

AS4C256M16D3LC-10BCN vs K4B4G1646E-BYMA Comparison

Part Number & result Parameter	AS4C256M16D3LC-10BCN	K4B4G1646E-BYMA	Comparison Result
Product Description	DDR3L SDRAM	DDR3L SDRAM	Same
Capacity	4Gb (256M x 16)	4Gb (256M x 16)	Same
Memory Organization	32Meg, x16bits, x8 banks	32Meg, x16bits, x8 banks	Same
Operating Power Supply	V _{DD} & V _{DDQ} = 1.35V (1.283V to 1.45V)	V _{DD} & V _{DDQ} = 1.35V (1.283V to 1.45V)	Same
DDR3 Compatibility	Compatible to 1.5±0.075	Compatible to 1.5±0.075	Same
Operating Temperature	Commercial (0°C to 95°C)	Commercial (0°C to 95°C)	Same
Clock Frequency	933MHz	933MHz	Same
Data Rate (MT/s)	1866	1866	Same
CAS Latency	13	13	Same
tRCD & tRP (ns)	13.91	13.91	Same
Average Refresh Period	7.8Us at <85C, 3.9Us at 85~95C	7.8Us at <85C, 3.9Us at 85~95C	Same
I/O Capacitance	Comparable		Same
AC/DC Characteristics	Same	Same	Meet JEDEC
Package 96b FBGA	(7.5mm x 13mm x 1.2mm) BallArray (mm): 12x 6.4 x 0.8	(7.5mm x 13.3mm x 1.2mm) BallArray (mm): 12x 6.4 x 0.8	Comparable
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same
Pin to Pin Compatible	Pin to Pin Compatible		Same

K4B4G1646E									
	1	2	3	4	5	6	7	8	9
A	V _{DDQ}	DQU5	DQU7				DQU4	V _{DDQ}	V _{SS}
B	V _{SSQ}	V _{DD}	V _{SS}				DQSU	DQU6	V _{SSQ}
C	V _{DDQ}	DQU3	DQU1				DQSU	DQU2	V _{DDQ}
D	V _{SSQ}	V _{DDQ}	DMU				DQU0	V _{SSQ}	V _{DD}
E	V _{SS}	V _{SSQ}	DQL0				DML	V _{SSQ}	V _{DDQ}
F	V _{DDQ}	DQL2	DQSL				DQL1	DQL3	V _{SSQ}
G	V _{SSQ}	DQL6	DQSL				V _{DD}	V _{SS}	V _{SSQ}
H	V _{REFDQ}	V _{DDQ}	DQL4				DQL7	DQL5	V _{DDQ}
J	NC	V _{SS}	RAS				CK	V _{SS}	NC
K	ODT	V _{DD}	CAS				CK	V _{DD}	CKE
L	NC	CS	WE				A10/AP	ZQ	NC
M	V _{SS}	BA0	BA2				NC	V _{REFCA}	V _{SS}
N	V _{DD}	A3	A0				A12/BC	BA1	V _{DD}
P	V _{SS}	A5	A2				A1	A4	V _{SS}
R	V _{DD}	A7	A9				A11	A6	V _{DD}
T	V _{SS}	RESET	A13				A14	A8	V _{SS}

AS4C256M16D3LC								
	1	2	3	...	7	8	9	
A	V _{DDQ}	DQ13	DQ15		DQ12	V _{DDQ}	V _{SS}	
B	V _{SSQ}	V _{DD}	V _{SS}		UDQS#	DQ14	V _{SSQ}	
C	V _{DDQ}	DQ11	DQ9		UDQS	DQ10	V _{DDQ}	
D	V _{SSQ}	V _{DDQ}	UDM		DQ8	V _{SSQ}	V _{DD}	
E	V _{SS}	V _{SSQ}	DQ0		LDM	V _{SSQ}	V _{DDQ}	
F	V _{DDQ}	DQ2	LDQS		DQ1	DQ3	V _{SSQ}	
G	V _{SSQ}	DQ6	LDQS#		V _{DD}	V _{SS}	V _{SSQ}	
H	V _{REFDQ}	V _{DDQ}	DQ4		DQ7	DQ5	V _{DDQ}	
J	NC	V _{SS}	RAS#		CK	V _{SS}	NC	
K	ODT	V _{DD}	CAS#		CK#	V _{DD}	CKE	
L	NC	CS#	WE#		A10/AP	ZQ	NC	
M	V _{SS}	BA0	BA2		NC	V _{REFCA}	V _{SS}	
N	V _{DD}	A3	A0		A12/BC#	BA1	V _{DD}	
P	V _{SS}	A5	A2		A1	A4	V _{SS}	
R	V _{DD}	A7	A9		A11	A6	V _{DD}	
T	V _{SS}	RESET#	A13		A14	A8	V _{SS}	

Naming Conventions:
DQ0 : DQL0
DQ1 : DQL1
DQ7 : DQL7
DQ8 : DQU0
DQ9 : DQU1
DQ15 : DQU7
UDQS# : DQSU\
LDM : DML
LDQS : DQSL