

CY62147EV30LL-45B2XI vs AS6C4016-55BIN vs AS6CE4016B-45BIN Comparison

Part Number & result Parameter	CY62147EV30LL-45B2XI	AS6C4016-55BIN	AS6CE4016B-45BIN
Product Description	Low Power ASRAM	Low Power ASRAM	Low Power ASRAM with ECC
Capacity	4Mb	4Mb	4Mb
Memory Organization	256K x 16bits	256K x 16bits	256K x 16bits
Operating Power Supply	V _{CC} = 2.2V ~ 3.6V	V _{CC} = 2.7V ~ 5.5V	V _{CC} = 2.7V ~ 3.6V
Operating Temperature	Industrial (-40°C to 85°C)	Industrial (-40°C to 85°C)	Industrial (-40°C to 85°C)
I/O Capacitance	10pf (max.)	CIO: 8pf (max.)	CIO: 8pf(max.)
Read Cycle Time (tRC)	45ns (min.)	55ns (min.)	45ns (min.)
Write Cycle Time (tWC)	45ns (min.)	55ns (min.)	45ns (min.)
Addr Access Time(tAA)	45ns (max.)	55ns (max.)	45ns (max.)
OE Access Time (tOE)	22ns (max.)	30ns (max.)	25ns (max.)
V _{OH} (V) @ -1.0mA	2.4 (min.)	2.4 (min.)	2.2 (min.)
V _{OL} (V) @ 2mA	0.4 (max.)	0.6 (max.)	0.4 (max.)
V _{IH} (V)	2.2 (min.)	2.4 (min.)	2.2 (min.)
V _{IL} (V)	0.8 (max.)	0.6 (max.)	0.6 (max.)
I _{LI} / I _{LO} (uA)	1 (max.)	1 (max.)	1 (max.)
I _{CC} (Cycle Time=Min) Operating Current	20mA (max.)	60mA @ 5.5V 40mA @ 3.6V	20mA (max.)
I _{CC1} (Cycle Time=1uS) Operating Current	6mA (max.)	10mA @ 5.5V 6mA @ 5.5V	5mA (max.)
I _{sb1} (Standby Current)	2.5uA(Typ.) @ 3.3V/25C 7uA (max.)	4uA (Typ) @ 3.3V/25C 50uA (max.) @ 5.5V	2.5uA (Typ) @ 3.3V/25C 20uA (max.)
V _{DR}	1.5V	1.5V	1.5V
Package	6mm x 8mm FBGA	6mm x 8mm FBGA	6mm x 8mm BGA
Package Material	Pb and Halogen Free	Pb and Halogen Free	Pb and Halogen Free
Pin to Pin Compatible	Dual Chip Enable	Single Chip Enable	Single Chip Enable
	Figure 2. 48-ball VF BGA pinout (Dual Chip Enable)^[3, 4] 123456 BLE OE A₀ A₁ A₂ CE₂ IO₈ BHE A₃ A₄ CE₁ IO₀ IO₉ IO₁₀ A₅ A₆ IO₁ IO₂ V_{SS} IO₁₁ A₁₇ A₇ IO₃ V_{CC} V_{CC} IO₁₂ NC A₁₈ IO₄ V_{SS} IO₁₄ IO₁₃ A₁₄ A₁₅ IO₅ IO₆ IO₁₅ NC A₁₂ A₁₃ WE IO₇ NC A₈ A₉ A₁₀ A₁₁ NC A B C D E F G H	LB# OE# A₀ A₁ A₂ NC DQ₈ UB# A₃ A₄ CE# DQ₀ DQ₉ DQ₁₀ A₅ A₆ DQ₁ DQ₂ V_{ss} DQ₁₁ A₁₇ A₇ DQ₃ V_{cc} V_{cc} DQ₁₂ NC A₁₆ DQ₄ V_{ss} DQ₁₄ DQ₁₃ A₁₄ A₁₅ DQ₅ DQ₆ DQ₁₅ NC A₁₂ A₁₃ WE# DQ₇ NC A₈ A₉ A₁₀ A₁₁ NC 123456 TFBGA(See through with Top View)	