

Specialty & mobile **DRAM**

A Mature Product Leader

SDR, DDR, DDR2, DDR3 and Mobile DRAM Products

Winbond is focusing on non-PC Main memory and mobile DRAM market. We provide long term support to various applications including Communication, Consumer, Computer and Automotive Markets. All products are offered in packaged and Known-Good-Die(KGD) format. Winbond is one of the world's major DRAM suppliers.

SDR Family

- 16M to 256M-bit, up to 200MHz

DDR Family

- 64M to 256M-bit, up to 250MHz

DDR2 Family

-128M to 2G-bit, 533MHz

DDR3 Family

- 1G-bit and 2G-bit DDR3 and DDR3L

mobile DRAM and Pseudo SRAM Family

- Support LPDDR, LPDDR2, LPDDR2 and Pseudo SRAM

Pseudo SRAM Memory Products

Type	Org	Package	Speed	Voltage	Temp	64Mbit	128Mbit	256Mbit
ADP (non-Multiplex)	x16	VFBGA 54 (6mmx8mm)	133MHz	1.8V	-40~85C	W966D6HBGX7I	W967D6HBGX7I	W968D6DAGX7I
ADM (Multiplex)		VFBGA 49 (4mmx4mm)				W956D6HBCX7I	W957D6HBCX7I	W958D6DBCX7I
						W956D6KBKX7I	---	---

Mobile DRAM Memory Products

Type	Org	Package	Speed	Temp	128Mbit	256Mbit	512Mbit	1Gbit
LPDDR	x16	VFBGA 54 (8mmx9mm)	166MHz	-25~85C	W987D6HBGX6E	W988D6FBGX6E	W989D6DBGX6E	---
				-40~85C	W987D6HBGX6I	W988D6FBGX6I	W989D6DBGX6I	---
	x32	VFBGA 90 (8mmx13mm)		-25~85C	W987D2HBJX6E	W988D2FBJX6E	W989D2DBJX6E	---
				-40~85C	W987D2HBJX6I	W988D2FBJX6I	W989D2DBJX6I	---
LPDDR	x16	VFBGA 60 (8mmx9mm)	200MHz (400Mbps)	-25~85C	W947D6HBHX5E	W948V6KBHX5E	W949D6DBHX5E	W94AD6KBHX5E
				-40~85C	W947D6HBHX5I	W948V6KBHX5I	W949D6DBHX5I	W94AD6KBHX5I
	x32	VFBGA 90 (8mmx13mm)		-25~85C	W947D2HBJX5E	W948D2FBJX5E	W949D2DBJX5E	W94AD2KBJX5E
				-40~85C	W947D2HBJX5I	W948D2FBJX5I	W949D2DBJX5I	W94AD2KBJX5I

Type	Org	Package	Speed	Temp	256Mbit	512Mbit	1Gbit	2Gbit
LPDDR2	x16	PoP 168 (12mm x 12mm)	400MHz (800Mbps)	-25~85C	W978H6KBQX2E	W979H6KBQX2E	W97AH6KBQX2E	W97BH6LBQX2E
				-40~85C	W978H6KBQX2I	W979H6KBQX2I	W97AH6KBQX2I	W97BH6LBQX2I
		VFBGA 134 (10mmx11.5mm)		-25~85C	W978H6KBVX2E	W979H6KBVX2E	W97AH6KBVX2E	W97BH6LBVX2E
				-40~85C	W978H6KBVX2I	W979H6KBVX2I	W97AH6KBVX2I	W97BH6LBVX2I
	x32	PoP 168 (12mm x 12mm)		-25~85C	W978H2KBQX2E	W979H2KBQX2E	W97AH2KBQX2E	W97BH2LBQX2E
				-40~85C	W978H2KBQX2I	W979H2KBQX2I	W97AH2KBQX2I	W97BH2LBQX2I
		VFBGA 134 (10mmx11.5mm)		-25~85C	W978H2KBVX2E	W979H2KBVX2E	W97AH2KBVX2E	W97BH2LBVX2E
				-40~85C	W978H2KBVX2I	W979H2KBVX2I	W97AH2KBVX2I	W97BH2LBVX2I

winbond

Specialty DRAM

SDR, DDR, DDR2 and DDR3 Memory Products

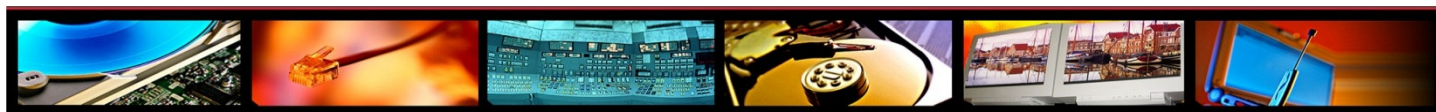
Specialty DRAM Selection Guide

Type	Density (bits)	Org	Package	Speed (MHz)	Commercial Temperature	Industrial Temperature
SDRAM	16Mb	x16	TSOPII 50	166	W9816G6JH-6	W9816G6JH-6I
			VFBGA 60	166	W9816G6JB-6	W9816G6JB-6I
	64Mb	x16	TSOPII 54	166	W9864G6KH-6	W9864G6KH-6I
		x32	TSOPII 86	166	W9864G2JH-6	W9864G2JH-6I
			TFBGA 90	166	W9864G2JB-6	W9864G2JB-6I
	128Mb	x16	TSOPII 54	166	W9812G6KH-6	W9812G6KH-6I
		x32	TFBGA 90	166	W9812G2KB-6	W9812G2KB-6I
	256Mb	x16	TSOPII 54	166	W9825G6KH-6	W9825G6KH-6I
			TFBGA 54	166	W9825G6JB-6	W9825G6JB-6I
		x32	TFBGA 90	166	W9825G2JB-6	W9825G2JB-6I
DDR	64Mb	x16	TSOPII 66	200	W9464G6KH-5	W9464G6KH-5I
	128Mb	x16	TSOPII 66	200	W9412G6KH-5	W9412G6KH-5I
	256Mb	x16	TSOPII 66	200	W9425G6KH-5	W9425G6KH-5I
Type	Density (bits)	Org	Package	Speed (Mbps)	Commercial Temperature	Industrial Temperature
DDR2	256Mb	x8	WBGA 60	800	W9725G8KB-25	W9725G8KB25I
	512Mb				W9751G8KB-25	W9751G8KB25I
	1Gb				W971GG8SB-25	W971GG8SB25I
	2Gb				W972GG8KB-25	W972GG8KB25I
	128Mb	x16	WBGA 84	800	W9712G6KB-25	W9712G6KB25I
	256Mb				W9725G6KB-25	W9725G6KB25I
	512Mb				W9751G6KB-25	W9751G6KB25I
	1Gb				W971GG6SB-25	W971GG6SB25I
	2Gb				W972GG6KB-25	W972GG6KB25I
	1Gb	x8	WBGA 78	1866/1600	W631GG8KB-11/-12	W631GG8KB11I/12I
		x16	WBGA 96	1866/1600	W631GG6KB-11/-12	W631GG6KB11I/12I
		x8	WBGA 78	1866/1600	W632GG8KB-11/-12	W632GG8KB11I/12I
		x16	WBGA 96	1866/1600	W632GG6KB-11/-12	W632GG6KB11I/12I
DDR3 (1.5V)	1Gb	x8	WBGA 78	1866/1600	W631GU8KB-11/-12	W631GU8KB11I/12I
		x16	WBGA 96	1866/1600	W631GU6KB-11/-12	W631GU6KB11I/12I
	2Gb	x8	WBGA 78	1866/1600	W632GU8KB-11/-12	W632GU8KB11I/12I
		x16	WBGA 96	1866/1600	W632GU6KB-11/-12	W632GU6KB11I/12I

Note 1: Higher speed is supported on most products, please contact Winbond.

Note 2: Winbond also support Automotive temperature from -40 to 105C on selected products.

Note 3: Winbond support Known-Good-Die (KGD) on all of these DRAM products.



Winbond Electronics Corporation (Headquarters)

No. 8, Keya Rd. 1st Rd., Daya Dist., Central Taiwan
Science Park, Taichung City 42881, Taiwan
Tel: 886-4-2521-8168 www.winbond.com

Winbond Electronics Corporation America

2727 North First Street, San Jose, CA 95134 USA
Tel: 1-408-943-6666 Fax: 1-408-474-1600
www.winbond-usa.com

Q1'17