DRAM Memories Product

Specialty DRAM and Mobile DRAM

Winbond has a long track record of semiconductor production at its own 12” wafer fabrication in Taiwan. The company continues to invest in new process technologies and equipment at its fab. After completing a migration from 46nm and 38nm to the Winbond 25nm and 25Snm process, Winbond do a further migration to 20nm in 2023.

Winbond DRAM product provides completed solutions, GP-Boot Series for AI, IoT, Mobility applications markets, supplying its products directly or via a global network of authorized distributors. Winbond’s portfolio of DRAM products extends beyond the latest, highest performance DDR3 and LPDDR4/4X devices to provide a comprehensive offering, to meet any requirement for low- and mid-density DRAM and low-power DRAM

Specialty DRAM

- ✓ Winbond provides SDR, DDR, DDR2, and DDR3 products in different densities for use in the consumer, communication, computer peripheral and industrial markets.
- ✓ Known Good Die (KGD) format, including support with SiP package bonding and power/thermal issues, DRAM simulation, and wafer-level speed testing

Mobile DRAM

- ✓ Ultra-Low power by DSR (Deep Self-Refresh) and HSM (Hybrid Sleep Mode)
- ✓ Support x8, x16 and x32 data widths from different product line

	Specialty DRAM						Mobile DRAM							
	SDR/DDR	DDR2		DDR3			pSRAM	HYPERRAM™	LP SDR	LP DDR	LP DDR2		LP DDR3	LP DDR4/4X
		46/38	25nm	46/38	25nm	25Snm					46nm	38/25	25nm	25nm
16Mb	N													
32Mb	N						MP	MP						
64Mb	MP						MP	MP						
128Mb	MP	N						MP	N	N				
256Mb	MP	N					N	MP	N	MP	N			
512Mb		MP						MP	MP	MP	MP			
1Gb		N	MP	N	MP					MP	N	MP	MP	S
2Gb		MP			MP	MP						MP		MP
4Gb					MP	MP								x32 MP
8Gb						S								

*MP = Mass production, S= Sample, UD= Under Development, N=Not Recommend for New Design

Winbond DRAM Selection Guide[1,2]

Product	Density Range	I/O Width	Voltage	Temperature[3]	Speed (Mbps)	Package type[4]
Specialty DRAM						
SDRAM	64Mb to 256Mb	x16	2.5V, 3.3V	C-Temp, I-Temp	166/200	TFBGA 54 TSOP II 54 TFBGA 90
DDR	64Mb to 256Mb	x16	2.5V	C-Temp, I-Temp	333/400/500	TSOPII 66
DDR2	128Mb to 2Gb	x8, x16	1.8V	C-Temp, I-Temp	667/800/1066	wBGA 84 wBGA 60
DDR3	1Gb to 8Gb	x8, x16	1.5V, 1.35V	C-Temp, I-Temp	1866/2133	wBGA 96 wBGA 78
Mobile DRAM						
pSRAM	64Mb	x16	1.8V/1.8V	C-Temp, I-Temp	133/166 (SDR) 200/266/333 (DDR)	WFBGA 49
HYPERRRAM™	32Mb to 512Mb	x8, x16	1.8V/1.8V, 3V/3V[5,6]	C-Temp, I-Temp	400	TFBGA 24 WFBGA 49 WLCSP
LP SDR	512Mb	x16, x32	1.8V/1.8V	C-Temp, I-Temp	133/166	VFBGA 54 VFBGA 90
LP DDR	256Mb to 1Gb	x16, x32	1.8V/1.8V	C-Temp, I-Temp	333/400	VFBGA 60 VFBGA 90
LP DDR2	512Mb to 2Gb	x16, x32	1.8V/1.2V	C-Temp, I-Temp	667/800/1066	VFBGA 134
LP DDR3	1Gb	x16, x32	1.8V/1.2V	C-Temp, I-Temp	1600/1866/2133	VFBGA 178
LP DDR4	1Gb to 4Gb	x16, x32	1.8V/1.1V/1.1V	C-Temp, I-Temp	3200/3733/4266	VFBGA 100 VFBGA 200
LP DDR4X	1Gb to 4Gb	x16, x32	1.8V/1.1V/0.6V	C-Temp, I-Temp	3200/3733/4266	VFBGA 100 VFBGA 200

1. See data sheet for further technical information. This is subject to change without notice.
2. The availability and product development status, please check www.winbond.com.
3. For Specialty DRAM, C-temp is 0°C~85°C, -40°C~85°C for industrial temp.,-40°C~105°C for industrial plus temp.
   For Mobile DRAM, C-temp is -25°C~85°C, -40°C~85°C for industrial temp..
4. All Winbond products are "Green", Halogen-Free and RoHS compliant packaging.
5. For HYPERRAM 3V, Winbond provide in density from 32Mb to 128Mb. If need any sample, please contact Winbond marketing.
6. For lower VDD 1.5V or 1.35V, please contact Winbond marketing.
7. Please visit www.winbond.com for additional information or questions about our products.

winbond
We Deliver

Version: Mar. 2023

Official Distributor

Contact us at :

sales@data-jce .com

+972-3-6454444

www.data-jce.com