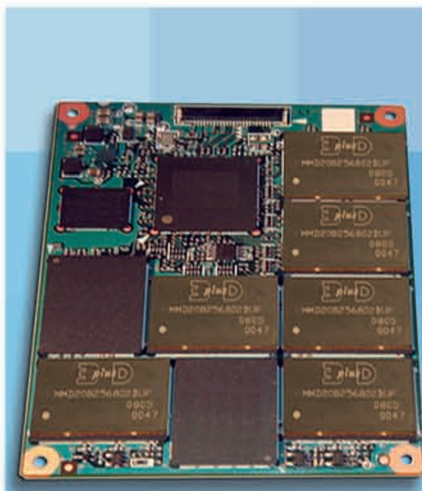
An Innovative Company

3D Plus is a worldwide actor for the advanced high density 3-D packaging and die stacking technology, meeting the demand for high reliability, extreme performance and very small form factors electronics.

The Industrial Products Division offers standard memory products and custom System-In-Package (SiP) solutions based on a patented technology portfolio.

The company is ISO 9001:2000 certified. Its adaptable and cost-optimized supply chain is sized to achieve a fast time-to-market for the new products and to meet diverse ramp-up and mass manufacturing requirements.



A Unique Stacking Know-How

The 3D technology concept consists of interconnecting electronic devices which have been stacked along the Z dimension.

Comparing to other existing 2D traditional solutions, it allows gaining a factor of at least 10 on the weight and volume of the components.

3D Plus patented technology enables stacking the best standard semiconductor devices in one single highly miniaturized package with no limitation for the merging of heterogeneous technology and form factors.

Memory Modules Key Benefits

- **Enable today the next generation of memory density,**
- **Large data bus memory with a single package solution,**
- **Enable product's definition / technology mix which cannot be realized with monolithic System-on-Chip (SoC) approaches,**
- **Operation with reliability under harsh environments** (extended temperature range, thermal cycles, vibrations and shocks, ...),
- **Scalable pitch following customer specification** (enhanced reliability with a 1,27 mm pitch eutectic tin lead solder ball),
- **Selection of customer's device reference for catalogue products.**

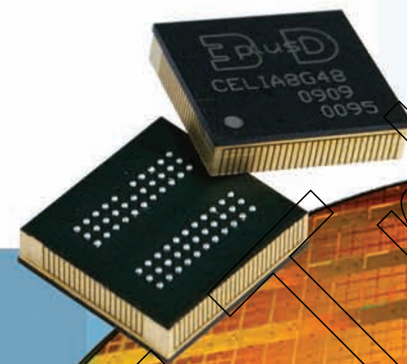
Industrial Applications Expertise

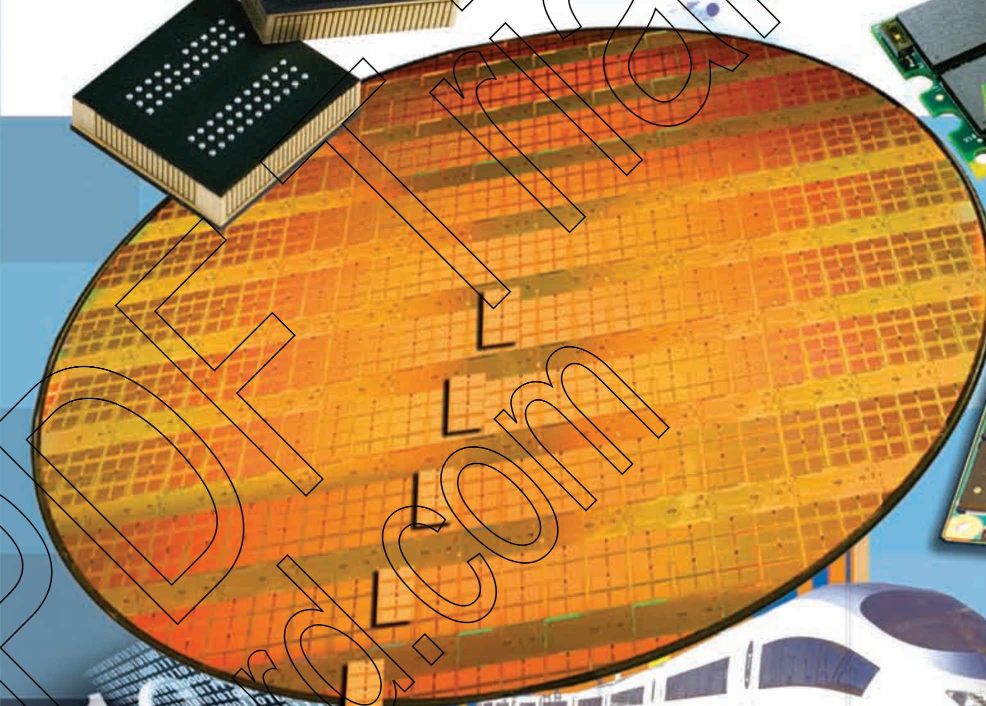
Leveraging on their capability to enable today the next generation of memory density, to bring ultimate area savings and to operate with reliability under very harsh environments, **3D Plus** industrial products bring key advantages to various application fields:

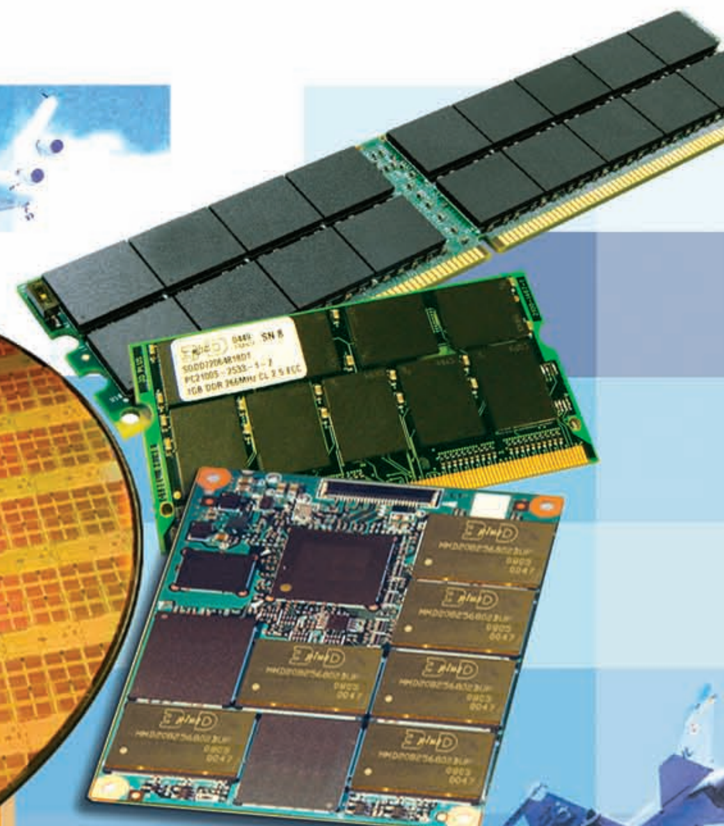
- **Industrial Applications**
- **Telecommunications**
- **Avionics**
- **Computing/Data Storage**
- **Defense and Security**
- **Medical and Sciences**

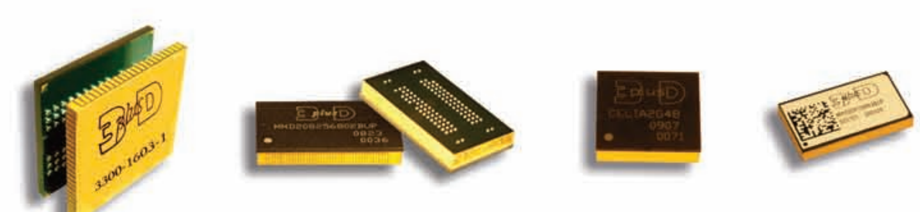
Reliable Miniaturization Technologies For Electronics

www.3d-plus.com









Industrial Memory Products Short Form

May 2010

Reliable Miniaturization Technologies For Electronics

DOCU-COM PDF Trial
www.pdfwizard.com

DDR III

Part Number	Density	Configuration	Clock Rate (Mhz)	Voltage (V)	Package	Pitch (mm)	Temperature	RoHS	SCD#
3D3D4G04WB2358	4G	2x(512Mx4)	533-667	1.5	BGA78	0.8*	C, I, M	Yes**	3DFP-358
3D3D4G08WB2331	4G	2x(256Mx8)	533-667	1.5	BGA78	0.8*	C, I, M	Yes**	3DFP-331
3D3D4G16WB2332	4G	2x(128Mx16)	533-667	1.5	BGA96	0.8*	C, I, M	Yes**	3DFP-332
3D3D8G04WB2334	8G	4x(512Mx4)	533-667	1.5	BGA78	0.8*	C, I, M	Yes**	3DFP-334
3D3D8G08WB2335	8G	4x(256Mx8)	533-667	1.5	BGA78	0.8*	C, I, M	Yes**	3DFP-335

DDR II

Part Number	Density	Configuration	Clock Rate (Mhz)	Voltage (V)	Package	Pitch (mm)	Temperature	RoHS	SCD#
3D2D2G04UB2325	2G	2x(256Mx4)	200-400	1.8	BGA63	0.8*	C, I, M	Yes**	3DFP-325
3D2D2G08UB2327	2G	2x(128Mx8)	200-400	1.8	BGA63	0.8*	C, I, M	Yes**	3DFP-327
3D2D2G16UB2340	2G	2x(64Mx16)	200-400	1.8	BGA87	0.8*	C, I, M	Yes**	3DFP-340
3D2D4G04UB2323	4G	2x(512Mx4)	200-400	1.8	BGA63	0.8*	C, I, M	Yes**	3DFP-323
3D2D4G08UB2302	4G	2x(256Mx8)	200-400	1.8	BGA63	0.8*	C, I, M	Yes**	3DFP-302
3D2D4G16UB2303	4G	2x(128Mx16)	200-400	1.8	BGA87	0.8*	C, I, M	Yes**	3DFP-303
3D2D4G16UB2343	4G	256Mx16	200-400	1.8	BGA84	0.8*	C, I, M	Yes**	3DFP-343
3D2D8G04UB2321	8G	4x(512Mx4)	200-400	1.8	BGA65	0.8*	C, I, M	Yes**	3DFP-321
3D2D8G08UB2322	8G	4x(256Mx8)	200-400	1.8	BGA65	0.8*	C, I, M	Yes**	3DFP-322

DDR I

Part Number	Density	Configuration	Clock Rate (Mhz)	Voltage (V)	Package	Pitch (mm)	Temperature	RoHS	SCD#
3D1D1G04TB2339	1G	2x(128Mx4)	167-200	2.5	BGA62	1.0*	C, I, M	Yes**	3DFP-339
3D1D1G08TB2338	1G	2x(64Mx8)	167-200	2.5	BGA62	1.0*	C, I, M	Yes**	3DFP-338
3D1D1G16TB2337	1G	2x(32Mx16)	167-200	2.5	BGA62	1.0*	C, I, M	Yes**	3DFP-337
3D1D1G16TB2344	1G	64Mx16	167-200	2.5	BGA60	1.0*	C, I, M	Yes**	3DFP-344

µSSD NAND FLASH

Part Number	Density	Bits/Cell	Interface	Read/Write Speed (Max in MB/s)	Voltage (V)	Package	Pitch (mm)	Temperature	RoHS	SCD#
3DSS032G16VB2354	4GB	SLC	PATA, CF, PCMCIA	50/40	3.3	BGA224	1.27	C, I	Yes**	3DFP-354
3DSS064G16VB2356	8GB	SLC	PATA, CF, PCMCIA	50/40	3.3	BGA224	1.27	C, I	Yes**	3DFP-356
3DSS128G16VB2357	16GB	SLC	PATA, CF, PCMCIA	50/40	3.3	BGA224	1.27	C, I	Yes**	3DFP-357

Notes:
(*): Larger pitch available on request - Enhanced reliability with a 1.27 mm pitch eutectic tin lead solder balls.
(**): SnPb solderballs (5/6) option

NAND FLASH

Part Number	Density	Configuration	Bits/Cell	Voltage (V)	Package	Pitch (mm)	Temperature	RoHS	SCD#
3DFN064G08VB2353	64G	2x(4Gx8)	SLC	3.3	LGA 52	1.0*	C, I, M	Yes**	3DFP-353
3DFN128G08VB2362	128G	2x(8Gx8)	SLC	3.3	LGA 52	1.0*	C, I, M	Yes**	3DFP-362
3DFN128G08VB2352	128G	2x(8Gx8)	MLC	3.3	LGA 52	1.0*	C, I, M	Yes**	3DFP-352
3DFN256G08VB2336	256G	2x(16Gx8)	MLC	3.3	LGA 52	1.0*	C, I, M	Yes**	3DFP-336

NOR FLASH

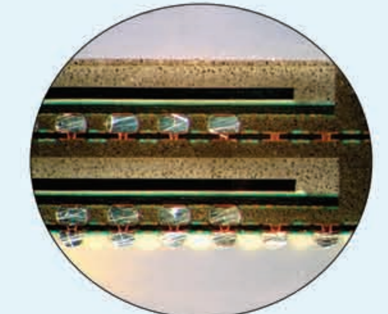
Part Number	Density	Configuration	Rand. Access (ns)	Voltage (V)	Package	Pitch (mm)	Temperature	RoHS	SCD#
3DFO512M16VB2359	512M	2x(16Mx16)	90-110	2.7 - 3.6	BGA64	1.0*	C, I, M	Yes**	3DFP-359
3DFO1G16VB2360	1G	2x(32Mx16)	100-120	2.7 - 3.6	BGA64	1.0*	C, I, M	Yes**	3DFP-360
3DFO2G16VB2361	2G	2x(64Mx16)	110-130	2.7 - 3.6	BGA64	1.0*	C, I, M	Yes**	3DFP-361

MEMORY MODULES KEY BENEFITS

- Miniaturization / High Density (Memory capacity is multiplied by 2 or 4 compared to the capacity available on the market)
- Jedec compliant footprint
- Extended/Specific temperature range
- Lead free or SnPb solderballs
- Robust to harsh environments (thermal cycles, vibrations and shocks)
- Selection of customer's device reference for product catalogue
- Scalable pitch following customer specification (Enhanced reliability with a 1,27 mm pitch eutectic tin lead solder ball)
- High performance / very high speed / excellent signal integrity
- Recognized Turnkey design, manufacturing and test

RELIABILITY INFORMATION

- Package Level (Stand alone Stacked Product)
  - Moisture resistance testing : Jedec level 3 @245°C
  - Temperature/Humidity : 85°C/85%HR, 500 hrs
  - High temperature storage : 125°C, 1500 hrs
  - Thermal cycles : -55°C/+125°C, 1000+ cycles
- Board Level (Stacked Product mounted on PWBs)
  - Thermal cycles : -55°C/+125°C, 1000+ cycles



TEMPERATURE RANGES

C : Commercial (0°C to 70°C)
I : Industrial (–40°C to +85°C)
M : Military (–55°C to +125°C)
S : Specific temperature range on demand.

QUALITY GRADES (Screening Levels)

N : Commercial
B : Industrial

ORDERING INFORMATION

Part Number - X X - X00X

Temperature Range
Quality Grade
Options

ASSEMBLY RECOMMENDATIONS

The handling, storage and automatic reflow recommended conditions for the 3D stacked products can be down loaded from the URL http://www.3d-plus.com/doc/support/3300_1422_2.pdf

Notes:
(*): Larger pitch available on request - Enhanced reliability with a 1.27 mm pitch eutectic tin lead solder balls.
(**): SnPb solderballs (5/6) option

DocuCom PDF Trial
www.pdfwizard.com