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Space Memory Products Short Form

June 2009



Reliable Miniaturization Technologies For Electronics



DDR II	Density	Configuration	Voltage	Access/Clock	Radiation Tolerance				Package	Temperature	SCD#
					TID ⁽¹⁾	SEL ⁽²⁾	SEU ⁽³⁾	Xsection ⁽⁴⁾			
3D2D1G08US1285	1G	128M x 8	1.8V	200-400Mhz	50	>10	>37.5	3E ⁻¹⁰	SOP74	C, I	3DFP-0285
3D2D2G08US2284	2G	256M x 8	1.8V	200-400Mhz	50	>10	>37.5	3E ⁻¹⁰	SOP74	C, I	3DFP-0284
3D2D4G08US4283	4G	512M x 8	1.8V	200-400Mhz	50	>10	>37.5	3E ⁻¹⁰	SOP74	C, I	3DPA-1990

DDR I	Density	Configuration	Voltage	Access/Clock	Radiation Tolerance				Package	Temperature	SCD#
					TID ⁽¹⁾	SEL ⁽²⁾	SEU ⁽³⁾	Xsection ⁽⁴⁾			
3D1D1G16TS1267	1G	64M x 16	2.5V	100-200 MHz	60	>80	>80	-	SOP66	C, I, S	3DFP-0267
3D1D2G08TS2240	2G	256M x 8	2.5V	100-200 MHz	60	>80	>80	-	SOP66	C, I, S	3DFP-0240
3D1D2G16TS2217	2G	128M x 16	2.5V	100-200 MHz	60	>80	>80	-	SOP66	C, I, S	3DFP-0217
3D1D2G32TS2268	2G	64M x 32	2.5V	100-200 MHz	60	>80	>80	-	SOP86	C, I, S	3DFP-0268
3D1D4G08TS4221	4G	512M x 8	2.5V	100-200 MHz	60	>80	>80	-	SOP66	C, I, S	3DFP-0221
3D1D8G08TS8223	8G	1G x 8	2.5V	100-200 MHz	60	>80	>80	-	SOP66	C, I, S	3DPA-2120

SDRAM	Density	Configuration	Voltage	Access/Clock	Radiation Tolerance				Package	Temperature	SCD#
					TID ⁽¹⁾	SEL ⁽²⁾	SEU ⁽³⁾	Xsection ⁽⁴⁾			
3DSD1G08VS2143	1G	128M x 8	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP54	C, I, S	3DPA-1680
3DSD1G16VS2180	1G	64M x 16	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP54	C, I, S	3DPA-1590
3DSD1G32VS2265	1G	32M x 32	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP70	C, I, S	3DPA-1730
3DSD1G32VS2141	1G	32M x 32	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP70	C, I, S	3DPA-1600
3DSD2G08VS4030	2G	256M x 8	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP54	C, I, S	3DPA-2060
3DSD2G08VS4031	2G	256M x 8	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP54	C, I, S	3DPA-1220
3DSD2G16VS4181	2G	128M x 16	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP54	C, I, S	3DPA-1470
3DSD2G32VS4280	2G	64M x 32	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP70	C, I, S	3DFP-0280
3DSD2G64VB4130	2G	32M x 64	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	BGA119	C, I, S	3DPA-1830
3DSD2G72VB5112	2G	32M x 72	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	BGA134	C, I, S	3DPA-2640
3DSD2G40VS5238	2.56G	64M x 40	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP70	C, I, S	3DPA-1750
3DSD3G48VQ6260	3G	64M x 48	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	QFP114	C, I, S	3DPA-2890
3DSD4G08VS8118	4G	512M x 8	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP58	C, I, S	3DPA-0860
3DSD4G08VS8184	4G	512M x 8	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP54	C, I, S	3DFP-0184
3DSD4G08VS8326	4G	512M x 8	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP54	C, I, S	3DPA-1510
3DSD4G08VS8202	4G	512M x 8	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP54	C, I, S	3DPA-1910
3DSD4G08VS8213	4G	512M x 8	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP54	C, I, S	3DPA-1290
3DSD4G16VS8126	4G	256M x 16	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	SOP58	C, I, S	3DPA-1410
3DSD4G64VB8035	4G	64M x 64	3.3V	100-133 MHz	>50	>80	2	3E ⁻¹¹	BGA119	C, I, S	3DPA-2070

FLASH NAND	Density	Configuration	Voltage	Access/Clock	Radiation Tolerance				Package	Temperature	SCD#
					TID ⁽¹⁾	SEL ⁽²⁾	SEU ⁽³⁾	Xsection ⁽⁴⁾			
3DFN4G08VS1274	4G	512M x 8	3.3V	25 ns	>50	55	5	1E ⁻¹¹	SOP50	C, I, M	3DPA-2780
3DFN8G08VS2275	8G	1G x 8	3.3V	25 ns	>50	55	5	1E ⁻¹¹	SOP50	C, I, M	3DFP-0275
3DFN16G08VS4276	16G	2G x 8	3.3V	25 ns	>50	55	5	1E ⁻¹¹	SOP50	C, I, M	3DFP-0276
3DFN32G08VS8259	32G	4G x 8	3.3V	25 ns	>50	55	5	1E ⁻¹¹	SOP50	C, I, M	3DPA-2030

FLASH NOR	Density	Configuration	Voltage	Access/Clock	Radiation Tolerance				Package	Temperature	SCD#
					TID ⁽¹⁾	SEL ⁽²⁾	SEU ⁽³⁾	Xsection ⁽⁴⁾			
3DFO64M16VS1281	64M	4M x 16	3.0V	90 ns	15	47.5	10	1E ⁻¹¹	SOP54	C, I, S	3DPA-2710
3DFO128M64VB4061	128M	2M x 64	3.0V	70 ns	15	>34	-	-	BGA119	C, I, S	3DPA-1540
3DFO128M16VS2282	128M	8M x 16	3.0V	90 ns	15	47.5	10	1E ⁻¹¹	SOP54	C, I, S	3DPA-2760
3DFO256M16VS4105	256M	16M x 16	3.0V	90 ns	15	47.5	10	1E ⁻¹¹	SOP54	C, I, S	3DPA-2920
3DFO256M16VS4269	256M	16M x 16	3.0V	90 ns	15	47.5	10	1E ⁻¹¹	SOP54	C, I, S	3DPA-2330

PROM	Density	Configuration	Voltage	Access/Clock	Radiation Tolerance				Package	Temperature	SCD#
					TID ⁽¹⁾	SEL ⁽²⁾	SEU ⁽³⁾	Xsection ⁽⁴⁾			
3DPO64M08VS2299	64M	8M x 8	3.3V	33-264 MHz	>50	>120	Immune	-	SOP44	C, I, M	3DFP-0299

Note 1: Total Dose Tolerance is given in Krads
Note 2: Latch-up Immune LET Threshold is given in Mev.cm²/mg.
Note 3: SEU LET threshold is given in Mev.cm²/mg.
Note 4: Saturated Cross-section is given in cm²/bit.

SRAM	Density	Configuration	Voltage	Access/Clock	Radiation Tolerance				Package	Temperature	SCD#
					TID ⁽¹⁾	SEL ⁽²⁾	SEU ⁽³⁾	Xsection ⁽⁴⁾			
3DSR4M08CS1271	4M	512k x 8	5V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP44	C, I, M	3DPA-2670
3DSR4M08VS1264	4M	512k x 8	3.3V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP44	C, I, M	3DPA-2680
3DSR8M08VS2067	8M	1M x 8	3.3V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP44	C, I, M	3DFP-0067
3DSR8M16VS2227	8M	512k x 16	3.3V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP54	C, I, M	3DPA-1840
3DSR8M16CS2098	8M	512k x 16	5V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP64	C, I, M	3DPA-0910
3DSR8M16CS2183	8M	512k x 16	5V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP54	C, I, M	3DPA-2490
3DSR8M32VS2119	8M	256k x 32	3.3V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP64	C, I, M	3DPA-1610
3DSR16M08VS4189	16M	2M x 8	3.3V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP44	C, I, M	3DPA-2630
3DSR16M08CS4218	16M	2M x 8	5V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP44	C, I, M	3DPA-2590
3DSR16M16VS4113	16M	1M x 16	3.3V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP54	C, I, M	3DPA-1740
3DSR16M16CS4114	16M	1M x 16	5V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP54	C, I, M	3DPA-1860
3DSR16M32VS4085	16M	512k x 32	3.3V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP64	C, I, M	3DPA-1280
3DSR16M32CS4084	16M	512k x 32	5V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP64	C, I, M	3DPA-1770
3DSR16M32CS4297	16M	512k x 32	3.3V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP64	C, I, M	3DPA-2700
3DSR16M32CS4261	16M	512k x 32	5V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP64	C, I, M	3DPA-1800
3DSR32M08CS8139	32M	4M x 8	5V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP44	C, I, M	3DFP-0139
3DSR32M08VS8171	32M	4M x 8	3.3V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP44	C, I, M	3DPA-2420
3DSR32M16VS8106	32M	2M x 16	3.3V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP54	C, I, M	3DFP-0106
3DSR32M32VS8124	32M	1M x 32	3.3V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP68	C, I, M	3DPA-2080
3DSR32M32VS8140	32M	1M x 32	3.3V	12, 15, 20 ns	>50	>80	2	1E ⁻⁸	SOP68	C, I, M	3DPA-1690

EEPROM	Density	Configuration	Voltage	Access/Clock	Radiation Tolerance				Package	Temperature	SCD#
					TID ⁽⁵⁾	SEL ⁽⁶⁾	SEU ⁽⁷⁾	Xsection ⁽⁸⁾			
3DEE1M08VS1192	1M	128k x 8	3.3V	250 ns	80 ^R /25 ^W	>80	25 ^R /10 ^W	1E ^{-5R} /5E ^{-4W}	SOP40	C, I, M	3DPA-1920
3DEE1M08CS1193	1M	128k x 8	5V	150 ns	80 ^R /25 ^W	>80	25 ^R /10 ^W	1E ^{-5R} /5E ^{-4W}	SOP40	C, I, M	3DPA-2740
3DEE2M08VS2154	2M	256k x 8	3.3V	250 ns	80 ^R /25 ^W	>80	25 ^R /10 ^W	1E ^{-5R} /5E ^{-4W}	SOP40	C, I, M	3DPA-1570
3DEE2M08CS2097	2M	256k x 8	5V	150 ns	80 ^R /25 ^W	>80	25 ^R /10 ^W	1E ^{-5R} /5E ^{-4W}	SOP40	C, I, M	3DPA-2690
3DEE4M08VS4145	4M	512k x 8	3.3V	250 ns	80 ^R /25 ^W	>80	25 ^R /10 ^W	1E ^{-5R} /5E ^{-4W}	SOP40	C, I, M	3DPA-1560
3DEE4M08CS4029	4M	512k x 8	5V	150 ns	80 ^R /25 ^W	>80	25 ^R /10 ^W	1E ^{-5R} /5E ^{-4W}	SOP40	C, I, M	3DPA-1780
3DEE4M32VS4162	4M	128k x 32	3.3V	250 ns	80 ^R /25 ^W	>80	25 ^R /10 ^W	1E ^{-5R} /5E ^{-4W}	SOP64	C, I, M	3DPA-1580
3DEE4M32CS4102	4M	128k x 32	5V	150 ns	80 ^R /25 ^W	>80	25 ^R /10 ^W	1E ^{-5R} /5E ^{-4W}	SOP64	C, I, M	3DPA-1970
3DEE5M40VS5257	5M	128k x 40	3.3V	250 ns	80 ^R /25 ^W	>80	25 ^R /10 ^W	1E ^{-5R} /5E ^{-4W}	SOP64	C, I, M	3DPA-2480
3DEE5M40CS5175	5M	128k x 40	5V	150 ns	80 ^R /25 ^W	>80	25 ^R /10 ^W	1E ^{-5R} /5E ^{-4W}	SOP64	C, I, M	3DPA-1550
3DEE8M08VS8190	8M	1M x 8	3.3V	250 ns	80 ^R /25 ^W	>80	25 ^R /10 ^W	1E ^{-5R} /5E ^{-4W}	SOP40	C, I, M	3DPA-1630
3DEE8M08CS8020	8M	1M x 8	5V	150 ns	80 ^R /25 ^W	>80	25 ^R /10 ^W	1E ^{-5R} /5E ^{-4W}	SOP40	C, I, M	3DPA-1850
3DEE8M32VS8094	8M	256k x 32	3.3V	250 ns	80 ^R /25 ^W	>80	25 ^R /10 ^W	1E ^{-5R} /5E ^{-4W}	SOP64	C, I, M	3DPA-1820
3DEE8M32CS8163	8M	256k x 32	5V	150 ns	80 ^R /25 ^W	>80	25 ^R /10 ^W	1E ^{-5R} /5E ^{-4W}	SOP64	C, I, M	3DPA-2730

MRAM	Density	Configuration	Voltage	Access/Clock	Radiation Tolerance				Package	Temperature	SCD#
					TID ⁽¹⁾	SEL ⁽²⁾	SEU ⁽³⁾	Xsection ⁽⁴⁾			
3DMR4M16VS1277	4M	256k x 16	3.3V	35 ns	>52	5 ^(*)	Immune	-	SOP54	C, I, S	3DFP-0277
3DMR8M16VS2239	8M	512k x 16	3.3V	35 ns	>52	5 ^(*)	Immune	-	SOP54	C, I, S	3DFP-0239
3DMR16M16VS4278	16M	1M x 16	3.3V	35 ns	>52	5 ^(*)	Immune	-	SOP54	C, I, S	3DFP-0278
3DMR16M32VS4319	16M	512k x 32	3.3V	35 ns	>52	5 ^(*)	Immune	-	SOP64	C, I, S	3DFP-0319
3DMR32M16VS8279	32M	2M x 16	3.3V	35 ns	>52	5 ^(*)	Immune	-	SOP54	C, I, S	3DFP-0279
3DMR32M32VS8320	32M	1M x 32	3.3V	35 ns	>52	5 ^(*)	Immune	-	SOP64	C, I, S	3DFP-0320

(*) saturated cross-section is 1E⁻³ cm²/bit

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
 S : Space

ORDERING INFORMATION

Part Number - X X - X00X
 Temperature Range | Options
 Quality Grade

Note 5: Total Dose Tolerance is given in Krads. "xx^R" stands for the Read Mode tolerance, "xx^W" stands for the Write Mode tolerance.
 Note 6: Latch-up Immune LET Threshold is given in Mev.cm²/mg.
 Note 7: SEU LET threshold is given in Mev.cm²/mg. "xx^R" stands for the Read Mode tolerance, "xx^W" stands for the Write Mode tolerance.
 Note 8: Saturated Cross-section is given in cm²/Mbit.



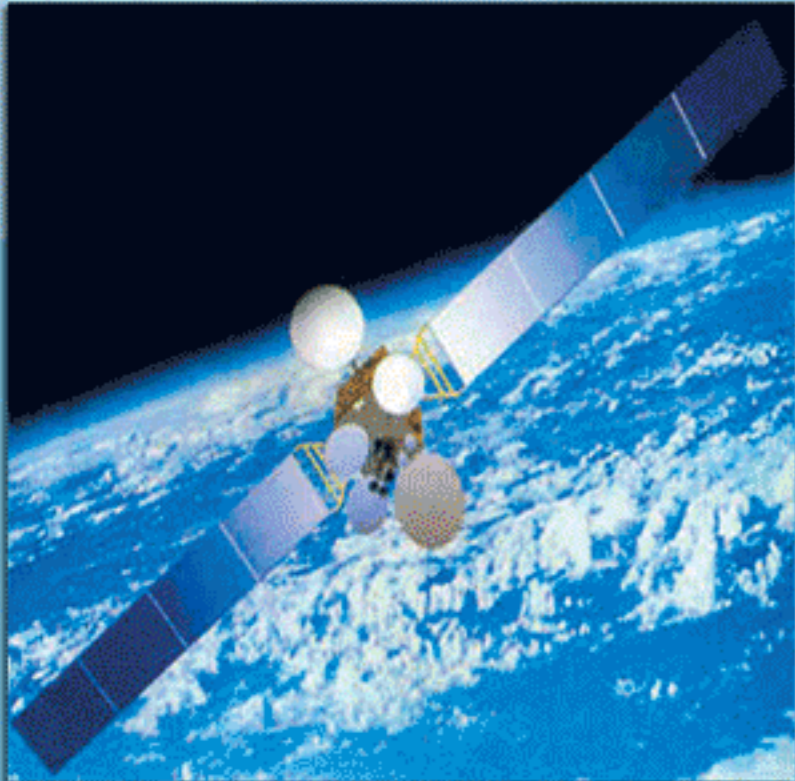
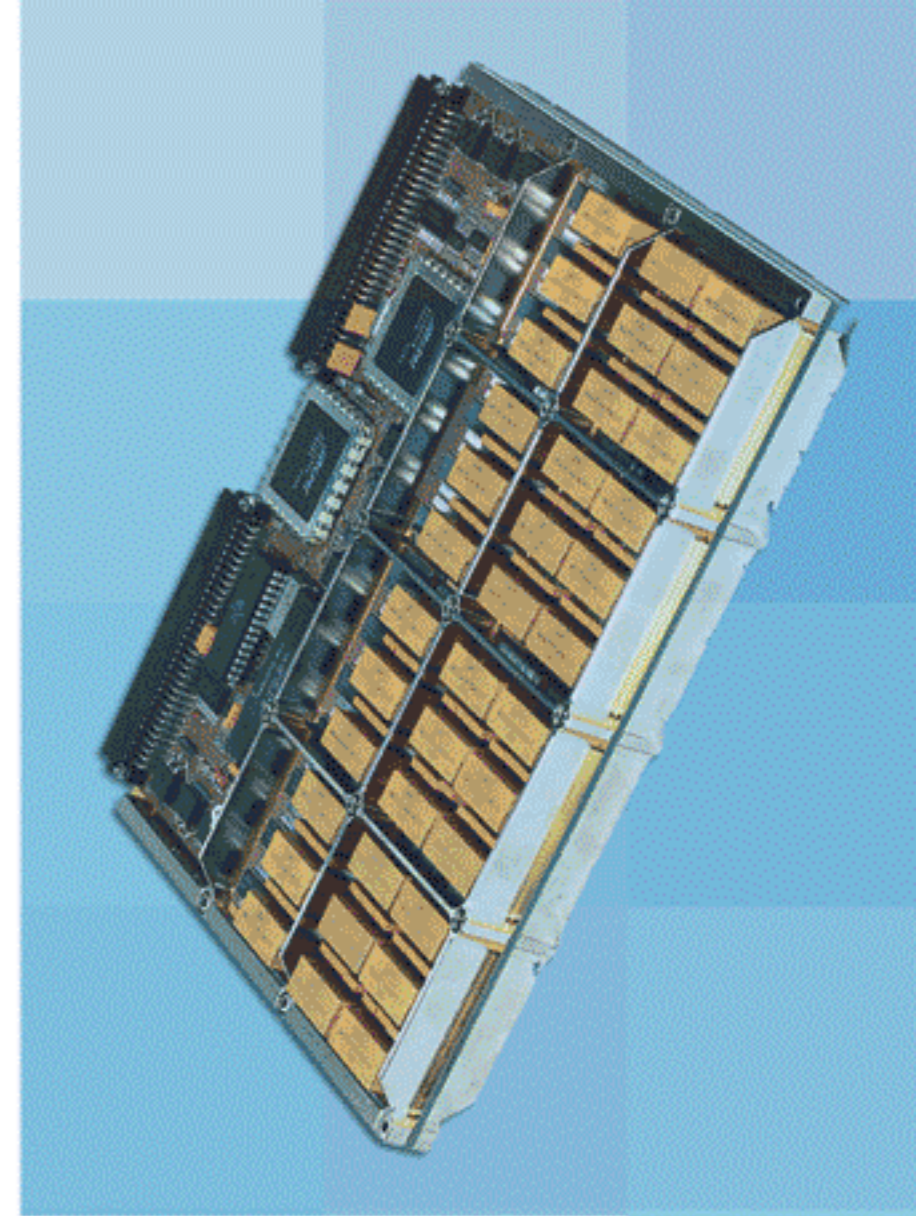


An Innovative Company

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.

We offer standard products and custom System-In-Package (SiP) solutions based on our Space qualified and patented technologies portfolio.

The company is ISO 9001:2000 certified and its stacking technologies are qualified by European Space Agency for Space Applications.



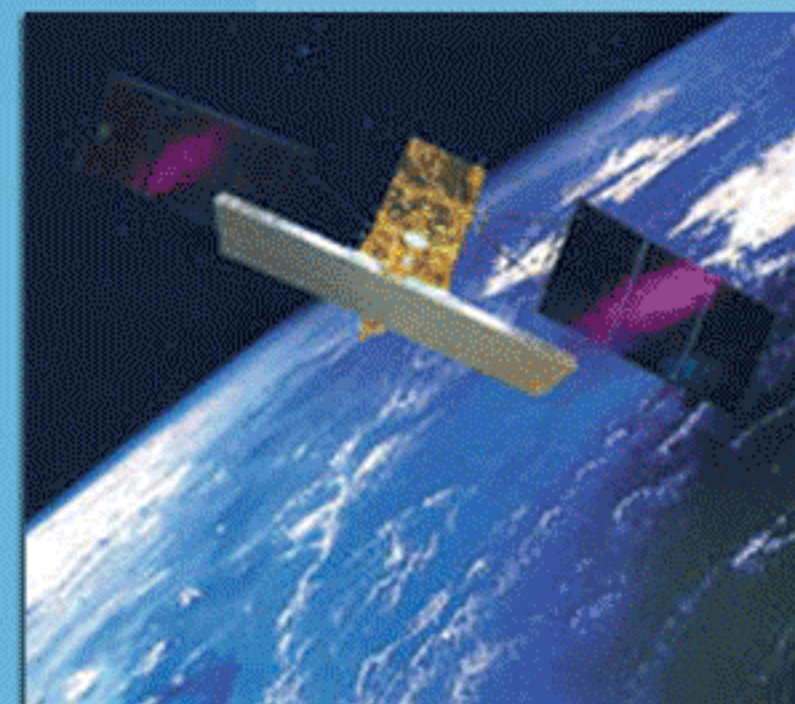
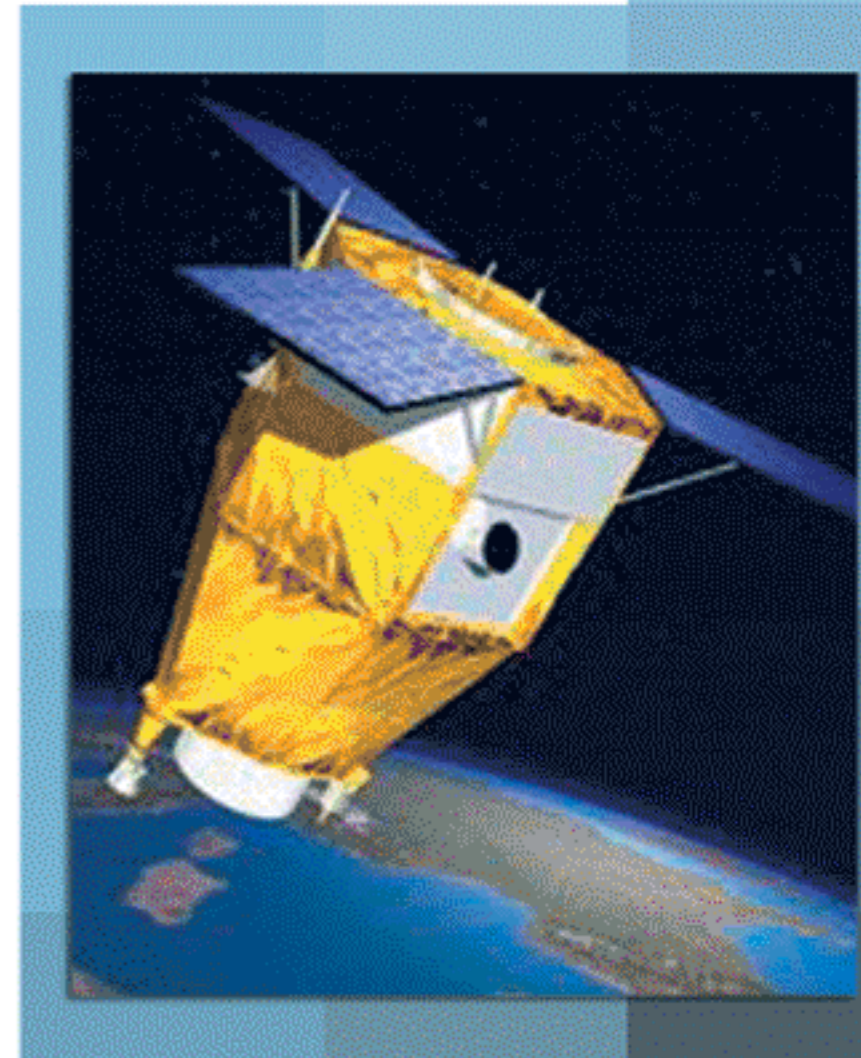
Memory Modules Key Benefits

- ▲ High Density,
- ▲ High Speed Performance,
- ▲ Small Form Factor: 80 % space and weight savings in the design,
- ▲ High Reliability - 15 Years Lifetime,
- ▲ Space Qualified Technology – Flight Proven Products,
- ▲ Radiation Tolerant (TID,SEL,SEU),
- ▲ Long Term Supply and Upgrades Paths Guaranty.

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Recognized for their electrical performance, miniaturization, quality, reliability and radiation assurance level, **3D Plus** Space qualified products bring key advantages to all Space Application fields:

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- ▲ **Space Transportation:** Launchers and Manned space vehicles,
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