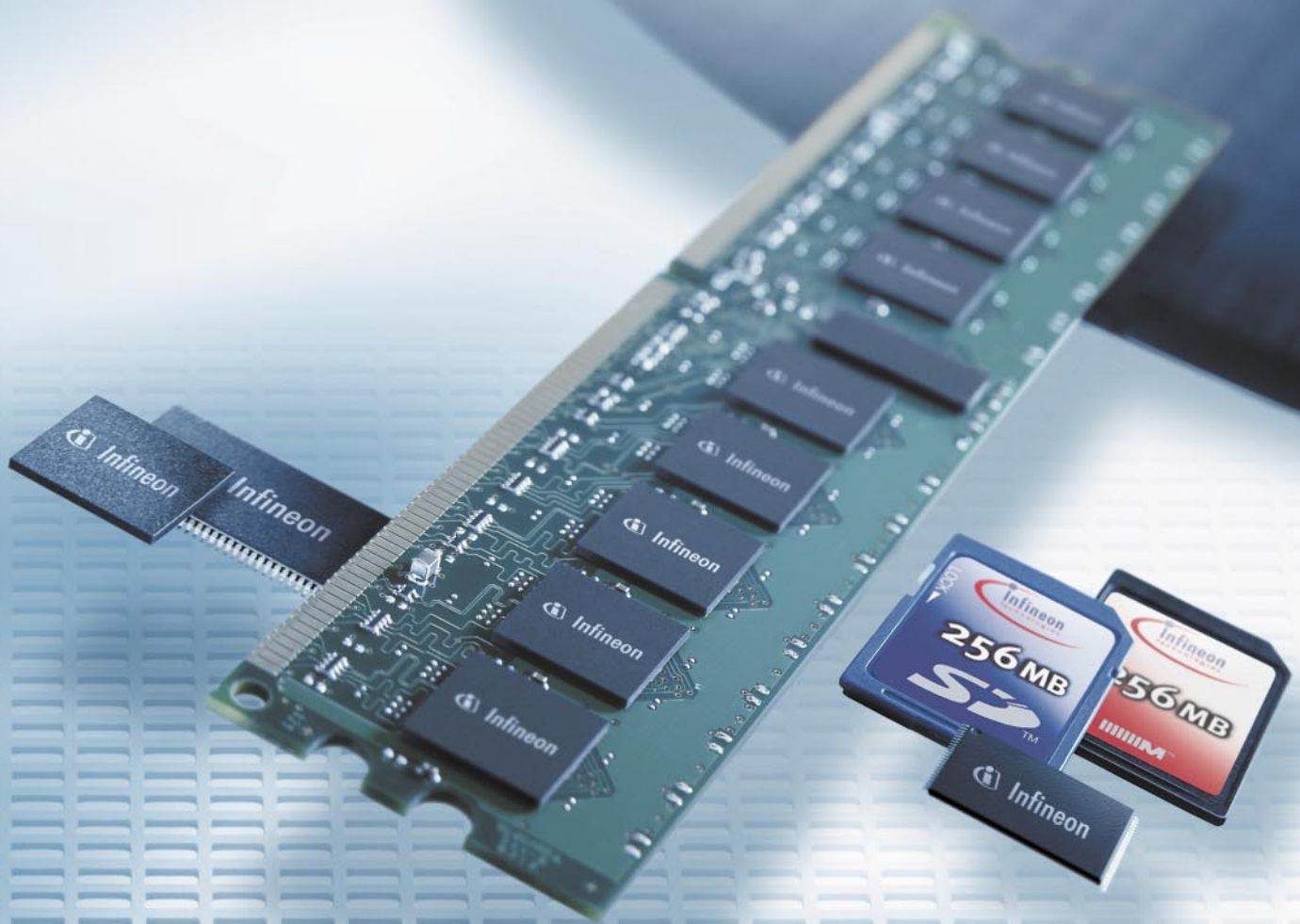


MEMORY SPECTRUM



www.infineon.com/memory
www.infineon.com/memory/flash



Never stop thinking.

Introduction

APRIL 2004. This edition of Memory Spectrum has been developed to enable you to easily view the entire range of Infineon's memory products. For more related product information and the latest datasheets, please visit our websites: www.infineon.com/memory and www.infineon.com/memory/flash.

Technology and Trends

As a leading memory products supplier, Infineon continues to expand its portfolio with the recent introduction of:

- DDR400 Components and DIMMs (PC3200)
- 2 GB DDR2 Unbuffered DIMM
- 4 GB DDR2 Registered DIMM
- 16 Mb and 32 Mb CellularRAM
- 512 Mb Mobile-RAM
- "Green**", DRAM Components and Modules
- 512 Mb and 1 Gb TwinNAND Components
- SD Cards/MultiMediaCards

** Lead & Halogen-Free

DRAM Components

Double Data Rate (DDR/DDR2) and Single Data Rate (SDR). Synchronous Dynamic Random Access Memory.

	16 Mb	32 Mb	128 Mb	256 Mb	512 Mb	1 Gb
DDR DRAMs			+	+	+	
DDR2 DRAMs				+	+	+
SDR DRAMs			+	+	+	
Reduced Latency (RLDRAM™)				+		
Graphics RAM			+	+		
Mobile-RAM			+	+	+	
CellularRAM™	+	+				

DRAM Modules

Double Data Rate (DDR/DDR2), Dual Inline Memory Modules (DIMMs).

	64 MB	128 MB	256 MB	512 MB	1 GB	2 GB	4 GB
Unbuffered DDR		+	+	+	+		
Registered DDR		+	+	+	+		
Registered DDR Reduced Height		+	+	+	+	+	
SO-DIMM DDR		+	+	+	+		
Unbuffered DDR2			+	+	+	+	
Registered DDR2			+	+	+	+	+
SO-DIMM DDR2			+	+	+	+	

Single Data Rate (SDR), Dual Inline Memory Modules (DIMMs).

	64 MB	128 MB	256 MB	512 MB	1 GB	2 GB	4 GB
Unbuffered SDR		+	+	+			
Registered SDR		+	+	+	+		
SO-DIMM SDR		+	+	+			

Flash Components

Thin Small Outline Package (TSOP).

	64 Mb	128 Mb	256 Mb	512 Mb	1 Gb	2 Gb	4 Gb
TwinFlash™				+	+		

Flash Cards

MultiMediaCards and SD Cards.

	64 MB	128 MB	256 MB	512 MB	1 GB	2 GB	4 GB
MultiMediaCards	+	+	+				
SD Cards	+	+	+				

RLDRAM™ and CellularRAM™ are registered trademarks of Infineon Technologies AG. TwinFlash™ is a trademark of Infineon Technologies AG, based on Saifun NROM technology.

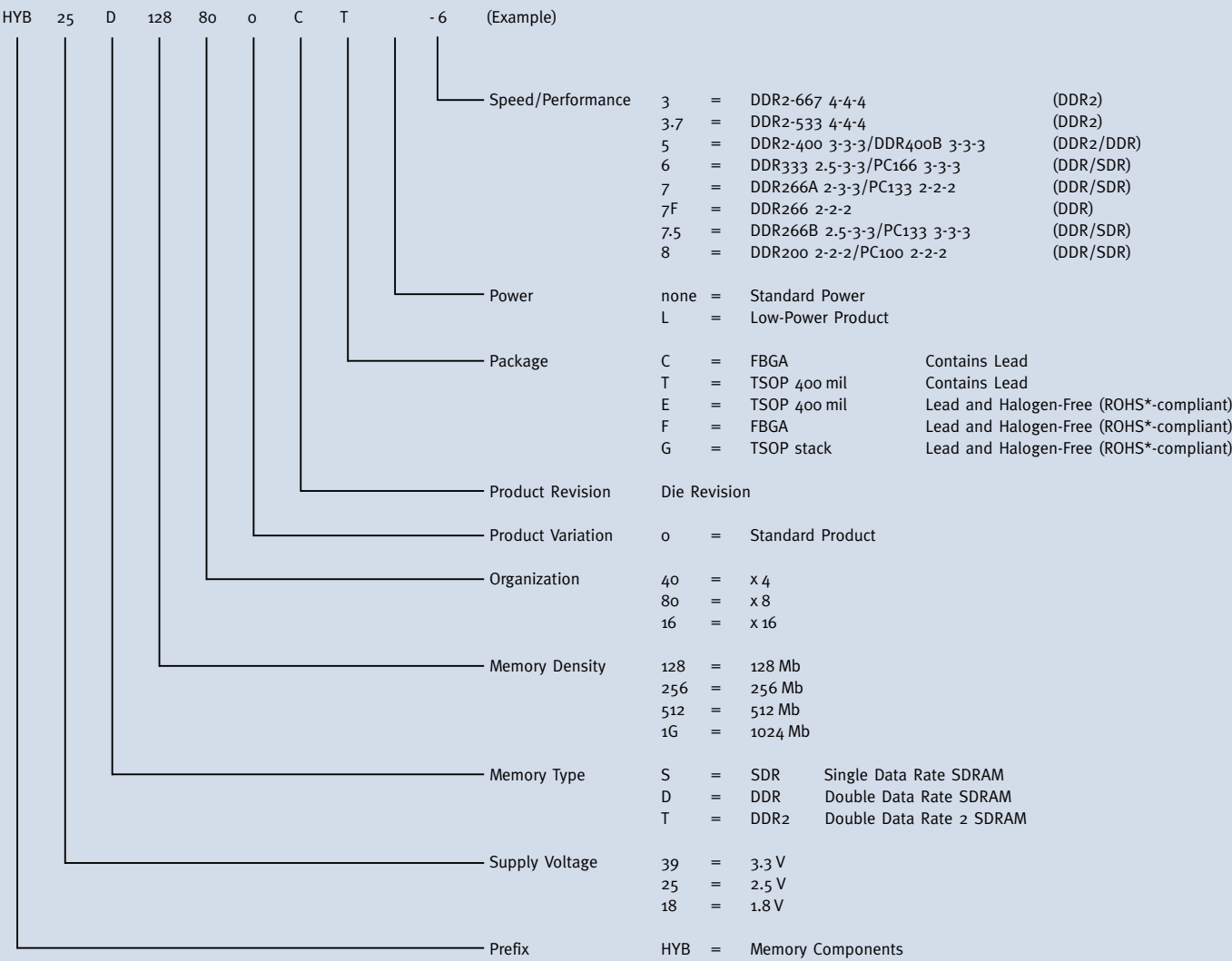
Content

DRAM Components	4 – 8
DDR Components	5 – 6
DDR2 Components	7
SDR Components	8
DRAM Modules	9 – 20
DDR Modules	10 – 14
DDR2 Modules	15 – 17
SDR Modules	18 – 20
Specialty DRAMs	21 – 24
Flash	25 – 26



DRAM Components

Nomenclature DRAM Components



* ROHS = Restriction Of Hazardous Substances



DDR Components

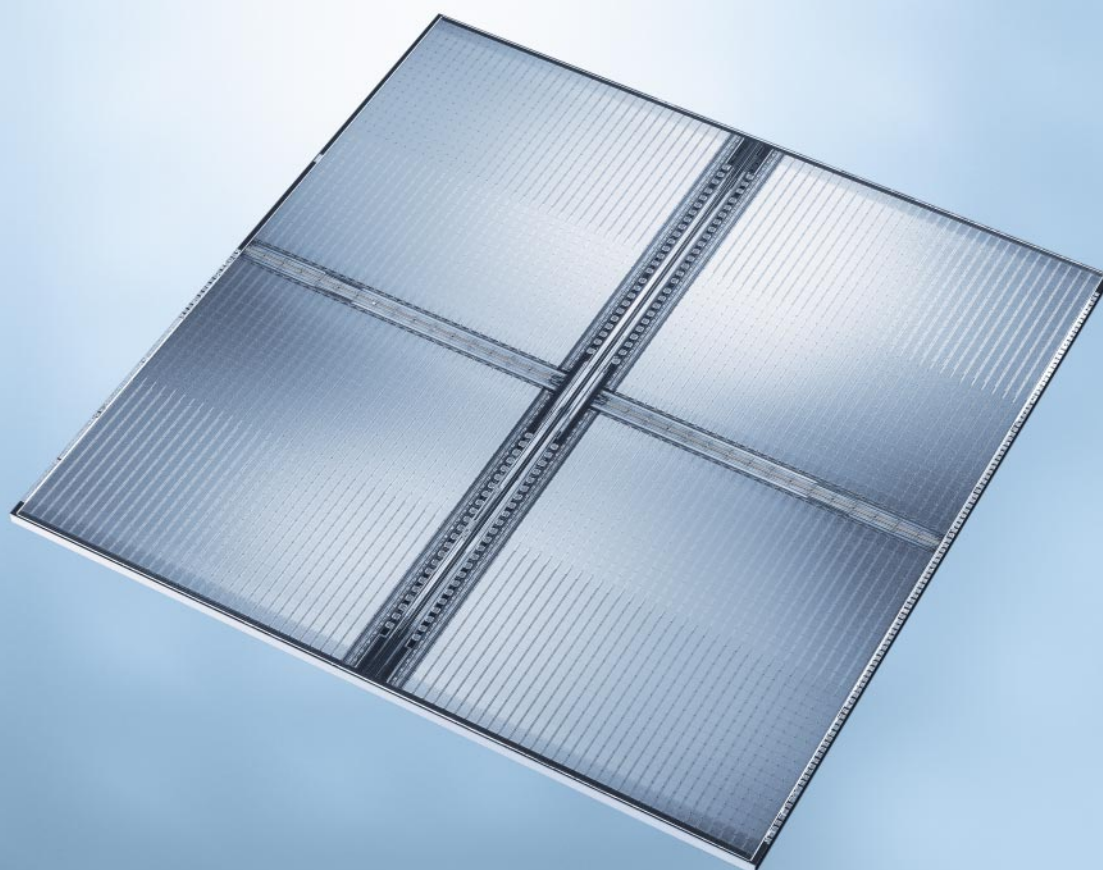
Generation	Organization	Package	Speed	Latency	Sales Description	Speed No.	Ordering Code		Prod.	Green
128 Mb	32 M x 4	TSOP-66 (400 mil)	DDR266A	2-3-3	HYB25D128400AT-	7	Q67100	Q4309	Now	
			DDR333	2.5-3-3	HYB25D128400CE-	6	Q67100	Q1455	2Q04	XX
	16 M x 8	TSOP-66 (400 mil)	DDR266A	2-3-3	HYB25D128800AT-	7	Q67100	Q4311	Now	
			DDR333	2.5-3-3	HYB25D128800CE-	6	Q67100	Q1459	2Q04	XX
	8 M x 16	TSOP-66 (400 mil)	DDR266A	2-3-3	HYB25D128160AT-	7	Q67100	Q4313	Now	
			DDR333	2.5-3-3		6	Q67100	Q5044		
			DDR333	2.5-3-3	HYB25D128160CE-	6	Q67100	Q1458	2Q04	XX
256 Mb	64 M x 4	TSOP-66 (400 mil)	DDR266A	2-3-3	HYB25D256400BT-	7	Q67100	Q4587	Now	
			DDR266	2-2-2		7F	Q67100	Q4880		
			DDR266A	2-3-3	HYB25D256400CE-	7	Q67100	Q5049	Now	XX
	32 M x 8	TSOP-66 (400 mil)	DDR333	2.5-3-3	HYB25D256800BT-	6	Q67100	Q4589	Now	
			DDR400	3-3-3		5	Q67100	Q4275		
			DDR333	2.5-3-3	HYB25D256800CE-	6	Q67100	Q5051	Now	XX
			DDR333	2.5-3-3	HYB25D256800CEL-	6	Q67100	Q1753	Now	XX
			DDR400	3-3-3	HYB25D256800CE-	5	Q67100	Q5180	Now	XX
			16 M x 16	TSOP-66 (400 mil)	DDR266A	2-3-3	HYB25D256160BT-	7	Q67100	Q4593
	DDR333	2.5-3-3			6	Q67100		Q4592		
	DDR400	3-3-3			5	Q67100		Q4277		
	DDR333	2.5-3-3			HYB25D256160CE-	6	Q67100	Q5045	Now	XX
	DDR400	3-3-3				5	Q67100	Q5182	Now	XX
256 Mb FBGA	64 M x 4	FBGA 6o (8 x 12 mm)	DDR266A	2-3-3	HYB25D256400BC-	7	Q67100	Q4615	Now	
			DDR333	2.5-3-3		6	Q67100	Q4614		
			DDR400	3-3-3		5	Q67100	Q1071		
			DDR333	2.5-3-3	HYB25D256400CC-	6	Q67100	Q4764	2Q04	
			DDR400	3-3-3		5	Q67100	Q1418		
	32 M x 8	FBGA 6o (8 x 12 mm)	DDR266A	2-3-3	HYB25D256800BC-	7	Q67100	Q4596	Now	
			DDR333	2.5-3-3		6	Q67100	Q4595		
			DDR333	2.5-3-3	HYB25D256800CF-	6	Q67100	Q4443	2Q04	XX
			DDR333	2.5-3-3	HYB25D256800CC-	6	Q67100	Q4767	2Q04	
			DDR400	3-3-3		5	Q67100	Q1419		
	16 M x 16	FBGA 6o (8 x 12 mm)	DDR266A	2-3-3	HYB25D256160BC-	7	Q67100	Q4599	Now	
			DDR333	2.5-3-3		6	Q67100	Q4598		
			DDR333	2.5-3-3	HYB25D256160CC-	6	Q67100	Q4770	2Q04	

XX = Lead and Halogen-Free

DDR Components

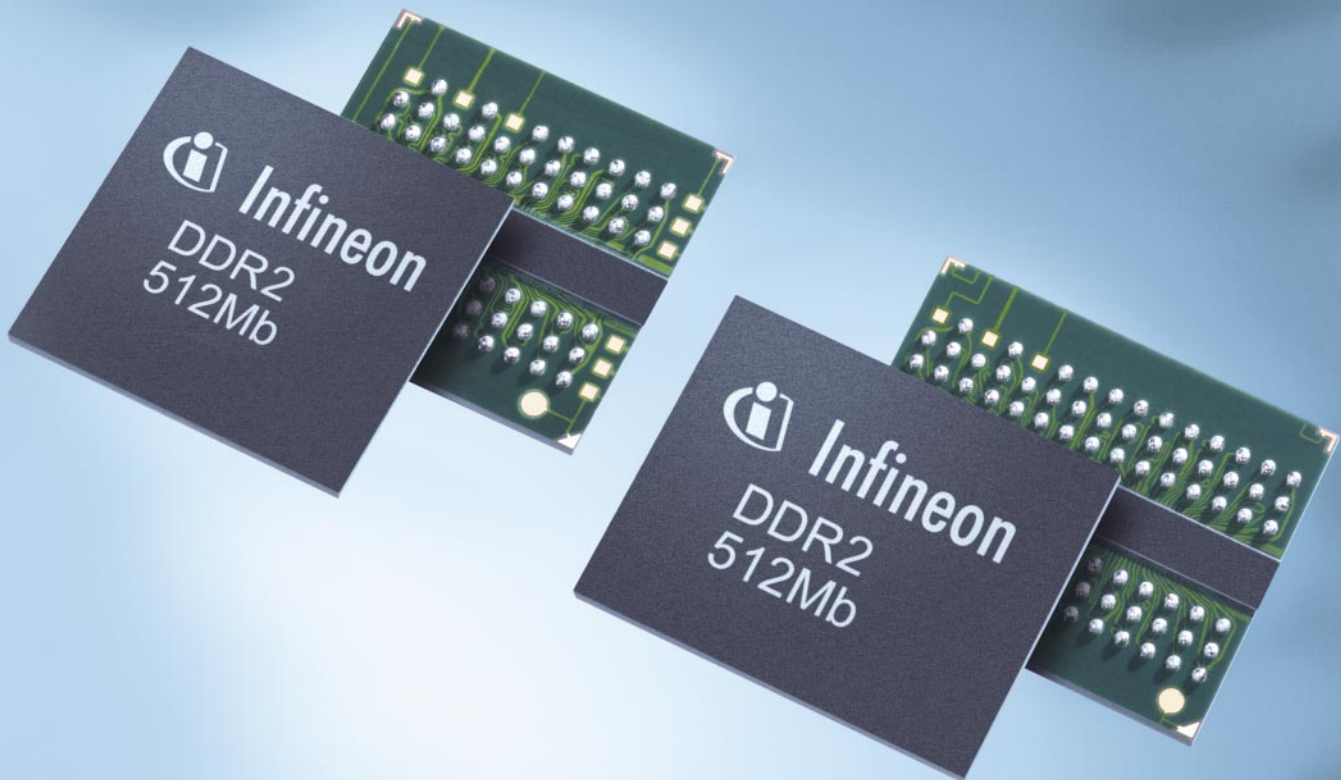
Generation	Organization	Package	Speed	Latency	Sales Description	Speed No.	Ordering Code		Prod.	Green
512 Mb	128 M x 4	TSOP-66 (400 mil)	DDR266A	2-3-3	HYB25D512400AT-	7	Q67100	Q4413	Now	
					HYB25D512400BE-	7	Q67100	Q5202	Now	XX
	256 M x 4	TSOP stack (400 mil)	DDR266A	2-3-3	HYB25D1G400BG-	7	On request		Now	
	64 M x 8	TSOP-66 (400 mil)	DDR266A	2-3-3	HYB25D512800AT-	7	Q67100	Q4412	Now	
			DDR333	2.5-3-3		6	Q67100	Q4415	Now	
			DDR333	2.5-3-3	HYB25D512800BE-	6	Q67100	Q5205	Now	XX
			DDR400	3-3-3		5	Q67100	Q5204	Now	
	32 M x 16	TSOP-66 (400 mil)	DDR266A	2-3-3	HYB25D512160AT-	7	Q67100	Q4411	Now	
			DDR333	2.5-3-3	HYB25D512160AT-	6	Q67100	Q4416	Now	
			DDR333	2.5-3-3	HYB25D512160BE-	6	Q67100	Q5209	Now	XX
			DDR400	3-3-3		5	Q67100	Q5208	Now	
512 Mb FBGA	128 M x 4	FBGA 60 (10 x 12 mm)	DDR333	2.5-3-3	HYB25D512400BC-	6	Q67100	Q1661	Now	
			DDR400	3-3-3		5	Q67100	Q1693	Now	
	64 M x 8	FBGA 60 (10 x 12 mm)	DDR333	2.5-3-3	HYB25D512800BC-	6	Q67100	Q1663	Now	
			DDR333	2.5-3-3	HYB25D512800BF-	6	Q67100	Q5215	Now	XX
			DDR400	3-3-3	HYB25D512800BC-	5	Q67100	Q1451	Now	
			DDR400	3-3-3	HYB25D512800BF-	5	Q67100	Q1452	Now	XX
	32 M x 16	FBGA 60 (10 x 12 mm)	DDR333	2.5-3-3	HYB25D512160BC-	6	Q67100	Q1453	Now	
			DDR400	3-3-3		5	Q67100	Q1454	Now	

XX = Lead and Halogen-Free



DDR2 Components

Generation	Organization	Package	Speed	Latency	Sales Description	Speed No.	Ordering Code	Production	Green
256 Mb	64 M x 4	PTFBGA-60	DDR2 400	3-3-3	HYB18T256400AC-	5	Q67100 Q1314	3Q04	
			DDR2 533	4-4-4		3.7	Q67100 Q1311		
	32 M x 8	PTFBGA-60	DDR2 400	3-3-3	HYB18T256800AC-	5	Q67100 Q1322		
			DDR2 533	4-4-4		3.7	Q67100 Q1320		
	16 M x 16	PTFBGA-84	DDR2 400	3-3-3	HYB18T256160AC-	5	Q67100 Q1301		
			DDR2 533	4-4-4		3.7	Q67100 Q1293		
512 Mb	128 M x 4	PTFBGA-60	DDR2 400	3-3-3	HYB18T512400AC-	5	Q67100 Q1350	2Q04	
			DDR2 533	4-4-4		3.7	Q67100 Q1349		
	64 M x 8	PTFBGA-60	DDR2 400	3-3-3	HYB18T512800AC-	5	Q67100 Q1354		
			DDR2 533	4-4-4		3.7	Q67100 Q1352		
	32 M x 16	PTFBGA-84	DDR2 400	3-3-3	HYB18T512160AC-	5	Q67100 Q1347		
			DDR2 533	4-4-4		3.7	Q67100 Q1346		
1 Gb	256 M x 4	PTFBGA-68	DDR2 400	3-3-3	HYB18T1G400AC-	5	Q67100 Q1619	3Q04	
			DDR2 533	4-4-4		3.7	Q67100 Q1618		
	128 M x 8	PTFBGA-68	DDR2 400	3-3-3	HYB18T1G800AC-	5	Q67100 Q1622		
			DDR2 533	4-4-4		3.7	Q67100 Q1621		
	64 M x 16	PTFBGA-92	DDR2 400	3-3-3	HYB18T1G160AC-	5	Q67100 Q1625		
			DDR2 533	4-4-4		3.7	Q67100 Q1624		





SDR Components

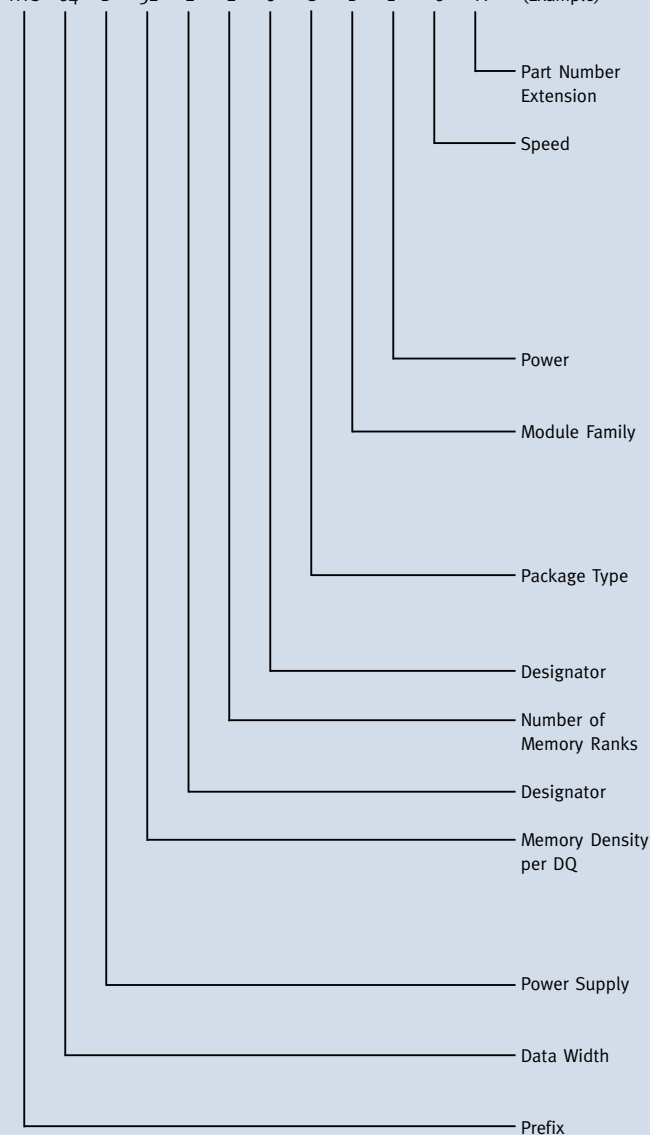
Generation	Organization	Package	Speed	Latency	Sales Description	Speed No.	Ordering Code		Production	Green
128 Mb	32 M x 4	TSOP-54 (400 mil)	PC133	2-2-2	HYB39S128400CT-	7	Q67100	Q4101	Now	
	16 M x 8	TSOP-54 (400 mil)	PC133	2-2-2	HYB39S128800CT-	7	Q67100	Q4107		
	8 M x 16	TSOP-54 (400 mil)	PC133	2-2-2	HYB39S128160CT-	7	Q67100	Q4113		
256 Mb	64 M x 4	TSOP-54 (400 mil)	PC133	2-2-2	HYB39S256400DT-	7	Q67100	Q4330	Now	
	32 M x 8	TSOP-54 (400 mil)	PC133	2-2-2	HYB39S256800DT-	7	Q67100	Q4332		
	16 M x 16	TSOP-54 (400 mil)	PC133	2-2-2	HYB39S256160DT-	7	Q67100	Q4334		
256 Mb FBGA	64 M x 4	FBGA-54 (8 x 12 mm)	PC133	2-2-2	HYB39S256400DC-	7	Q67100	Q4772	Now	
	32 M x 8	FBGA-54 (8 x 12 mm)	PC133	2-2-2	HYB39S256800DC-	7	Q67100	Q4774		
	16 M x 16	FBGA-54 (8 x 12 mm)	PC133	2-2-2	HYB39S256160DC-	7	Q67100	Q4808		
512 Mb	128 M x 4	TSOP-54 (400 mil)	PC133	3-3-3	HYB39S512400AT-	7.5	Q67100	Q4404	Now	
	64 M x 8	TSOP-54 (400 mil)	PC133	3-3-3	HYB39S512800AT-	7.5	Q67100	Q4403		
	32 M x 16	TSOP-54 (400 mil)	PC133	3-3-3	HYB39S512160AT-	7.5	Q67100	Q4402		

DRAM Modules

Nomenclature DDR/DDR2 Modules

Unbuffered DIMM, Registered DIMM (184-pin) and SO-DIMM (200-pin)

HYS 64 D 32 2 2 0 G D L - 6 - A (Example)



Component Die Revision Indicator

8	=	PC1600 2-2-2	DDR200
7.5	=	PC2100 2.5-3-3	DDR266B
7	=	PC2100 2-3-3	DDR266A
7F	=	PC2100 2-2-2	DDR266
6	=	PC2700 2.5-3-3	DDR333
5	=	PC3200 3-3-3 / PC2-3200 3-3-3	DDR400 / DDR2-400
3.7	=	PC2-4300 4-4-4	DDR2-533
3	=	PC2-5300 4-4-4	DDR2-667

L	=	Low Power
none	=	Standard Power

U	=	Unbuffered DIMM	TSOP-based for DDR / FBGA-based for DDR2
R	=	Registered DIMM	TSOP-based for DDR / FBGA-based for DDR2
D	=	SO-DIMM	TSOP-based for DDR / FBGA-based for DDR2
BD	=	SO-DIMM	FBGA-based
BR	=	Registered DIMM	FBGA-based

G	=	Contains Lead
H	=	Lead-Free (ROHS*-compliant)
E	=	Lead and Halogen-Free available on request (ROHS*-compliant)

Product Variations

0	=	One Memory Module Rank
2	=	Two Memory Module Ranks

Data Sheet Defined

16	=	16 Mb
32	=	32 Mb
64	=	64 Mb
128	=	128 Mb
256	=	256 Mb
D	=	2.5 V (DDR Modules)
T	=	1.8 V (DDR2 Modules)

64	=	x 64 (Non-ECC)
72	=	x 72 (ECC)

HYS	=	Standard Prefix for SDRAM-based Memory Modules
-----	---	--

*ROHS = Restriction Of Hazardous Substances

DDR Modules

Unbuffered DDR DIMM – 184-pin

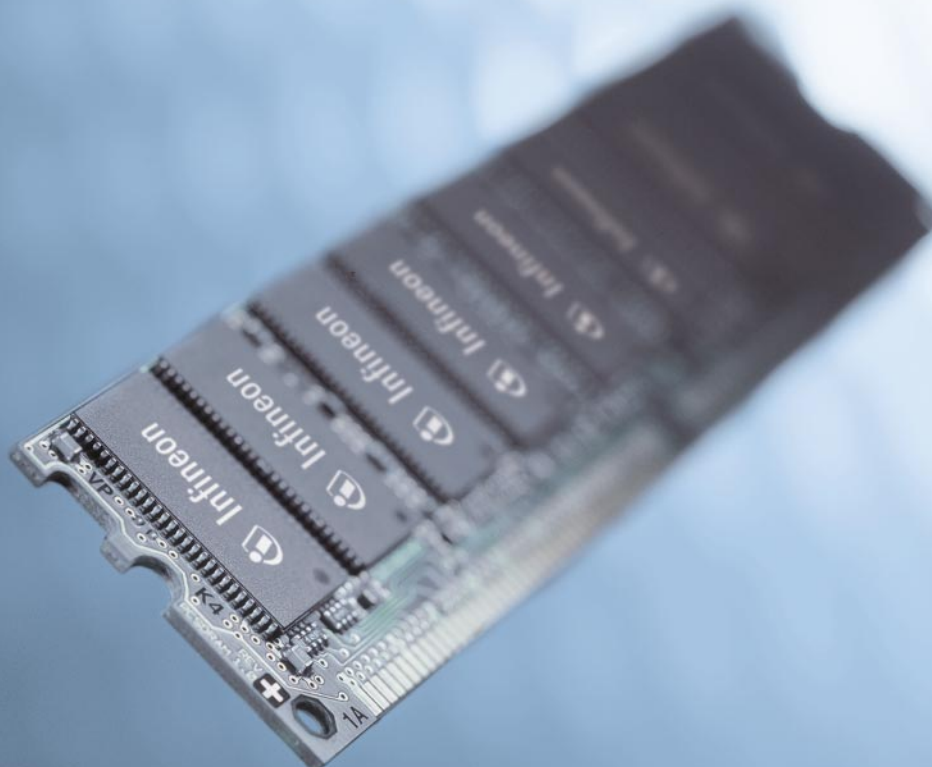
Module Density	Organization	Generation	Compo. Organization	Compo. Package	# of Ranks on Module	Module Height	Module Speed	Sales Description	Speed No.	Ordering Code		Prod.	Green
128 MB	16 M x 64	256 M	16 M x 16	TSOP	1	1.25"	PC2700	HYS64D16301GU-	6-B	Q67100	Q4940	Now	
							PC3200		5-B	Q67100	Q5136		
							PC2700		6-C	Q67100	Q1448		
							PC3200		5-C	Q67100	Q1754		
							PC2700	HYS64D16301HU-	6-C	Q67100	Q4995	Now	X
							PC3200		5-C	Q67100	Q5188		
128 MB ECC	16 M x 72	128 M	16 M x 8	TSOP	1	1.25"	PC2100	HYS72D16000GU-	7-A	Q67100	Q4367	Now	
256 MB	32 M x 64	256 M	32 M x 8	TSOP	1	1.25"	PC2100	HYS64D32000GU-	7-B	Q67100	Q4517	Now	
							PC2700	HYS64D32300GU-	6-B	Q67100	Q4944	Now	
							PC3200		5-B	Q67100	Q5081		
							PC2700		6-C	Q67100	Q5184		
							PC3200		5-C	Q67100	Q1755		
							PC2700	HYS64D32300HU-	6-C	Q67100	Q4996	Now	X
							PC3200		5-C	Q67100	Q5189		
256 MB ECC	32 M x 72	256 M	32 M x 8	TSOP	1	1.25"	PC2100	HYS72D32000GU-	7-B	Q67100	Q4519	Now	
							PC2100-222		7F-B	Q67100	Q5029		
							PC2700	HYS72D32300GU-	6-B	Q67100	Q4946	Now	
							PC3200		5-B	Q67100	Q4957		
							PC2700		6-C	Q67100	Q1768		
							PC3200		5-C	Q67100	Q1756		
							PC2700	HYS72D32300HU-	6-C	Q67100	Q4998	Now	
PC3200	5-C	Q67100	Q5191										
512 MB	64 M x 64	256 M	32 M x 8	TSOP	2	1.25"	PC2100	HYS64D64020GU-	7-B	Q67100	Q4521	Now	
							PC2700	HYS64D64320GU-	6-B	Q67100	Q4948	Now	
							PC3200		5-B	Q67100	Q5084		
							PC2700		6-C	Q67100	Q1449		
							PC3200		5-C	Q67100	Q1761		
							PC2700	HYS64D64320HU-	6-C	Q67100	Q5001	Now	X
							PC3200		5-C	Q67100	Q5190		
512 MB ECC	64 M x 72	256 M	32 M x 8	TSOP	2	1.25"	PC2100	HYS72D64020GU-	7-B	Q67100	Q4525	Now	
							PC2100-222		7F-B	Q67100	Q5030		
							PC2700	HYS72D64320GU-	6-B	Q67100	Q4950	Now	
							PC3200		5-B	Q67100	Q4958		
							PC2700		6-C	Q67100	Q1757		
							PC3200		5-C	Q67100	Q1762		
							PC2700	HYS72D64320HU-	6-C	Q67100	Q4997	Now	
PC3200	5-C	Q67100	Q5192										

X = Lead-Free

Unbuffered DDR DIMM – 184-pin

Module Density	Organi- zation	Genera- tion	Compo. Organization	Compo. Package	# of Ranks on Module	Module Height	Module Speed	Sales Description	Speed No.	Ordering Code	Prod.	Green
1 GB	128 M x 64	512 M	64 M x 8	TSOP	2	1.25 "	PC2100	HYS64D128020GU-	7-A	Q67100 Q4656	Now	
							PC2700	HYS64D128320GU-	6-A	Q67100 Q4823	Now	
							PC2700		6-B	Q67100 Q1779		
							PC3200		5-B	Q67100 Q1780		
							PC2700	HYS64D128320HU-	6-B	Q67100 Q1426	Now	X
							PC3200		5-B	Q67100 Q1427		
1 GB ECC	128 M x 72	512 M	64 M x 8	TSOP	2	1.25 "	PC2100	HYS72D128020GU-	7-A	Q67100 Q4658	Now	
							PC2700	HYS72D128320GU-	6-A	Q67100 Q4935	Now	
							PC2700		6-B	Q67100 Q1781		
							PC3200		5-B	Q67100 Q1782		
							PC2700	HYS72D128320HU-	6-B	Q67100 Q1065	Now	X
							PC3200		5-B	Q67100 Q1064		

X = Lead-Free



Registered DDR DIMM (Reduced Height) – 184-pin

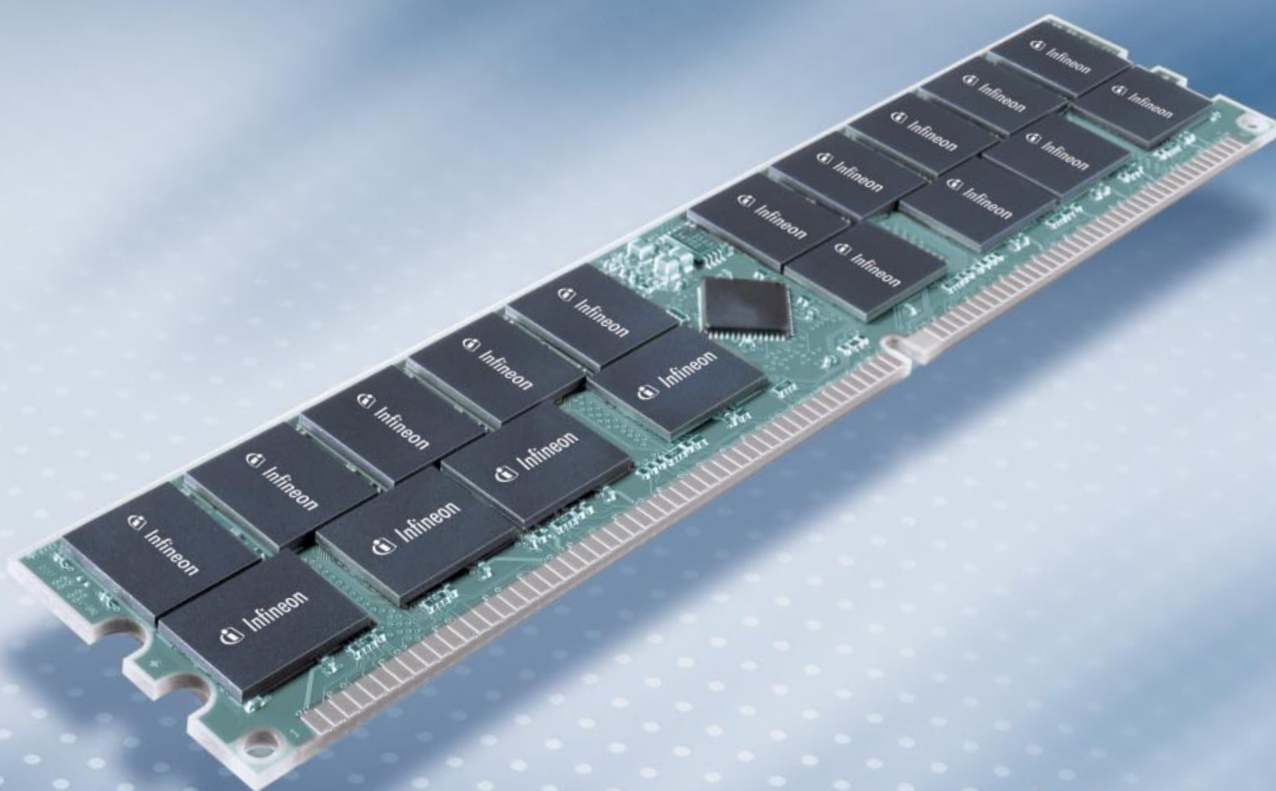
Module Density	Organi- zation	Genera- tion	Compo. Organization	Compo. Package	# of Ranks on Module	Module Height	Module Speed	Sales Description	Speed No.	Ordering Code		Prod.	Green				
128 MB	16 M x 72	128 M	16 M x 8	TSOP	1	1.2"	PC2100	HYS72D16500GR-	7-A	Q67100	Q4446	Now					
256 MB	32 M x 72	128M	32 M x 4	TSOP	1	1.2"	PC2100	HYS72D32501GR-	7-A	Q67100	Q4377						
								HYS72D32501HR-	7-C	Q67100	Q1471	3Q04	X				
		256 M	32 M x 8	TSOP	1	1.2"	PC2100	HYS72D32500GR-	7-B	Q67100	Q4457	Now					
									256 M	32 M x 8	FBGA			1	1.125"	PC2100	HYS72D32300GBR-
		PC2700	6-B	Q67100	Q4671												
		PC3200	5-B	Q67100	Q1461												
		PC2700	6-C	Q67100	Q1413	2Q04											
		PC3200	5-C	Q67100	Q1673	3Q04											
512 MB	64 M x 72	256 M	64 M x 4	TSOP	1	1.2"	PC2100	HYS72D64500GR-	7-B	Q67100	Q4463	Now					
							PC2100-222		7F-B	Q67100	Q5007						
				FBGA	1	1.125"	PC2100	HYS72D64300GBR-	7-B	Q67100	Q4673						
							PC2700		6-B	Q67100	Q4686						
							PC3200		5-B	Q67100	Q1462						
							PC2700		6-C	Q67100	Q1415			2Q04			
							PC3200		5-C	Q67100	Q1685			3Q04			
							32 M x 8		FBGA	2	1.125"			PC2100	HYS72D64320GBR-	7-B	Q67100
			PC2700	6-B	Q67100	Q4693											
			PC3200	5-B	Q67100	Q1463											
			PC2700	6-C	Q67100	Q1414		2Q04									
			PC3200	5-C	Q67100	Q1684	3Q04										
			1 GB	128 M x 72	256 M	128 M x 4	TSOP stack	2	1.2"	PC2100	HYS72D128521GR-	7-B		Q67100	Q4752	Now	
										PC2100-222		7F-B		Q67100	Q5008		
						64 M x 4	FBGA	2	1.2"	PC2100	HYS72D128320GBR-	7-B		Q67100	Q4674		
										PC2700		6-B		Q67100	Q4668		
512 M	128 M x 4	TSOP			1	1.2"	PC2100	HYS72D128500GR-	7-A	Q67100	Q4990	Now					
							PC2100		HYS72D128300GBR-	7-B	Q67100	Q1429	Now				
	PC2700	6-B			Q67100	Q1032											
	PC3200	5-B			Q67100	Q1687											
64 M x 8	FBGA	2	1.125"	PC2100	HYS72D128321GBR-	7-B	Q67100	Q1422	Now								
				PC2700		6-B	Q67100	Q1043									
				PC3200		5-B	Q67100	Q1686									
				2 GB		256 M x 72	512 M	256 M x 4		TSOP stack	2	1.2"	PC2100	HYS72D256520GR-	7-A	Q67100	Q4661
128 M x 4	FBGA	2	1.2"		PC2100				HYS72D256320GBR-				7-B		Q67100	Q1031	Now
					PC2700			6-B		Q67100	Q1030						
PC3200	5-B	Q67100	Q1689														

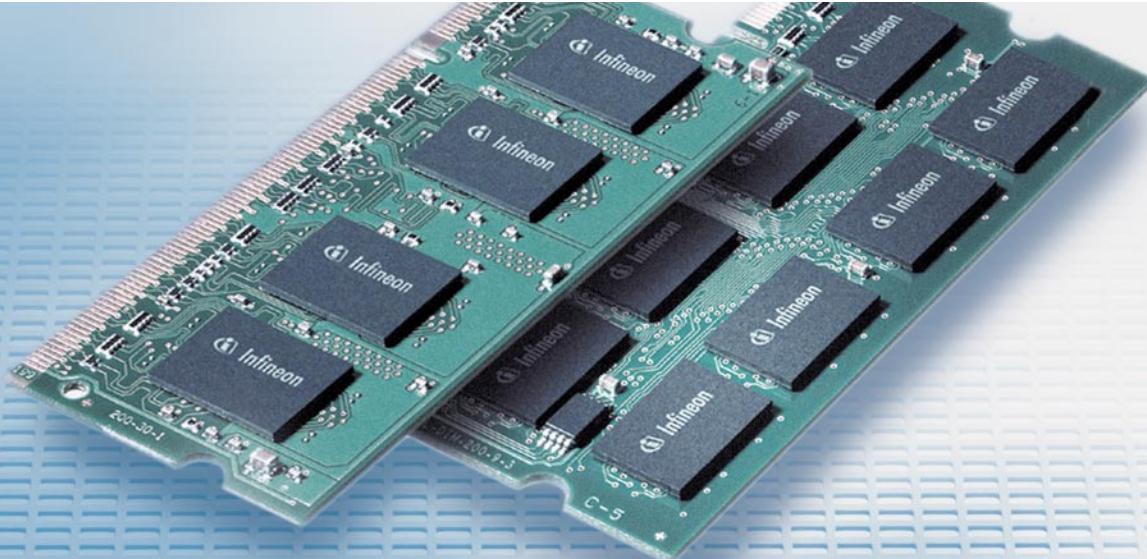
X = Lead-Free

Registered DDR DIMM – 184-pin

Module Density	Organization	Generation	Compo. Organization	Compo. Package	# of Ranks on Module	Module Height	Module Speed	Sales Description	Speed No.	Ordering Code		Prod.	Green
128 MB	16 M x 72	128 M	16 M x 8	TSOP	1	1.7"	PC1600	HYS72D16000GR-	8-A	Q67100	Q4372	EOL	
							PC2100		7-A	Q67100	Q4373		
256 MB	32 M x 72	128 M	32 M x 4	TSOP	1	1.7"	PC1600	HYS72D32001GR-	8-A	Q67100	Q4375	EOL	
							PC2100		7-A	Q67100	Q4378		
		256 M	32 M x 8	TSOP	1	1.7"	PC1600	HYS72D32000GR-	8-B	Q67100	Q4508		
							PC2100		7-B	Q67100	Q4509		
512 MB	64 M x 72	256 M	64 M x 4	TSOP	1	1.7"	PC1600	HYS72D64000GR-	8-B	Q67100	Q4510	EOL	
							PC2100		7-B	Q67100	Q4511		
1 GB	128 M x 72	256 M	128 M x 4	TSOP stack	2	1.7"	PC1600	HYS72D128021GR-	8-B	Q67100	Q4743	EOL	
							PC2100		7-B	Q67100	Q4694		

EOL = End of Life





SO-DIMM DDR – 200-pin

Module Density	Organi- zation	Genera- tion	Compo. Organization	Compo. Package	# of Ranks on Module	Module Height	Module Speed	Sales Description	Speed No.	Ordering Code		Prod.	Green	
128 MB	16 M x 64	256 M	16 M x 16	TSOP	1	1,25 "	PC2100	HYS64D16001GDL-	7-B	Q67100	Q5179	Now		
							PC2700		6-B	Q67100	Q5187			
							PC2100	HYS64D16000GDL-	7-B	Q67100	Q4531			2Q04
							PC2700		6-B	Q67100	Q4670			
							PC2700	HYS64D16000HDL-	6-C	Q67100	Q1763	2Q04		
							PC2700		6-C	Q67100	Q5078	2Q04		X
256 MB	32 M x 64	256 M	16 M x 16	TSOP	2	1,25 "	PC2100	HYS64D32020GDL-	7-B	Q67100	Q4454	Now		
							PC2700		6-B	Q67100	Q4667			
							PC3200		5-B	Q67100	Q5227	2Q04		
							PC2700		6-C	Q67100	Q1767			
							PC3200	5-C	Q67100	Q1769	2Q04			
							PC2700	HYS64D32020HDL-	6-C	Q67100		Q4831		
							PC3200		5-C	Q67100	Q1699	2Q04		X
512 MB	64 M x 64	256M	32 M x 8	FBGA	2	1,25 "	PC2100	HYS64D64020GBDL-	7-B	Q67100	Q4680	Now		
							PC2700		6-B	Q67100	Q4681			
							PC3200		5-B	Q67100	Q1193	2Q04		
							PC2700		6-C	Q67100	Q1450			
							PC3200	5-C	Q67100	Q1702	3Q04			
							PC2700	HYS64D64020HBDL-	6-C	Q67100		Q4835		
	512 M	32 M x 16	TSOP	2	1,25 "	PC2100	HYS64D64020GDL-	7-A	Q67100	Q4663	Now			
						PC2700		6-A	Q67100	Q4744				
						PC2700		6-B	Q67100	Q1774				
						PC3200		5-B	Q67100	Q1783				
						PC2700	HYS64D64020HDL-	6-B	Q67100	Q1423	Now			
						PC3200		5-B	Q67100	Q1698				
1 GB	128 M x 64	512 M	64 M x 8	FBGA	2	1,25 "	PC2700	HYS64D128021GBDL-	6-B	Q67100	Q1416	Now		
							PC3200		5-B	Q67100	Q1694			
							PC2700	HYS64D128021HBDL-	6-B	Q67100	Q1028	Now		
							PC3200		5-B	Q67100	Q1695			

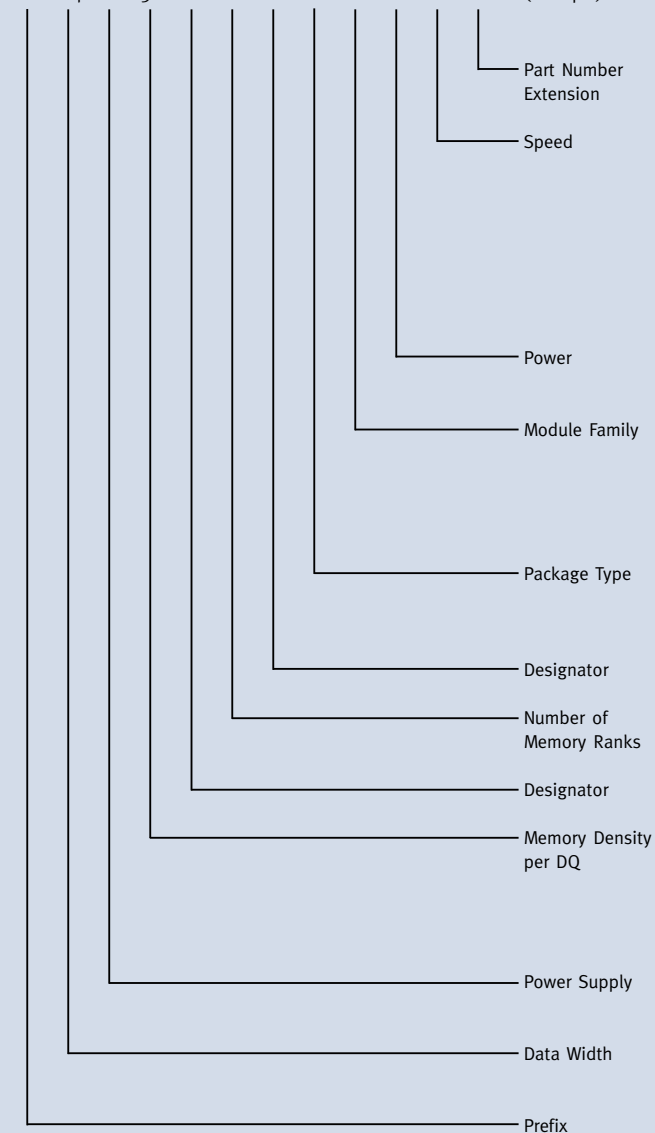
X = Lead-Free

DDR2 Modules

Nomenclature DDR/DDR2 Modules

Unbuffered DIMM, Registered DIMM (240-pin) and SO-DIMM (200-pin)

HYS 64 D 32 2 2 0 G D L - 6 - A (Example)



Component Die Revision Indicator

8	=	PC1600 2-2-2	DDR200
7.5	=	PC2100 2.5-3-3	DDR266B
7	=	PC2100 2-3-3	DDR266A
7F	=	PC2100 2-2-2	DDR266
6	=	PC2700 2.5-3-3	DDR333
5	=	PC3200 3-3-3 / PC2-3200 3-3-3	DDR400 / DDR2-400
3.7	=	PC2-4300 4-4-4	DDR2-533
3	=	PC2-5300 4-4-4	DDR2-667

L	=	Low Power
none	=	Standard Power

U	=	Unbuffered DIMM	TSOP-based for DDR / FBGA-based for DDR2
R	=	Registered DIMM	TSOP-based for DDR / FBGA-based for DDR2
D	=	SO-DIMM	TSOP-based for DDR / FBGA-based for DDR2
BD	=	SO-DIMM	FBGA-based
BR	=	Registered DIMM	FBGA-based

G	=	Contains Lead
H	=	Lead-Free (ROHS* -compliant)
E	=	Lead and Halogen-Free available on request (ROHS* -compliant)

Product Variations

0	=	One Memory Module Rank
2	=	Two Memory Module Ranks

Data Sheet Defined

16	=	16 Mb
32	=	32 Mb
64	=	64 Mb
128	=	128 Mb
256	=	256 Mb

D	=	2.5 V (DDR Modules)
T	=	1.8 V (DDR2 Modules)

64	=	x 64 (Non-ECC)
72	=	x 72 (ECC)

HYS	=	Standard Prefix for SDRAM-based Memory Modules
-----	---	--

*ROHS = Restriction Of Hazardous Substances

Unbuffered DDR2 DIMM – 240-pin

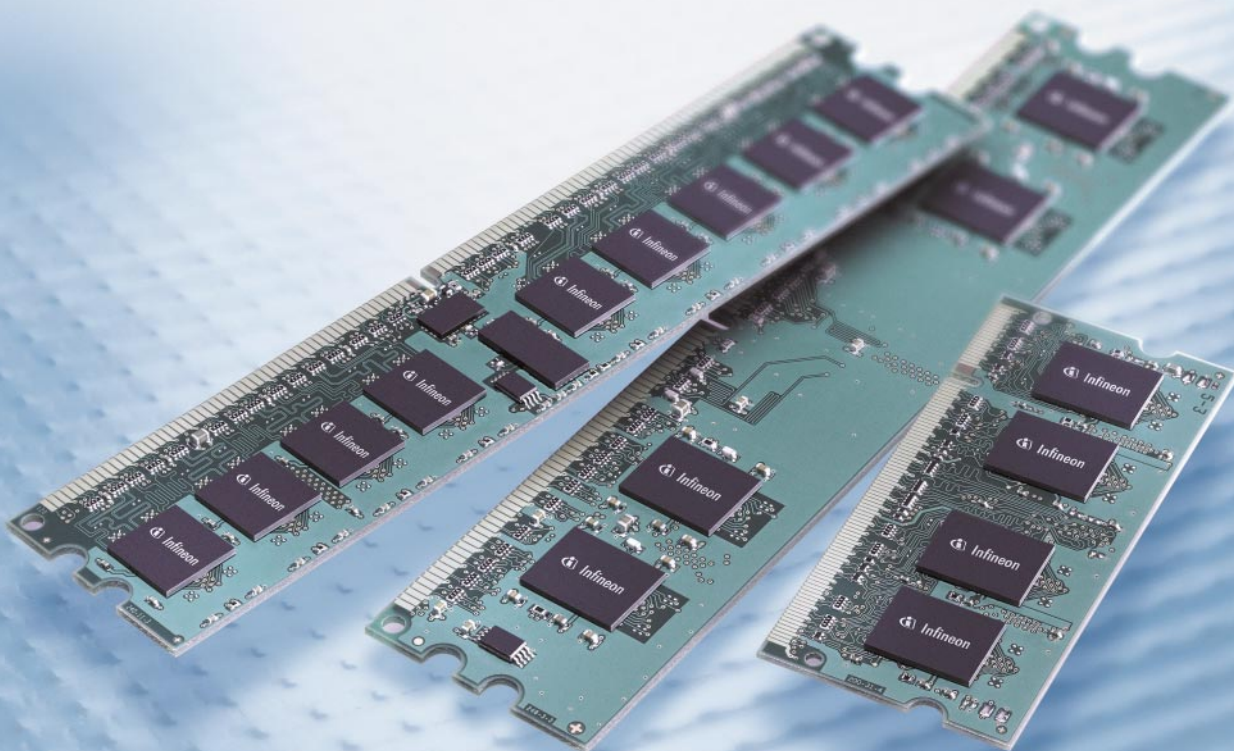
Module Density	Organization	Generation	Compo. Organization	Compo. Package	# of Ranks on Module	Module Height	Module Speed	Sales Description	Speed No.	Ordering Code	Prod.	Green
256 MB	32Mx64	512M	32Mx16	PTFBGA84	1	30 mm	PC2-3200 3-3-3	HYS64T32000GU	5-A	Q67100 Q1386	2Q04	
							PC2-4300 4-4-4		3.7-A	Q67100 Q1387		
256 MB ECC	32 M x 72	256 M	32 M x 8	PTFBGA60	1	30 mm	PC2-3200 3-3-3	HYS72T32000GU	5-A	Q67100 Q1371	3Q04	
							PC2-4300 4-4-4		3.7-A	Q67100 Q1370		
512 MB	64 M x 64	512 M	64 M x 8	PTFBGA60	1	30 mm	PC2-3200 3-3-3	HYS64T64000GU	5-A	Q67100 Q1389	2Q04	
							PC2-4300 4-4-4		3.7-A	Q67100 Q1390		
512 MB ECC	64 M x 72	512 M	64 M x 8	PTFBGA60	1	30 mm	PC2-3200 3-3-3	HYS72T64000GU	5-A	Q67100 Q1392	2Q04	
							PC2-4300 4-4-4		3.7-A	Q67100 Q1393		
1 GB	128 M x 64	512 M	64 M x 8	PTFBGA60	2	30 mm	PC2-3200 3-3-3	HYS64T128020GU	5-A	Q67100 Q1395	2Q04	
							PC2-4300 4-4-4		3.7-A	Q67100 Q1396		
1 GB ECC	128 M x 72	512 M	64 M x 8	PTFBGA60	2	30 mm	PC2-3200 3-3-3	HYS72T128020GU	5-A	Q67100 Q1398	2Q04	
							PC2-4300 4-4-4		3.7-A	Q67100 Q1399		
2 GB	256 M x 64	1 G	128 M x 8	PTFBGA68	2	30 mm	PC2-3200 3-3-3	HYS64T256020GU	5-A	Q67100 Q1739	3Q04	
							PC2-4300 4-4-4		3.7-A	Q67100 Q1740		
2 GB ECC	256 M x 72	1 G	128 M x 8	PTFBGA68	2	30 mm	PC2-3200 3-3-3	HYS72T256020GU	5-A	Q67100 Q1741	3Q04	
							PC2-4300 4-4-4		3.7-A	Q67100 Q1742		

Registered DDR2 DIMM – 240-pin

Module Density	Organization	Generation	Compo. Organization	Compo. Package	# of Ranks on Module	Module Height	Module Speed	Sales Description	Speed No.	Ordering Code	Prod.	Green
256 MB	32 Mx72	256 M	32 M x 8	PTFBGA60	1	30 mm	PC2-3200 3-3-3	HYS72T32000GR-	5-A	Q67100 Q1326	3Q04	
							PC2-4300 4-4-4		3.7-A	Q67100 Q1330		
512 MB	64 Mx72	256 M	64 M x 4	PTFBGA60	1	30 mm	PC2-3200 3-3-3	HYS72T64001GR-	5-A	Q67100 Q1715	3Q04	
							PC2-4300 4-4-4		3.7-A	Q67100 Q1716		
			32 M x 8	PTFBGA60	2	30 mm	PC2-3200 3-3-3	HYS72T64020GR-	5-A	Q67100 Q1367		
							PC2-4300 4-4-4		3.7-A	Q67100 Q1366		
		512 M	64 M x 8	PTFBGA60	1	30 mm	PC2-3200 3-3-3	HYS72T64000GR-	5-A	Q67100 Q1378	2Q04	
							PC2-4300 4-4-4		3.7-A	Q67100 Q1379		
1 GB	128 Mx72	512 M	128 M x 4	PTFBGA60	1	30 mm	PC2-3200 3-3-3	HYS72T128000GR-	5-A	Q67100 Q1380	2Q04	
							PC2-4300 4-4-4		3.7-A	Q67100 Q1381		
			64 M x 8	PTFBGA60	2	30 mm	PC2-3200 3-3-3	HYS72T128020GR-	5-A	Q67100 Q1382		
							PC2-4300 4-4-4		3.7-A	Q67100 Q1383		
2 GB	256 Mx72	512 M	128 M x 4	PTFBGA60	2	30 mm	PC2-3200 3-3-3	HYS72T256220GR-	5-A	Q67100 Q1891	3Q04	
							PC2-4300 4-4-4	HYS72T256020GR-	3.7-A	Q67100 Q1918		
		1 G	256 M x 4	PTFBGA68	1	30 mm	PC2-3200 3-3-3	HYS72T256000GR-	5-A	Q67100 Q1735		
							PC2-4300 4-4-4		3.7-A	Q67100 Q1736		
4 GB	512 Mx72	1 G	512 M x 4	SDFBGA	2	30 mm	PC2-3200 3-3-3	HYS72T512022GR-	5-A	Q67100 Q1737	1Q05	
							PC2-4300 4-4-4		3.7-A	Q67100 Q1738		

SO-DIMM DDR2 – 200-pin

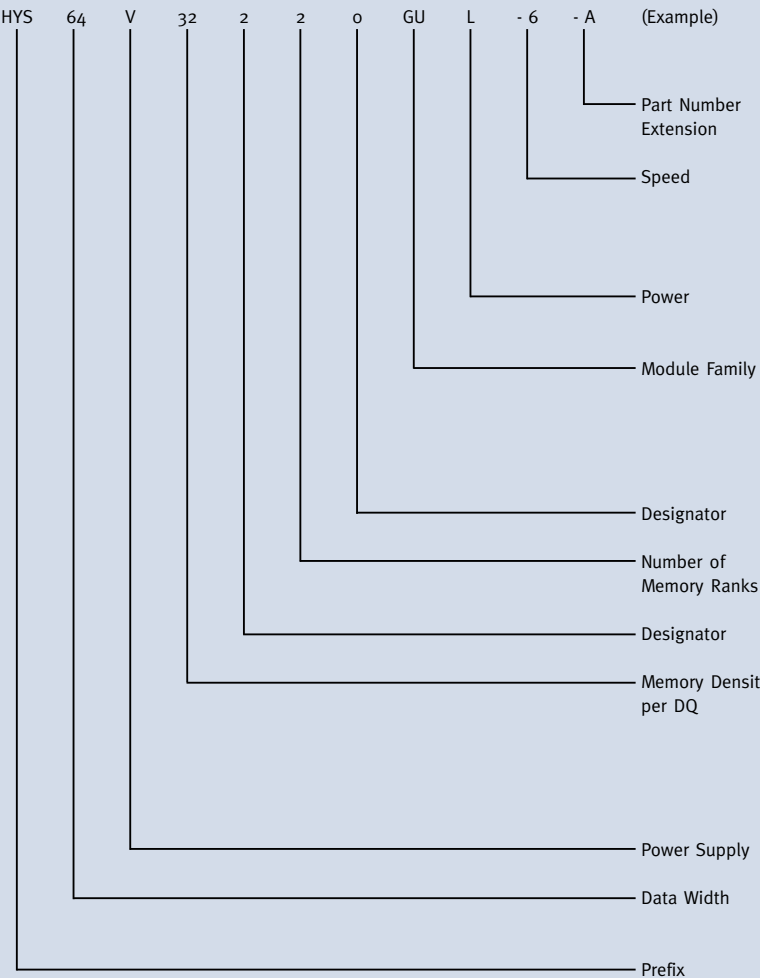
Module Density	Organization	Generation	Compo. Organization	Compo. Package	# of Ranks on Module	Module Height	Module Speed	Sales Description	Speed No.	Ordering Code		Prod.	Green
256 MB	32 M x 64	512 M	32 M x 16	PTFBGA84	1	30 mm	PC2-3200 3-3-3	HYS64T32000GDL-	5-A	Q67100	Q1401	3Q04	
							PC2-4300 4-4-4		3-7-A	Q67100	Q1402		
512 MB	64 M x 64	512 M	32 M x 16	PTFBGA84	2	30 mm	PC2-3200 3-3-3	HYS64T64020GDL-	5-A	Q67100	Q1404	3Q04	
							PC2-4300 4-4-4		3-7-A	Q67100	Q1405		
1 GB	128 M x 64	512 M	128 M x 8	SDFBGA	2	30 mm	PC2-3200 3-3-3	HYS64T128022GDL-	5-A	Q67100	Q1692	3Q04	
							PC2-4300 4-4-4		3-7-A	Q67100	Q1691		
	128 M x 64	1 G	64 M x 16	PTFBGA92	2	30 mm	PC2-3200 3-3-3	HYS64T128020GDL-	5-A	Q67100	Q1743		
							PC2-4300 4-4-4		3-7-A	Q67100	Q1744		
2 GB	256 M x 64	1 G	256 M x 8	SDFBGA	2	30 mm	PC2-3200 3-3-3	HYS64T256022GDL-	5-A	Q67100	Q1745	4Q04	
							PC2-4300 4-4-4		3-7-A	Q67100	Q1746		



SDR Modules

Nomenclature SDR Modules

Unbuffered DIMM, Registered DIMM (168-pin) and SO-DIMM (144-pin)



Component Die Revision Indicator

- 6 = 166 MHz (PC166 3-3-3)
- 7 = 133 MHz (PC133 2-2-2)
- 7.5 = 133 MHz (PC133 3-3-3)
- 8 = 100 MHz (PC100 2-2-2)

- L = Low-Power Product
- none = Standard-Power Product

- GU = Unbuffered 168-pin DIMM
- GR = Registered 168-pin DIMM
- GBR = Registered 168-pin DIMM (FBGA-based)
- GD = 144-pin Small Outline DIMM (SO-DIMM)
- GBD = 144-pin SO-DIMM (FBGA-based)

Product Variations

- 0 = One Memory Module Rank
- 2 = Two Memory Module Ranks

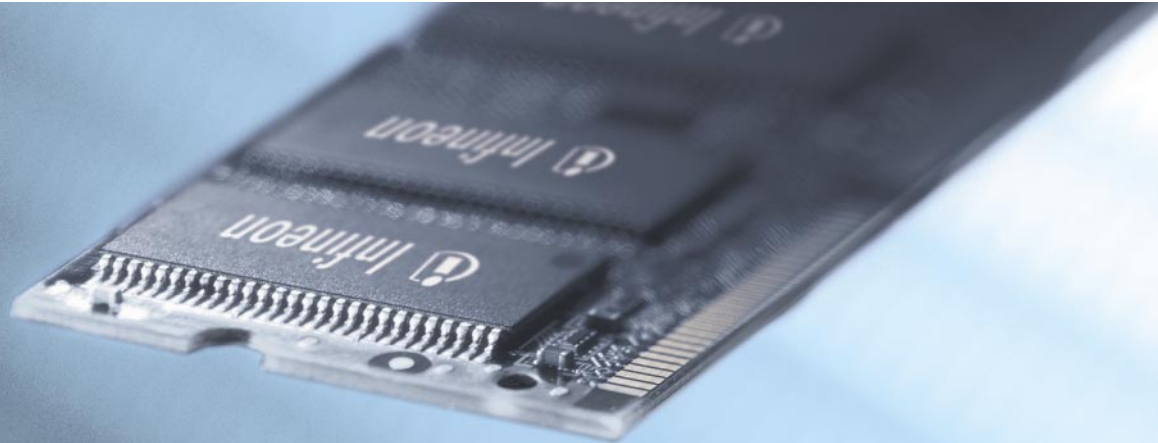
Data Sheet Defined

- 8 = 8 Mb
- 16 = 16 Mb
- 32 = 32 Mb
- 64 = 64 Mb
- 128 = 128 Mb
- 256 = 256 Mb

- V = 3.3 V (SDR Modules)

- 64 = x 64 (Non-ECC)
- 72 = x 72 (ECC)

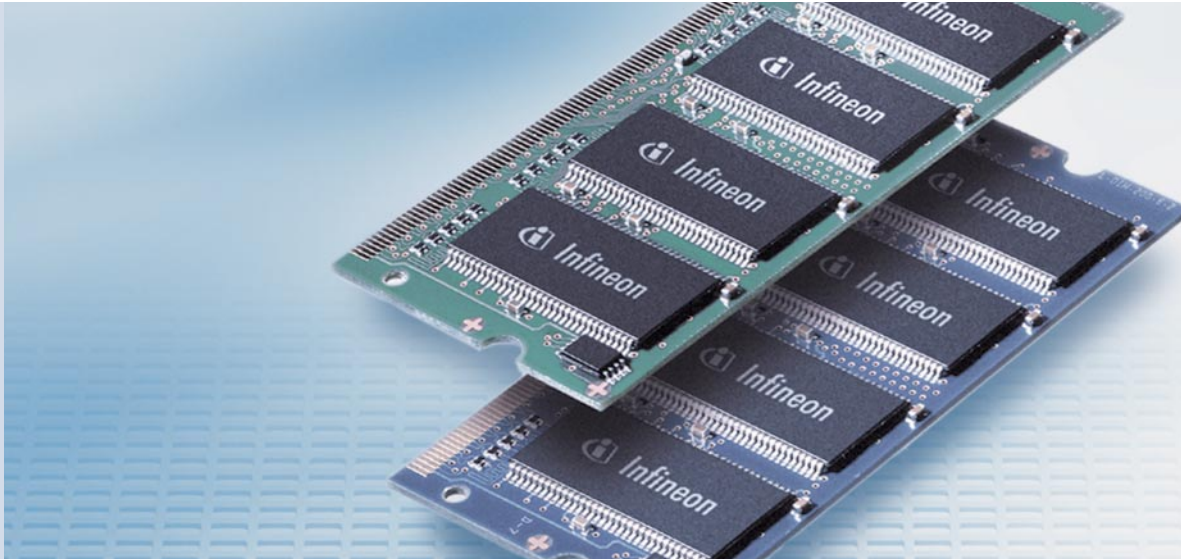
- HYS = Standard Prefix for SDRAM-based Memory Modules



Unbuffered SDR DIMM – 168-pin

Module Density	Organization	Generation	Compo. Organization	Compo. Package	# of Ranks on Module	Module Height	Module Speed	Sales Description	Speed No.	Ordering Code	Prod.	Green
128 MB	16 M x 64	128 M	16 M x 8	TSOP	1	1.25"	PC133 3-3-3	HYS64V16300GU-	7.5-C2	Q67100 Q4079	EOL	
							PC133 2-2-2		7-C2	Q67100 Q4080		
		256 M	16 M x 16	TSOP	1	1.15"	PC133 3-3-3	HYS64V16302GU-	7.5-D	Q67100 Q4466		
							PC133 2-2-2		7-D	Q67100 Q4442		
128 MB ECC	16 M x 72	128 M	16 M x 8	TSOP	1	1.25"	PC133 3-3-3	HYS72V16300GU-	7.5-C2	Q67100 Q4085	EOL	
							PC133 2-2-2		7-C2	Q67100 Q4086		
256 MB	32 M x 64	128 M	16 M x 8	TSOP	2	1.25"	PC133 3-3-3	HYS64V32220GU-	7.5-C2	Q67100 Q4082	EOL	
							PC133 2-2-2		7-C2	Q67100 Q4083		
		256 M	32 M x 8	TSOP	1	1.25"	PC133 3-3-3	HYS64V32300GU-	7.5-D	Q67100 Q4359		
							PC133 2-2-2		7-D	Q67100 Q4361		
256 MB ECC	32 M x 72	128 M	16 M x 8	TSOP	2	1.25"	PC133 3-3-3	HYS72V32220GU-	7.5-C2	Q67100 Q4088	EOL	
							PC133 2-2-2		7-C2	Q67100 Q4089		
		256 M	32 M x 8	TSOP	1	1.25"	PC133 3-3-3	HYS72V32300GU-	7.5-D	Q67100 Q4362		
							PC133 2-2-2		7-D	Q67100 Q4360		
512 MB	64 M x 64	256 M	32 M x 8	TSOP	2	1.25"	PC133 3-3-3	HYS64V64220GU-	7.5-D	Q67100 Q4390	EOL	
							PC133 2-2-2		7-D	Q67100 Q4389		
512 MB ECC	64 M x 72	256 M	32 M x 8	TSOP	2	1.25"	PC133 3-3-3	HYS72V64220GU-	7.5-D	Q67100 Q4387	EOL	
							PC133 2-2-2		7-D	Q67100 Q4388		

EOL = End of Life



Registered SDR DIMM – 168-pin

Module Density	Organization	Generation	Compo. Organization	Compo. Package	# of Ranks on Module	Module Height	Module Speed	Sales Description	Speed No.	Ordering Code	Prod.	Green		
128 MB	16 M x 72	128 M	16 M x 8	TSOP	1	1.5"	PC133 3-3-3	HYS72V16301GR-	7.5-C2	Q67100 Q4091	EOL			
							PC133 2-2-2		7-C2	Q67100 Q4092				
256 MB	32 M x 72	128 M	32 M x 4	TSOP	1	1.5"	PC133 3-3-3	HYS72V32301GR-	7.5-C2	Q67100 Q4094	EOL			
		256 M	32 M x 8	TSOP	1	1.5"	PC133 3-3-3	HYS72V32300GR-	7.5-D	Q67100 Q4479				
							PC133 2-2-2		7-D	Q67100 Q4440				
512 MB	64 M x 72	256 M	64 M x 4	TSOP	1	1.5"	PC133 3-3-3	HYS72V64300GR-	7.5-D	Q67100 Q4474	EOL			
							PC133 2-2-2		7-D	Q67100 Q4441				
1 GB	128 M x 72	256 M	128 M x 4	TSOP stack	2	1.5"	PC133 3-3-3	HYS72V128321GR-	7.5-D	Q67100 Q4725	EOL			
							PC133 2-2-2		7-D	Q67100 Q4726				
							PC133 3-3-3	HYS72V128320GR-	7.5-D	Q67100 Q4475				
							PC133 2-2-2		7-D	Q67100 Q4439				

EOL = End of Life

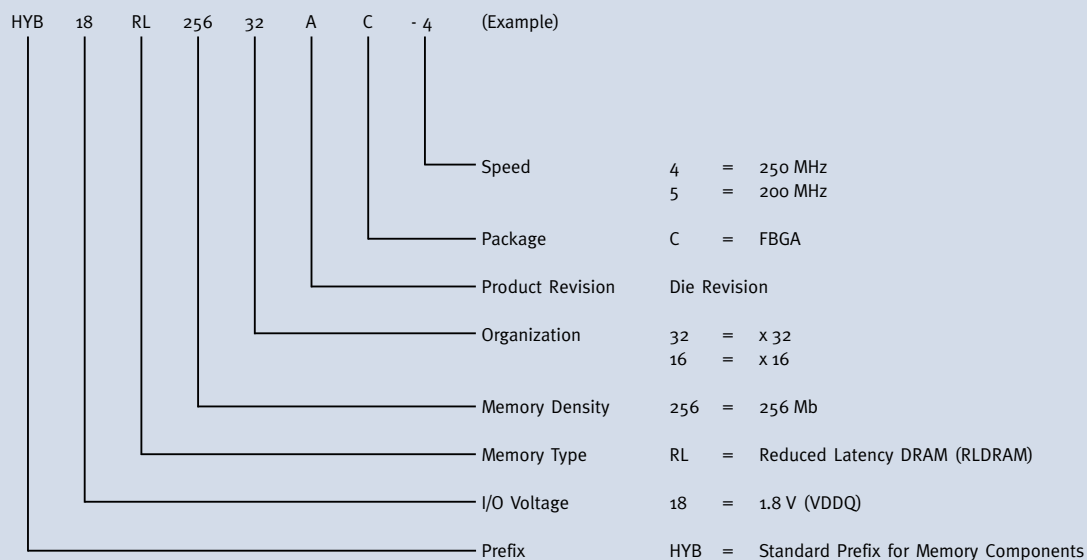
SO-DIMM SDR – 144-pin

Module Density	Organization	Generation	Compo. Organization	Compo. Package	# of Ranks on Module	Module Height	Module Speed	Sales Description	Speed No.	Ordering Code	Prod.	Green
128 MB	16 M x 64	128 M	8 M x 16	TSOP	2	1.00"	PC133 3-3-3	HYS64V16220GDL-	7.5-C2	Q67100 Q4342	EOL	
		256 M	16 M x 16	TSOP	1	1.00"	PC133 3-3-3	HYS64V16200GDL-	7.5-D	Q67100 Q4478		
							PC133 2-2-2		7-D	Q67100 Q4363		
256 MB	32 M x 64	256 M	16 M x 16	TSOP	2	1.00"	PC133 3-3-3	HYS64V32220GDL-	7.5-D	Q67100 Q4472	EOL	
							PC133 2-2-2		7-D	Q67100 Q4444		
512 MB	64 M x 64	256 M	32 M x 8	FBGA	2	1.15"	PC133 3-3-3	HYS64V64220GBDL-	7.5-D	Q67100 Q4499	EOL	
							PC133 2-2-2		7-D	Q67100 Q4501		

EOL = End of Life

Specialty DRAMs

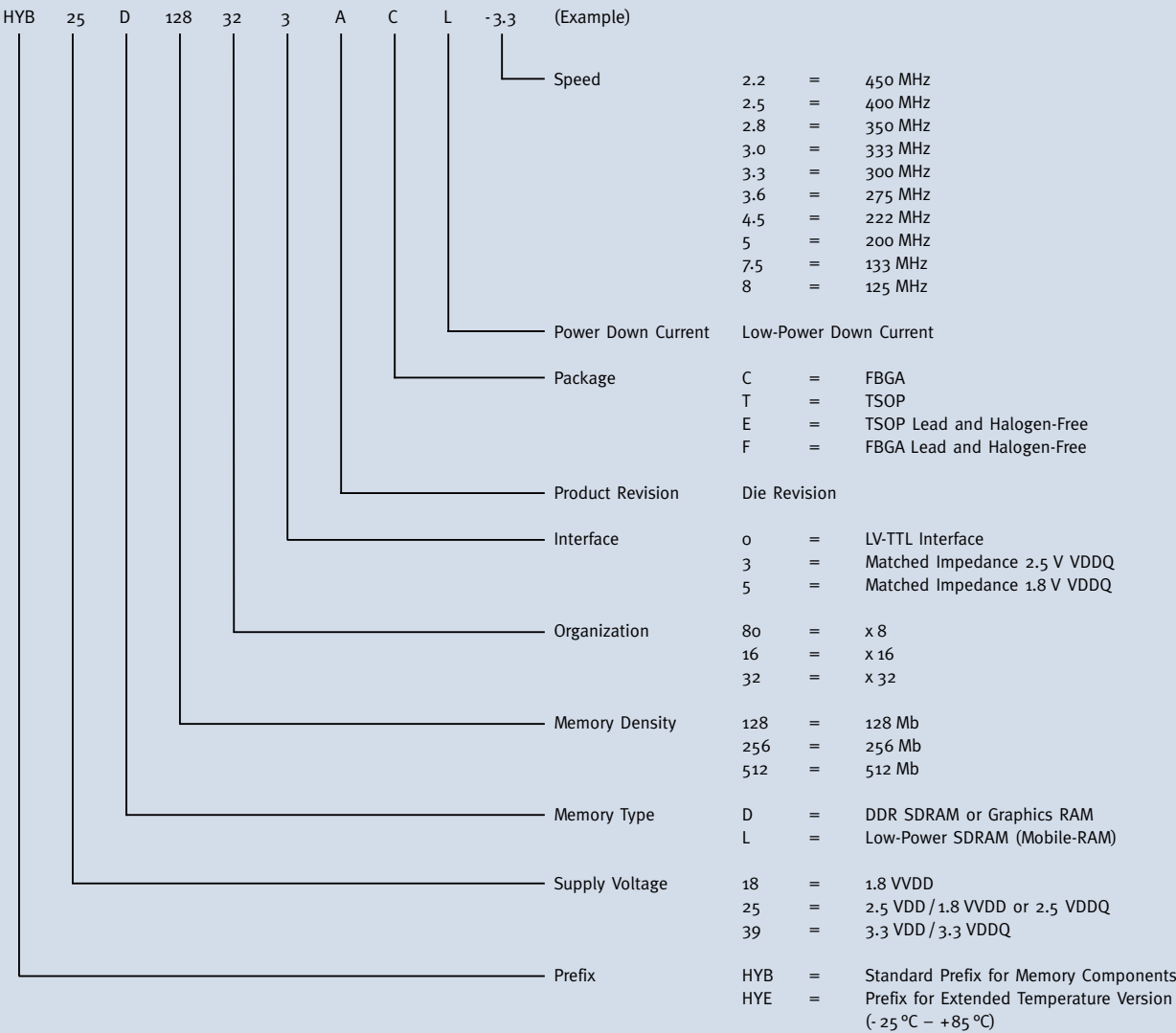
Nomenclature Reduced Latency DRAM (RLDRAM™)

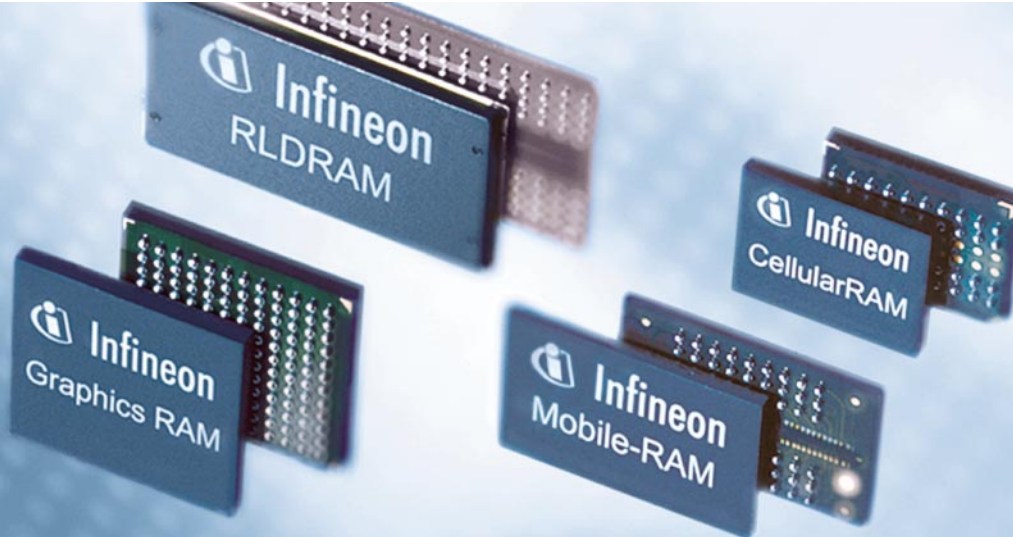


Reduced Latency DRAM (RLDRAM™)

Density	Organization	Power Supply	Speed	Sales Description	Speed No.	Ordering Code		Package	Prod.	Green	
256 Mb	8 M x 32	2.5 V / 1.8 V VDDQ	250 MHz	HYB18RL25632AC-	4	Q67100	Q4355	T-FBGA-144	Now		
			200 MHz		5	Q67100	Q4357				
	16 M x 16		250 MHz	HYB18RL25616AC-	4	Q67100	Q4356				
			200 MHz		5	Q67100	Q4358				

Nomenclature Graphics RAM and Mobile-RAM





Graphics RAM

Density	Organization	Power Supply	Speed	Sales Description	Speed No.	Ordering Code		Package	Prod.	Green
128 Mb	4 M x 32	2.5 V	333 MHz	HYB25D128323C-	3.0	Q67100	Q4866	FBGA-144	EOL	
			300 MHz		3.3	Q67100	Q4121			
			275 MHz		3.6	Q67100	Q4348			
			222 MHz	HYB25D128323CL-	3.6	Q67100	Q4930			
				HYB25D128323C-	4.5	Q67100	Q4123			
				HYB25D128323CL-	4.5	Q67100	Q4786			
256 Mb	16 M x 16	2.5 V	166 MHz	HYB25D256160BT-	6.0	Q67100	Q4592	TSOP-66	Now	
			200 MHz		5.0	Q67100	Q4277			
			200 MHz	HYB25D256161CE-	5.0	Q67100	Q1408		Now	XX
			250 MHz		4.0	Q67100	Q1409			
	8 M x 32	1.8 V	500 MHz	HYB18T256321F-	20	Q67100	Q4868	FBGA-144	3Q04	X
			450 MHz		22	Q67100	Q4869			
			400 MHz		25	Q67100	Q4870			

XX = Lead and Halogen-Free

X = Lead-Free

EOL = End of Life

Mobile-RAM

Density	Organization	Power Supply Core	Power Supply I/O	Speed	Latency	Sales Description	Speed No.	Ordering Code		Package	Prod.	Green
128 Mb	8 M x 16	2.5 V	2.5 V / 1.8 V	133 MHz	3-3-3	HYB25L128160AC-	7.5	Q67100	Q4542	FBGA-54	Now	
						HYE25L128160AC-	7.5 ETR	Q67100	Q4544	FBGA-54		
		3.3 V	3.3 V			HYB39L128160AT-	7.5	Q67100	Q4624	TSOP-54		
						HYB39L128160AC-	7.5	Q67100	Q4546	FBGA-54		
		1.8 V	1.8 V			HYB18L128160BF-	7.5	Q67100	Q1581	FBGA-54	2Q04	XX
						HYB18L128160BC-	7.5	Q67100	Q1588	FBGA-54	2Q04	○
256 Mb	16 M x 16	2.5 V	2.5 V / 1.8 V	133 MHz	3-3-3	HYB25L256160AC-	7.5	Q67100	Q5145	FBGA-54	Now	
						HYE25L256160AC-	7.5 ETR	Q67100	Q5148	FBGA-54		
		3.3 V	3.3 V			HYB39L256160AC-	7.5	Q67100	Q5144	FBGA-54		
						HYB39L256160AT-	7.5	Q67100	Q4627	TSOP-54		
		1.8 V	1.8 V			HYB18L256160BF-	7.5	Q67100	Q1295	FBGA-54	2Q04	XX
						HYB18L256160BC-	7.5	Q67100	Q1577	FBGA-54	2Q04	○
512 Mb	Dual 16 M x 16	3.3 V or 2.5 V	3.3 V or 2.5 V / 1.8 V	133 MHz	3-3-3	HYB25L512160AC-	7.5	Q67100	Q4921	FBGA-54	Now	
						HYE25L512160AC-	7.5 ETR	Q67100	Q4923	FBGA-54		

○ = Halogen-Free

XX = Lead and Halogen-Free

ETR = Extended Temperature

Flash

Nomenclature TwinFlash™ Components

HYF	33	DS	512	80	o	A	T	C	(Example)			
									Temperature Range	C	=	Commercial (0°C – +70 °C)
									Package	T	=	TSOP I 48-P-1220-0.5
									Process Technology	A	=	170 nm Process Technology
										B	=	170 nm Process Technology (Enhanced Write Speed)
									Product Variation	o	=	Standard Product (Tape & Reel Packing)
										2	=	Stacked Die (Tape & Reel Packing)
									Organization	80	=	x 8
									Memory Density	512	=	512 Mb
										1G	=	1024 Mb
									Memory Type	DS	=	Data SLC: TwinFlash Single-Level Cell (2 bit / cell)
									Supply and I/O Voltage	33	=	3.3 V core and 3 V I/O
										31	=	3.3 V core and 1.8 V I/O
									Prefix	HYF	=	Flash Memory Components

TwinFlash™ Components

Density	Organization	Page Size	Block Size	Core Voltage	I/O Voltage	Write Speed	Sales Description	Ordering Code	Package
512 Mb	64 M x 8	512 + 16 Bytes	16 K + 512 Bytes	3 V	3 V	Normal	HYF33DS512800ATC	On request	P-TSOP1-48
					3 V	Enhanced	HYF33DS512800BTC		
					1.8 V	Enhanced	HYF31DS512800BTC		
1 Gb	128 M x 8	512 + 16 Bytes	16 K + 512 Bytes	3 V	3 V	Normal	HYF33DS1G802ATC	On request	P-TSOP1-48
					3 V	Enhanced	HYF33DS1G802BTC		
					1.8 V	Enhanced	HYF31DS1G802BTC		



Nomenclature TwinFlash™ Cards

HYC	3	N	256	0	NO	5	0	AA	1	A	A	(Example)
												Package
												Memory Revision
												Controller Generation
												Firmware
												Content
												Label Size
												Label Shortcut
												Speed
												Memory Capacity
												Technology
												Supply Voltage
												Type

A	=	SD (commercial)
B	=	MMC (commercial)
C	=	miniSD (commercial)
D	=	mini MMC (commercial)
A	=	170 nm Process Technology
B	=	110 nm Process Technology
1	=	1st generation
2	=	2nd generation
AA	=	1st firmware
AB	=	2nd firmware
0	=	No content
1	=	Content 1 rev. label
0	=	No label
1	=	16 MB
2	=	32 MB
3	=	64 MB
4	=	128 MB
5	=	256 MB
6	=	512 MB
7	=	1 GB
NO	=	No label
IF	=	IFX label
0	=	Standard
1	=	Future use
64	=	64 MB
128	=	128 MB
256	=	256 MB
512	=	512 MB
01G	=	1024 MB
N	=	TWIN-NAND
3	=	3.3 V Core
1	=	1.8 V Core (Dual-Voltage)
C	=	Flash Card

TwinFlash™ Cards

Card	Density	Operating Voltage	Sales Description	Ordering Code
Multi Media Cards	64 MB	2.7 V – 3.6 V	HYC3No64oNOooAA1AB	On request
	128 MB		HYC3N128oNOooAA1AB	
	256 MB		HYC3N256oNOooAA1AB	
SD Cards	64 MB	2.7 V – 3.6 V	HYC3No64oNOooAA1AA	On request
	128 MB		HYC3N128oNOooAA1AA	
	256 MB		HYC3N256oNOooAA1AA	

More detailed Information on Memory Products is available:

On our Internet websites:

www.infineon.com/memory and www.infineon.com/memory/flash

- Datasheets
- Simulation models
- Memory Spectrum (PDF version)
- Brochures (PDF version)



Edition 2004 April

Published by
Infineon Technologies AG,
St.-Martin-Straße 53,
D-81669 München

© Infineon Technologies AG 2004.
All Rights Reserved.

Please note

The information in this document is subject to change without notice. The information herein describes certain components and shall not be considered as a guarantee of characteristics.

Terms of delivery and rights to technical change reserved. We hereby disclaim any and all warranties, including but not limited to warranties of non-infringement regarding circuits, descriptions and charts stated herein.

Infineon Technologies is an approved CECC manufacturer.

Information

For further information on technology, delivery terms and conditions and prices, please contact your nearest Infineon Technologies office in Germany or our Infineon Technologies representatives worldwide.
(www.infineon.com).

Warnings

Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact your nearest Infineon Technologies office.

Infineon Technologies components may only be used in life-support devices or systems with the express written approval of Infineon Technologies if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life-support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

INFINEON TECHNOLOGIES SALES OFFICES WORLDWIDE*

Australia (AUS)

Siemens Ltd.
885 Mountain Highway
Bayswater, Victoria 3153
☎ (+61) 3-97 21 21 11
Fax (+61) 3-97 21 72 75

Austria (A)

Infineon Technologies Villach AG
Sales Office
Austria AG
Operngasse 20b/31
1040 Wien
☎ (+43) 1-5 87-70 70 0
Fax (+43) 1-5 87-70 70 20

Belgium/Netherlands (B) (NL) (L)

Infineon Technologies Holding B.V.
Sales Division
Westblaak 32
3012 KM Rotterdam
☎ (+31) 10-2 17 68 00
Fax (+31) 10-2 17 68 19

Brazil (BR)

Infineon Technologies
South America Ltda.
Av. Mutinga, 3800 - prédio 3
05110-901 São Paulo-SP
☎ (+55) 11-39 08-25 64
Fax (+55) 11-39 08-27 28

Canada (CDN)

Infineon Technologies Corporation
340 March Road, Suite 301
Kanada, Ontario K2K 2E2
☎ (+1) 613-5 91-38 35
Fax (+1) 613-5 91-89 54

China (CN)

Infineon Technologies
International Trade (Shanghai) Co., Ltd.
Beijing Representative Office
12th Floor, Quantum Plaza
No.27 Zhichun Road
Haidian District,
Beijing 100083, People's Republic of China
☎ (+86) 10 82 35 61 18
Fax (+86) 10 82 35 54 74

Infineon Technologies
Hong Kong Ltd.
Hong Kong Office
302 Level 3 Festival Walk
80 Tat Chee Avenue
Kowloon Tong
Hong Kong
☎ (+852) 28 32 05 00
Fax (+852) 28 27 97 62

Infineon Technologies
International Trade (Shanghai) Co., Ltd.
No. 8, Lane 647, Songtao Road
Zhangjiang Hi-Tech Park
Pudong, Shanghai, China
☎ (+86) 21-38 95 37 08
Fax (+86) 21-50 80 62 04

Germany (D)

Infineon Technologies AG
Siemensstraße 31-33
71254 Ditzingen/Stuttgart
☎ (+49) 71 56-1 79 19-10
Fax (+49) 71 56-1 79 19-90

Germany (D)

Infineon Technologies AG
Völklinger Straße 4
40219 Düsseldorf
☎ (+49) 2 11-20 95 49 0
Fax (+49) 2 11-20 95 49 60

Infineon Technologies AG
Naegelsbachstraße 26
91052 Erlangen
☎ (+49) 91 31-97 00 1-0
Fax (+49) 91 31-97 00-99

Infineon Technologies AG
Paderborner Straße 1
30539 Hannover
☎ (+49) 5 11-87 65 62 0
Fax (+49) 5 11-87 65 62 90

Infineon Technologies AG
Rosenheimer Straße 116
81669 München
☎ (+49) 89-23 40
Fax (+49) 89-23 42 46 94

Infineon Technologies AG
Memory Products Sales
Gustav-Heinemann-Ring 212
81739 München
☎ (+49) 89-23 42 38 01
Fax (+49) 89-23 42 04 90
Infineon Technologies AG

Stüwestpark 65
90449 Nürnberg
☎ (+49) 9 11-2 52 93 0
Fax (+49) 9 11-2 52 93 93

Denmark (DK)

Infineon Technologies Nordic A/S
Herlev Hovedgade 201A
DK 2730 Herlev
☎ (+45) 44 50 77 00
Fax (+45) 44 50 77 01

Finland (FIN)

Infineon Technologies Nordic OY
Visitor's Address Linnouitustie 4A
P.O. Box 276
FIN-02601 Espoo
☎ (+358) 10-680 84 00
Fax (+358) 10-680 84 01

France (F)

Infineon Technologies France SAS
39 - 47, Bd. Ornano
93527 Saint-Denis CEDEX 2
☎ (+33) 1-48 09 72 00
Fax (+33) 1-48 09 72 90

India (IND)

Infineon Technologies
India Pvt. Ltd.
10th Floor, Discoverer Building
International Technology Park
Whitefield Road
Bangalore 560 066, India
☎ (+91) 80 8 41 00-17/18
Fax (+91) 80 8 41 00 12

Ireland (IRL)

Infineon Technologies Ireland Ltd.
69 Fitzwilliam Lane
Dublin 2
☎ (+353) 31-79 99 500
Fax (+353) 31-79 99 501

Israel (IL)

Nisko Ltd.
2A, Habarzel Street
Tel Aviv 69710
☎ (+972) 3-7 65 73 00
Fax (+972) 3-7 65 73 33

Italy (I)

Infineon Technologies Italia S.r.l.
Via Vipiteno, 4
20128 Milano
☎ (+39) 022 52 04-1
Fax (+39) 022 52 04-43 95

Japan (J)

Infineon Technologies Japan K.K.
Takanawa Park Tower 8F/9F/12F/17F
3-20-14, Higashi-Gotanda,
Shinagawa-ku,
Tokyo 141-0022
☎ (+81) 3 54 49 64 11
Fax (+81) 3 54 49 64 01

Korea (ROK)

Infineon Technologies Korea Co., Ltd.
Room No. 2 & 3, 9th floor
Daelim Acrotel Building
467-6 Dokock-Dong, Kangnam-Gu
Seoul, Korea 135-971
☎ (+82) 23 46 00-900
Fax (+82) 23 46 00-901/902

Malaysia (MAL)

Infineon Technologies (M) SDN BHD
Krystal Point II
1-4-11/12, Lebuh Bukit Kecil 6
11900 Bayan Lepas
Penang, Malaysia
☎ (+60) 46 44 77 66
Fax (+60) 46 41 48 72

New Zealand (NZ)

Siemens Components
300 Great South Road
Greenland, Auckland
☎ (+64) 95 20 30 33
Fax (+64) 95 20 15 56

Poland (PL)

Siemens SP. z o.o.
ul. Zupnicza 11
03-821 Warszawa
☎ (+48) 22-8 70 91 50
Fax (+48) 22-8 70 91 59

Portugal (P)

Siemens S.A.
OG Componentes Electronicos
Rua Irmaos Siemens, 1
Alfragide
2720-093 Amadora
☎ (+351) 21-4 17 85 90
Fax (+351) 21-4 17 80 83

Russia (RUS)

INTECH electronics
ul. Smolnaja 24 a/1203
125 445 Moscow
☎ (+70) 95-4 51 97 37
Fax (+70) 95-4 51 86 08

Singapore (SGP)

Infineon Technologies Asia
Pacific Pte. Ltd.
25 New Industrial Road
KHL Building
Singapore 536 211
☎ (+65) 68 40 07 32
Fax (+65) 68 40 07 77

South Africa (ZA)

Siemens Components
P.O. Box 3438
Halfway House 1685
Gauteng
☎ (+27) 11 6 52-20 00
Fax (+27) 11 6 52-25 73

Spain (E)

Siemens S.A.
División Componentes
Ronda de Europa, 5
28760 Tres Cantos-Madrid
☎ (+34) 91-5 14 71 54
Fax (+34) 91-5 14 70 13

Sweden (S)

Infineon Technologies Nordic AB
P.O. Box 46
164 93 Kista
☎ (+46) 8-7 03 59 00
Fax (+46) 8-7 03 59 01

Switzerland (CH)

Infineon Technologies
Switzerland AG
Badenerstraße 623
P.O. Box 1570
8048 Zürich
☎ (+41) 1-4 97 80 40
Fax (+41) 1-4 97 80 50

Taiwan (RC)

Infineon Technologies
Taiwan Ltd.
12F-1, No. 3-2 Yuan Qu Street
Nan Kang Software Park
Twain 115, R.O.C.
☎ (+886) 2-26 55 75 00
Fax (+886) 2-26 55 75 01-8

Turkey (TR)

Siemens Sanayi ve Ticaret A.S.
Yakacik Yolu No: 111
34861 Kartal, Istanbul
☎ (+90) 21 64 59 28 51
Fax (+90) 21 64 19 31 90

United Kingdom (GB)

Infineon Technologies UK Ltd.
Infineon House
Fleet Mill
Minley Road
Fleet, Hampshire GU51 2RD
☎ (+44) 12 52-77 22 00
Fax (+44) 12 52-77 22 01

U.S.A. (USA)

Infineon Technologies
North America Corp.
3700 West Parmer Lane, Suite 102
Austin, TX 78727
☎ (+1) 51 23 41-71 27
Fax (+1) 51 23 41-99 26

U.S.A. (USA)

Infineon Technologies
North America Corp.
8203 Willow Place South, Suite 660
Houston, TX 77070
☎ (+1) 28 17 74-05 55
Fax (+1) 28 17 74-05 61

Infineon Technologies
North America Corp.
2529 Commerce Drive
Kokomo, IN 46902
☎ (+1) 7 65-4 56 19 28
Fax (+1) 7 65-4 56 38 36

Infineon Technologies
North America Corp.
21800 Haggerty Road, Suite 112
Northville, MI 48167
☎ (+1) 2 48-3 74 08 90
Fax (+1) 2 48-3 74 25 01

Infineon Technologies
North America Corp.
3000 CentreGreen Way
Raleigh, NC 27513
☎ (+1) 91 96 77-27 00
Fax (+1) 91 96 78 19 34

Infineon Technologies
North America Corp.
6170 Cornerstone Ct East, Suite 240
San Diego, CA 92121
☎ (+1) 85 85 26-22 01
Fax (+1) 85 85 26-22 02

Infineon Technologies Corporation
1730 North First Street
San José, CA 95112
☎ (+1) 4 08-5 01 60 00
Fax (+1) 4 08-5 01 24 24

Infineon Technologies
North America Corp.
1901 N. Roselle Rd., Suite 1020
Schaumburg, IL 60195
☎ (+1) 84 78 84-70 09
Fax (+1) 84 78 84-75 99

* and representative offices

www.infineon.com

Ordering No. B166-H8399-X-X-7600
Printed in Germany
WS 04045.