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

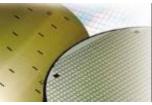
	Specialty DRAM						Mobile DRAM							
	SDR/DDR	DDR2		DDR3			CD AM	LIVEEDED A MEN	LD CDD	LP	LP DDR2		LP DDR3	LP DDR4/4X
		46/38	25nm	46/38	25nm	25Snm	PSKAM	HYPERRRAM™	LP SDR	DDR	46nm	38/25	25nm	25nm
16Mb	N													
32Mb	N						MP	MP						
64Mb	MP						MP	MP						
128Mb	MP	N						MP	N	N				
256Mb	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.













We Deliver



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Official Distributor

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