

# Microelectronics Catalog Quick Reference Guide

## Extended Temperature Plastics – Memories

### DDR3 SDRAM MCPs

Size	Organization	Part Number	Data Rate (Mb/s)	Voltage (V)	Package	Dimensions	Temperature
1GB	128M x 64	W3J128M64G-XPBX <sup>f</sup>	800-1066	1.5	377 PBGA	21mm x 21mm	C, I, M
1GB	128M x 72	W3J128M72G-XPBX <sup>f</sup>	800-1066	1.5	377 PBGA	21mm x 21mm	C, I, M
2GB	256M x 72	W3J256M72G-XPBX*	800-1066	1.5	377 PBGA	23mm x 25mm	C, I, M
4GB	512M x 72	W3J2256M72-XPBX*	800-1066	1.5	377 PBGA	23mm x 25mm	C, I, M

### DDR2 SDRAM MCPs

Size	Organization	Part Number	Data Rate (Mb/s)	Voltage (V)	Package	Dimensions	Temperature
256MB	32M x 64	W3H32M64E-XSBX	400-667	1.8	208 PBGA	16mm x 20mm	C, I, M
256MB	32M x 72	W3H32M72E-XSB2X	400-667	1.8	208 PBGA	16mm x 20mm	C, I, M
512MB	64M x 64	W3H64M64E-XSBX	400-667	1.8	208 PBGA	16mm x 22mm	C, I, M
512MB	64M x 72	W3H64M72E-XSBX	400-667	1.8	208 PBGA	16mm x 22mm	C, I, M
1GB	128M x 72	W3H128M72E-XSBX	400-667	1.8	208 PBGA	16mm x 22mm	C, I, M
1GB	128M x 64	W3H128M64E-XSBX	400-667	1.8	208 PBGA	16mm x 22mm	C, I, M

### Registered DDR2 SDRAM MCPs

Size	Organization	Part Number	Data Rate (Mb/s)	Voltage (V)	Package	Dimensions	Temperature
1GB	128M x 72	W3H128M72ER-XNBX <sup>f</sup>	400-667	1.8	255 PBGA	22mm x 26mm	C, I, M

### DDR SDRAM MCPs

Size	Organization	Part Number	Data Rate (Mb/s)	Voltage (V)	Package	Dimensions	Temperature
128MB	64M x 16	W3E64M16S-XSBX	200-333	2.5	60 PBGA	10mm x 12.5mm	C, I, M
128MB	64M x 16	W3E64M16S-XNBX	200-333	2.5	60 PBGA	10mm x 12.5mm	C, I, M
128MB	16M x 64	W3E16M64S-XBX	200-266	2.5	219 PBGA	21mm x 25mm	C, I, M
128MB	16M x 72	W3E16M72S-XBX	200-333	2.5	219 PBGA	32mm x 25mm	C, I, M
256MB	32M x 64	W3E32M64S-XBX	200-333	2.5	219 PBGA	25mm x 25mm	C, I, M
256MB	32M x 64	W3E32M64SA-XBX	200-333	2.5	219 PBGA	25mm x 25mm	C, I, M
256MB	32M x 64	W3E32M64S-XSBX	200-333	2.5	208 PBGA	13mm x 22mm	C, I, M
256MB	32M x 72	W3E32M72S-XBX	200-333	2.5	219 PBGA	25mm x 32mm	C, I, M
256MB	32M x 72	W3E32M72S-XSBX	200-333	2.5	208 PBGA	16mm x 22mm	C, I, M
512MB	64M x 72	W3E64M72S-XSBX	200-266	2.5	219 PBGA	32mm x 25mm	C, I, M

### Registered DDR SDRAM MCPs

Size	Organization	Part Number	Speed (MHz)	Voltage (V)	Package	Dimensions	Temperature
128MB	16M x 72	W3E16M72SR-XBX	200-250	2.5	219 PBGA	32mm x 25mm	C, I, M
256MB	32M x 72	W3E32M72SR-XSBX	200-266	2.5	208 PBGA	16mm x 25mm	C, I, M

### SSRAM MCPs

Size	Organization	Part Number	Speed (MHz)	Voltage (V)	Package	Dimensions	Temperature
2MB	512K x 32	WED2DL32512V-XBX	133-200	3.3	119 PBGA	14mm x 17mm	C, I, M
2MB	256K x 72	WEDPY256K72V-XBX	100-200	3.3	159 PBGA	14mm x 22mm	C, I, M
4MB	512K x 72 NBL	WEDPZ512K72V-XBX	100-150	3.3	152 PBGA	17mm x 23mm	C, I, M
4MB	512K x 72 NBL	WEDPZ512K72S-XBX	100-150	2.5	152 PBGA	17mm x 23mm	C, I, M

### NOR Flash MCPs

Size	Organization	Part Number	Speed (ns)	Voltage (V)	Package	Dimensions	Temperature
<b>Conventional</b>							
16MB	2M x 64	W72M64VB-XBX	90-150	3.3	159 PBGA	13mm x 22mm	C, I, M
<b>Page Mode</b>							
32MB	8M x 32	W78M32VP-XBX	110, 120	3.3	159 PBGA	13mm x 22mm	C, I, M
64MB	8M x 64	W78M64VP-XSBX	110, 120	3.3	159 PBGA	13mm x 22mm	C, I, M
256MB	64M x 32	W764M32V-XSBX	100, 120	3.3	107 PBGA	14mm x 17mm	C, I, M
512MB	128M x 32	W7128M32V-XSBX*	100, 120	3.3	107 PBGA	14mm x 17mm	C, I, M
128MB	32M x 32	W732M32E-XPBX*	100, 120	1.8	119 PBGA	9mm x 17mm	C, I, M

## Embedded Flash – SLC NAND

### SLC NAND SSD BGA

Size	Interface	Part Number	Max Speed (Read/Write)	Voltage (V)	Package	Dimensions	Temperature
4GB	PATA	W7N2G16VHxxBI	45MB/s / 30MB/s	3.3	224 PBGA	27mm x 22mm	C, I
8GB	PATA	W7N4G16VHxxBI <sup>f</sup>	45MB/s / 30MB/s	3.3	224 PBGA	27mm x 22mm	C, I
16GB	PATA	W7N8G16VHxxBI <sup>f</sup>	45MB/s / 30MB/s	3.3	224 PBGA	27mm x 22mm	C, I

(f) Preliminary product. This product is developmental, is not fully characterized or qualified and is subject to change without notice. Check with factory for availability.

\* Advanced product. This product is developmental, is not qualified and is subject to change or cancellation without notice.



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## Extended Temperature Plastics – Memories (continued)

### SDRAM MCPs

Size	Organization	Part Number	Speed (MHz)	Voltage (V)	Package	Dimensions	Temperature
32MB	4M x 64	WEDPN4M64V-XBX	100-133	3.3	219 PBGA	21mm x 21mm	C, I, M
32MB	4M x 72	WEDPN4M72V-XB2X	100-133	3.3	219 PBGA	21mm x 21mm	C, I, M
64MB	8M x 64	WEDPN8M64V-XB2X	100-133	3.3	219 PBGA	21mm x 21mm	C, I, M
64MB	8M x 72	WEDPN8M72V-XB2X	100-133	3.3	219 PBGA	21mm x 25mm	C, I, M
128MB	16M x 64	WEDPN16M64V-XB2X	100-133	3.3	219 PBGA	21mm x 21mm	C, I, M
128MB	16M x 72	WEDPN16M72V-XB2X	100-133	3.3	219 PBGA	21mm x 25mm	C, I, M
256MB	32M x 64	W332M64V-XBX	100-133	3.3	219 PBGA	25mm x 25mm	C, I, M
256MB	32M x 64	W332M64V-XSBX	100-133	3.3	208 PBGA	13mm x 22mm	C, I, M
256MB	32M x 72	W332M72V-XBX	100-133	3.3	219 PBGA	32mm x 25mm	C, I, M
256MB	32M x 72	W332M72V-XSBX	100-133	3.3	208 PBGA	16mm x 22mm	C, I, M
512MB	64M x 72	W364M72V-XSBX	100-133	3.3	219 PBGA	32mm x 25mm	C, I, M

### Registered SDRAM MCPs

Size	Organization	Part Number	Speed (MHz)	Voltage (V)	Package	Dimensions	Temperature
128MB	16M x 64	WEDPN16M64VR-XB2X	100-133	3.3	219 PBGA	25mm x 25mm	C, I, M
128MB	16M x 72	WEDPN16M72VR-XB2X	100-133	3.3	219 PBGA	25mm x 25mm	C, I, M

## Ceramics

### SRAM • Flash • EEPROM • Mixed Memory MCPs • Hermetic • Mil-PRF • QML

- Multiple organizations of flash, SRAM and EE in various hermetic sealed ceramic packages including 32 CSOJ, 32 CerDIP, 56 CSOP, 68 CQFP, 66 PGA, CBGA. These are standard hermetic products available as Class H or K compliant.
- WEDC ceramic products are available in industrial, military temperatures and as SMD-5962 qualified component

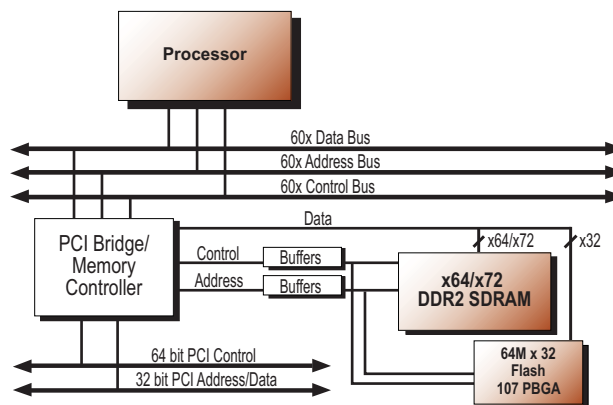
## DDR2 SDRAM PBGAs – Typical Application

128M x 64 DDR2 SDRAM  
208 PBGA, 1.8V  
16mm x 22mm  
W3H128M64E-XSBX  
C, I, M

128M x 72 DDR2 SDRAM  
208 PBGA, 1.8V  
16mm x 22mm  
W3H128M72E-XSBX  
C, I, M

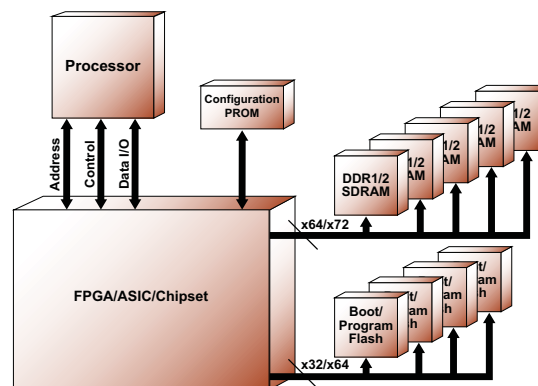
56%  
Space  
Savings

50%  
I/O  
Savings



## SiP Capabilities and Typical Applications

- Plastic encapsulation or hermetic sealing; laminate or ceramic based packages. QFP, BGA or customer specified packages.
- Complete turnkey assembly; wire bond, flip chip attach, and specialized die processing including redistribution, wafer dicing and die stacking techniques.
- Spice (HSpice), ELDO, EBD and IBIS modeling.
- Environmental and electrical testing: 100% military, industrial or customer defined temperature ranges.
- White Electronic Designs' high reliability products are manufactured and tested in accordance with MIL-PRF-38534 (Class H and K) and MIL-PRF-38535 (Class Q) Certified.
- Anti-tamper
- Circuit card integration



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