



12815 NE 124th St STE#D, Kirkland, WA-98034

AS4C256M16D4-75BCN , AS4C256M16D4A-62BCN vs AS4C256M16D4A-75BCN Comparison

Part Number & result Parameter	AS4C256M16D4-75BCN	AS4C256M16D4A-62BCN	AS4C256M16D4A-75BCN
Product Description	DDR4 SDRAM	DDR4 SDRAM, Rev.A	DDR4 SDRAM, Rev.A
Fab / Tech Node	PSMC / 25nm	PSMC / 19nm	PSMC / 19nm
Capacity	4Gb (256M x 16)	4Gb (256M x 16)	4Gb (256M x 16)
Memory Organization	32Meg, x16bits, x4 banks x2 groups	32Meg, x16bits, x4 banks x2 groups	32Meg, x16bits, x4 banks x2 groups
Operating Power Supply	V _{DD} & V _{DDQ} = 1.2V (+/-0.06V) V _{pp} = +2.5V(-0.125V/+0.25V)	V _{DD} & V _{DDQ} = 1.2V (+/-0.06V) V _{pp} = +2.5V(-0.125V/+0.25V)	V _{DD} & V _{DDQ} = 1.2V (+/-0.06V) V _{pp} = +2.5V(-0.125V/+0.25V)
Operating Temperature	Commercial (0°C to 95°C)	Commercial (0°C to 95°C)	Commercial (0°C to 95°C)
Clock Frequency(MHz)	1333 (Max)	1600 (Max)	1333 (Max)
Data Rate (MT/s)	2666	3200	2666
CAS Latency	19	22	19
tRCD & tRP (ns)	14.25	13.75	14.25
Average Refresh Period	7.8uS at -40C ~ +85C 3.9uS at +85C to +95C	7.8uS at -40C ~ +85C 3.9uS at +85C to +95C	7.8uS at -40C ~ +85C 3.9uS at +85C to +95C
I/O Capacitance (Cio)	1.15pf	1.0pf	1.15pf
Pin to Pin Compatible	Pin to Pin Compatible		
I _{DD0} (mA)	92	101	93
I _{DD1} (mA)	142	109	101
I _{DD2P} (mA)	44	39	36
I _{DD2Q} (mA)	75	57	52
I _{DD2N} (mA)	74	61	55
I _{DD3P} (mA)	67	48	45
I _{DD3N} (mA)	86	98	88
I _{DD4R} (mA)	205	209	178
I _{DD4W} (mA)	230	242	208
I _{DD6N} (mA)	30	28	28
I _{DD6R} (mA)	25	25	25
I _{DD6A} (mA)	30	32	32
I _{DD7} (mA)	235	233	223
I _{DD5B} (mA)	180	187	180
Package 96b FBGA	7.5 x 13.5 x 1.2mm	7.5 x 13 x 1.2mm	7.5 x 13 x 1.2mm
FBGA Ball Dimensions	6.4 x 12mm (pitch 0.8mm)	6.4 x 12mm (pitch 0.8mm)	6.4 x 12mm (pitch 0.8mm)
Package Material	Pb and Halogen Free	Pb and Halogen Free	Pb and Halogen Free



12815 NE 124th St STE#D, Kirkland, WA-98034

AS4C256M16D4-75BIN , AS4C256M16D4A-62BIN vs AS4C256M16D4A-75BIN Comparison

Part Number & result Parameter	AS4C256M16D4-75BIN	AS4C256M16D4A-62BIN	AS4C256M16D4A-75BIN
Product Description	DDR4 SDRAM	DDR4 SDRAM, Rev.A	DDR4 SDRAM, Rev.A
Fab / Tech Node	PSMC / 25nm	PSMC / 19nm	PSMC / 19nm
Capacity	4Gb (256M x 16)	4Gb (256M x 16)	4Gb (256M x 16)
Memory Organization	32Meg, x16bits, x4 banks x2 groups	32Meg, x16bits, x4 banks x2 groups	32Meg, x16bits, x4 banks x2 groups
Operating Power Supply	V _{DD} & V _{DDQ} = 1.2V (+/-0.06V) V _{pp} = +2.5V(-0.125V/+0.25V)	V _{DD} & V _{DDQ} = 1.2V (+/-0.06V) V _{pp} = +2.5V(-0.125V/+0.25V)	V _{DD} & V _{DDQ} = 1.2V (+/-0.06V) V _{pp} = +2.5V(-0.125V/+0.25V)
Operating Temperature	Industrial (-40°C to 95°C)	Industrial (-40°C to 95°C)	Industrial (-40°C to 95°C)
Clock Frequency(MHz)	1333 (Max)	1600 (Max)	1333 (Max)
Data Rate (MT/s)	2666	3200	2666
CAS Latency	19	22	19
tRCD & tRP (ns)	14.25	13.75	14.25
Average Refresh Period	7.8uS at -40C ~ +85C 3.9uS at +85C to +95C	7.8uS at -40C ~ +85C 3.9uS at +85C to +95C	7.8uS at -40C ~ +85C 3.9uS at +85C to +95C
I/O Capacitance (Cio)	1.15pf	1.0pf	1.15pf
Pin to Pin Compatible	Pin to Pin Compatible		
I _{DD0} (mA)	92	101	93
I _{DD1} (mA)	142	109	101
I _{DD2P} (mA)	44	39	36
I _{DD2Q} (mA)	75	57	52
I _{DD2N} (mA)	74	61	55
I _{DD3P} (mA)	67	48	45
I _{DD3N} (mA)	86	98	88
I _{DD4R} (mA)	205	209	178
I _{DD4W} (mA)	230	242	208
I _{DD6N} (mA)	30	28	28
I _{DD6R} (mA)	25	25	25
I _{DD6A} (mA)	30	32	32
I _{DD7} (mA)	235	233	223
I _{DD5B} (mA)	180	187	180
Package 96b FBGA	7.5 x 13.5 x 1.2mm	7.5 x 13 x 1.2mm	7.5 x 13 x 1.2mm
FBGA Ball Dimensions	6.4 x 12mm (pitch 0.8mm)	6.4 x 12mm (pitch 0.8mm)	6.4 x 12mm (pitch 0.8mm)
Package Material	Pb and Halogen Free	Pb and Halogen Free	Pb and Halogen Free



12815 NE 124th St STE#D, Kirkland, WA-98034

AS4C256M16D4-75BCN , AS4C256M16D4-83BCN vs AS4C256M16D4A-75BCN Comparison

Part Number & result Parameter	AS4C256M16D4-75BCN	AS4C256M16D4-83BCN	AS4C256M16D4A-75BCN
Product Description	DDR4 SDRAM	DDR4 SDRAM	DDR4 SDRAM, Rev.A
Fab / Tech Node	PSMC / 25nm	PSMC / 25nm	PSMC / 19nm
Capacity	4Gb (256M x 16)	4Gb (256M x 16)	4Gb (256M x 16)
Memory Organization	32Meg, x16bits, x4 banks x2 groups	32Meg, x16bits, x4 banks x2 groups	32Meg, x16bits, x4 banks x2 groups
Operating Power Supply	V _{DD} & V _{DDQ} = 1.2V (+/-0.06V) V _{pp} = +2.5V(-0.125V/+0.25V)	V _{DD} & V _{DDQ} = 1.2V (+/-0.06V) V _{pp} = +2.5V(-0.125V/+0.25V)	V _{DD} & V _{DDQ} = 1.2V (+/-0.06V) V _{pp} = +2.5V(-0.125V/+0.25V)
Operating Temperature	Commercial (0°C to 95°C)	Commercial (0°C to 95°C)	Commercial (0°C to 95°C)
Clock Frequency(MHz)	1333 (Max)	1200 (Max)	1333 (Max)
Data Rate (MT/s)	2666	2400	2666
CAS Latency	19	17	19
tRCD & tRP (ns)	14.25	14.16	14.25
Average Refresh Period	7.8uS at -40C ~ +85C 3.9uS at +85C to +95C	7.8uS at -40C ~ +85C 3.9uS at +85C to +95C	7.8uS at -40C ~ +85C 3.9uS at +85C to +95C
I/O Capacitance (Cio)	1.15pf	1.15pf	1.15pf
Pin to Pin Compatible	Pin to Pin Compatible		
I _{DD0} (mA)	92	86	93
I _{DD1} (mA)	142	128	101
I _{DD2P} (mA)	44	40	36
I _{DD2Q} (mA)	75	67	52
I _{DD2N} (mA)	74	67	55
I _{DD3P} (mA)	67	64	45
I _{DD3N} (mA)	86	78	88
I _{DD4R} (mA)	205	188	178
I _{DD4W} (mA)	230	211	208
I _{DD6N} (mA)	30	30	28
I _{DD6R} (mA)	25	25	25
I _{DD6A} (mA)	30	30	32
I _{DD7} (mA)	235	234	223
I _{DD5B} (mA)	180	170	180
Package 96b FBGA	7.5 x 13.5 x 1.2mm	7.5 x 13.5 x 1.2mm	7.5 x 13 x 1.2mm
FBGA Ball Dimensions	6.4 x 12mm (pitch 0.8mm)	6.4 x 12mm (pitch 0.8mm)	6.4 x 12mm (pitch 0.8mm)
Package Material	Pb and Halogen Free	Pb and Halogen Free	Pb and Halogen Free



12815 NE 124th St STE#D, Kirkland, WA-98034

AS4C256M16D4-75BIN , AS4C256M16D4-83BIN vs AS4C256M16D4A-75BIN Comparison

Part Number & result Parameter	AS4C256M16D4-75BIN	AS4C256M16D4-83BIN	AS4C256M16D4A-75BIN
Product Description	DDR4 SDRAM	DDR4 SDRAM	DDR4 SDRAM, Rev.A
Fab / Tech Node	PSMC / 25nm	PSMC / 25nm	PSMC / 19nm
Capacity	4Gb (256M x 16)	4Gb (256M x 16)	4Gb (256M x 16)
Memory Organization	32Meg, x16bits, x4 banks x2 groups	32Meg, x16bits, x4 banks x2 groups	32Meg, x16bits, x4 banks x2 groups
Operating Power Supply	V _{DD} & V _{DDQ} = 1.2V (+/-0.06V) V _{pp} = +2.5V(-0.125V/+0.25V)	V _{DD} & V _{DDQ} = 1.2V (+/-0.06V) V _{pp} = +2.5V(-0.125V/+0.25V)	V _{DD} & V _{DDQ} = 1.2V (+/-0.06V) V _{pp} = +2.5V(-0.125V/+0.25V)
Operating Temperature	Industrial (-40°C to 95°C)	Industrial (-40°C to 95°C)	Industrial (-40°C to 95°C)
Clock Frequency(MHz)	1333 (Max)	1200 (Max)	1333 (Max)
Data Rate (MT/s)	2666	2400	2666
CAS Latency	19	17	19
tRCD & tRP (ns)	14.25	14.16	14.25
Average Refresh Period	7.8uS at -40C ~ +85C 3.9uS at +85C to +95C	7.8uS at -40C ~ +85C 3.9uS at +85C to +95C	7.8uS at -40C ~ +85C 3.9uS at +85C to +95C
I/O Capacitance (Cio)	1.15pf	1.15pf	1.15pf
Pin to Pin Compatible	Pin to Pin Compatible		
I _{DD0} (mA)	92	86	93
I _{DD1} (mA)	142	128	101
I _{DD2P} (mA)	44	40	36
I _{DD2Q} (mA)	75	67	52
I _{DD2N} (mA)	74	67	55
I _{DD3P} (mA)	67	64	45
I _{DD3N} (mA)	86	78	88
I _{DD4R} (mA)	205	188	178
I _{DD4W} (mA)	230	211	208
I _{DD6N} (mA)	30	30	28
I _{DD6R} (mA)	25	25	25
I _{DD6A} (mA)	30	30	32
I _{DD7} (mA)	235	234	223
I _{DD5B} (mA)	180	170	180
Package 96b FBGA	7.5 x 13.5 x 1.2mm	7.5 x 13.5 x 1.2mm	7.5 x 13 x 1.2mm
FBGA Ball Dimensions	6.4 x 12mm (pitch 0.8mm)	6.4 x 12mm (pitch 0.8mm)	6.4 x 12mm (pitch 0.8mm)
Package Material	Pb and Halogen Free	Pb and Halogen Free	Pb and Halogen Free