabit memory IC with single chip select, but also several rare densities, configurations, features and package types across a number of different DRAM product categories.

## DDR4 Component Highlights

- Faster data transfer rates and low voltage operation
- Full configurations offered (8Gb and 4Gb with x8 and x16)
- Highest speed up to 3200Mbps
- Working temps in the range of -40C to +95C

## DDR4 Modules Highlights

- Offering primary form factors, DIMMs and SO-DIMMs for industrial applications, as well as Mini DIMM (unbuffered and registered) often seen in communication server applications
- Ready to run in PC4-25600 speed and industrial temperature range
- Capacities up to 64GB optionally with Error Code Correction (ECC)

## DRAM PRODUCT FAMILY

### DDR3 Highlights

- Components with max. 16Gb x16 Dual Chip Select
- Components with max. 8Gb with Single or Dual Chip Select, x4, x8 and x16
- 1Gb components with ECC feature, x8 and x16
- UDIMM and SO-DIMM modules with up to 16GB (optional ECC)

### DDR2 Highlights

- Components with max. 2Gb with Single Chip Select x4, x8 and x16
- 1Gb components with ECC feature, x8 and x16
- High density modules: E.g. 8GB RDIMM and 4GB UDIMM

### DDR Highlights

- Components with max. 512Mb, both TSOP and BGA
- 1Gb components with ECC feature, TSOP x8 and x16
- RDIMM and UDIMM modules with up to 1GB

### SDRAMs Highlights

- 512Mb and 256Mb components with ECC feature, both TSOP and BGA
- UDIMM and SODIMM modules with up to 512MB

## DRAM Component Lineup

DRAM Component	64Mb	128Mb	256Mb	512Mb	1Gb	2Gb	4Gb	8Gb	16Gb
SDRAM (3.3V)	✓✓	✓✓	✓✓✓	✓✓✓					
DDR (2.5V)			✓	✓	✓✓				
DDR2 (1.8V)				✓	✓✓	✓✓			
DDR3 (1.35V/1.5V)					✓✓	✓	✓	✓✓	✓
DDR4 (1.2V)							✓	✓	
LPDDR4 (1.1V)							✓	✓	
<b>Features:</b>	<ul style="list-style-type: none"> <li>✓ Commercial &amp; Industrial Temperature Grade, Leaded balls package option is possible</li> <li>✓ x4 configuration available</li> <li>✓ ECC - On-chip ECC option available (AEC-Q100 also available)</li> <li>✓ x32 configuration and/or BGA package available</li> </ul>								

## DRAM Module Lineup

DRAM Module	LRDIMM	RDIMM	UDIMM	RSODIMM	SODIMM	Mini-RDIMM	Mini-UDIMM
FPM/EDO (3.3V/5V, max: 50ns)			✓ Max: 256MB		✓ Max: 128MB		
SDRAM (3.3V, max: PC-166)			✓✓ Max: 512MB		✓✓ Max: 512MB		
DDR (2.5V, max: PC-3200)		✓ Max: 1GB	✓✓ Max: 1GB		✓✓ Max: 1GB		
DDR2 (1.8V, max: PC2-6400)		✓ Max: 8GB	✓✓ Max: 4GB		✓✓ Max: 4GB	✓✓ Max: 512MB	
DDR3 (1.35V/1.5V, max: PC3-12800)	✓ Max: 32GB	✓✓ Max: 32GB	✓✓✓ Max: 16GB	✓ Max: 16GB	✓✓✓ Max: 16GB	✓✓ Max: 16GB	✓✓ Max: 16GB
DDR4 (1.2V, max: PC4-25600)		✓✓ Max: 64GB	✓✓✓ Max: 32GB		✓✓✓ Max: 32GB	✓✓ Max: 16GB	✓✓ Max: 32GB
<b>Features:</b>	<ul style="list-style-type: none"> <li>✓ ECC/NECC is both available</li> <li>✓ VLP/ULP (Very Low Profile / Ultra Low Profile) is available</li> <li>✓ I-temp is available</li> </ul>						