

MANUFACTURING DESCRIPTION

Module Manufacturer:	Corsair
Module Part Number:	CMK32GX4M2Z3600C18
Module Series:	Vengeance LPX
DRAM Manufacturer:	Hynix
DRAM Components:	H5AN8G8N??R-TFC
DRAM Die Revision / Process Node:	N/A / Not determined
Module Manufacturing Date:	Undefined
Module Manufacturing Location:	Taiwan
Module Serial Number:	00000000h
Module PCB Revision:	00h

PHYSICAL & LOGICAL ATTRIBUTES

Fundamental Memory Class:	DDR4 SDRAM
Module Speed Grade:	DDR4-2666U
Base Module Type:	UDIMM (133.35 mm)
Module Capacity:	16 GB
Reference Raw Card:	B0 (8 layers)
JEDEC Raw Card Designer:	Micron Technology
Module Nominal Height:	31 < H <= 32 mm
Module Thickness Maximum, Front:	1 < T <= 2 mm
Module Thickness Maximum, Back:	1 < T <= 2 mm
Number of DIMM Ranks:	2
Address Mapping from Edge Connector to DRAM:	Mirrored
DRAM Device Package:	Standard Monolithic
DRAM Device Package Type:	78-ball FBGA
DRAM Device Die Count:	Single die
Signal Loading:	Not specified
Number of Column Addresses:	10 bits
Number of Row Addresses:	16 bits
Number of Bank Addresses:	2 bits (4 banks)
Bank Group Addressing:	2 bits (4 groups)
DRAM Device Width:	8 bits
Programmed DRAM Density:	8 Gb
Calculated DRAM Density:	8 Gb
Number of DRAM components:	16
DRAM Page Size:	1 KB
Primary Memory Bus Width:	64 bits
Memory Bus Width Extension:	0 bits
DRAM Post Package Repair:	Not supported
Soft Post Package Repair:	Not supported

DRAM TIMING PARAMETERS

Fine Timebase:	0.001 ns
Medium Timebase:	0.125 ns
CAS Latencies Supported:	7T, 8T, 9T, 10T, 11T, 12T, 13T, 14T, 15T, 16T, 17T, 18T, 19T, 20T, 21T, 22T, 23T, 24T
Minimum Clock Cycle Time (tCK min):	0.750 ns (1333.33 MHz)
Maximum Clock Cycle Time (tCK max):	1.500 ns (666.67 MHz)
CAS# Latency Time (tAA min):	13.490 ns
RAS# to CAS# Delay Time (tRCD min):	13.490 ns
Row Precharge Delay Time (tRP min):	13.490 ns
Active to Precharge Delay Time (tRAS min):	32.125 ns
Act to Act/Refresh Delay Time (tRC min):	45.740 ns
Normal Refresh Recovery Delay Time (tRFC1 min):	350.000 ns
2x mode Refresh Recovery Delay Time (tRFC2 min):	260.000 ns
4x mode Refresh Recovery Delay Time (tRFC4 min):	160.000 ns

Short Row Active to Row Active Delay (tRRD_S min):	3.750 ns
Long Row Active to Row Active Delay (tRRD_L min):	6.000 ns
Long CAS to CAS Delay Time (tCCD_L min):	5.356 ns
Four Active Windows Delay (tFAW min):	21.000 ns
Maximum Active Window (tMAW):	8192*tREFI
Maximum Activate Count (MAC):	Unlimited MAC
DRAM VDD 1.20 V operable/endurant:	Yes/Yes
Supply Voltage (VDD), Min / Typical / Max:	1.16V / 1.20V / 1.26V
Activation Supply Voltage (VPP), Min / Typical / Max:	2.41V / 2.50V / 2.75V
Termination Voltage (VTT), Min / Typical / Max:	0.565V / 0.605V / 0.640V

THERMAL PARAMETERS

Module Thermal Sensor:	Not Incorporated
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SPD PROTOCOL

SPD Revision:	1.0
SPD Bytes Total:	512
SPD Bytes Used:	384
SPD Checksum (Bytes 00h-7Dh):	806Eh (OK)
SPD Checksum (Bytes 80h-FDh):	27DEh (OK)

PART NUMBER DETAILS

JEDEC DIMM Label:	16GB 2Rx8 PC4-2666U-UB0-10
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Frequency	CAS	RCD	RP	RAS	RC	RRDS	RRDL	CCDL	FAW
1333 MHz	24	18	18	43	61	5	8	8	28
1333 MHz	23	18	18	43	61	5	8	8	28
1333 MHz	22	18	18	43	61	5	8	8	28
1333 MHz	21	18	18	43	61	5	8	8	28
1333 MHz	20	18	18	43	61	5	8	8	28
1333 MHz	19	18	18	43	61	5	8	8	28
1333 MHz	18	18	18	43	61	5	8	8	28
1200 MHz	17	17	17	39	55	5	8	7	26
1067 MHz	16	15	15	35	49	4	7	6	23
1067 MHz	15	15	15	35	49	4	7	6	23
933 MHz	14	13	13	30	43	4	6	5	20
933 MHz	13	13	13	30	43	4	6	5	20
800 MHz	12	11	11	26	37	3	5	5	17
800 MHz	11	11	11	26	37	3	5	5	17
667 MHz	10	9	9	22	31	3	4	4	14
667 MHz	9	9	9	22	31	3	4	4	14
667 MHz	8	9	9	22	31	3	4	4	14
667 MHz	7	9	9	22	31	3	4	4	14

INTEL EXTREME MEMORY PROFILES

Profiles Revision: 2.0
Profile 1 (Certified) Enables: Yes
Profile 2 (Extreme) Enables: No
Profile 1 Channel Config: 1 DIMM/channel

XMP PARAMETER	PROFILE 1	PROFILE 2
Speed Grade:	DDR4-3598	N/A
DRAM Clock Frequency:	1799 MHz	N/A
Module VDD Voltage Level:	1.35 V	N/A
Minimum DRAM Cycle Time (tCK):	0.556 ns	N/A
CAS Latencies Supported:	24T,23T,22T,21T,20T,19T,18T,17T,16T,15T,14T,13T,12T,11T,10T,9T,8T,7T	N/A
CAS Latency Time (tAA):	9.998 ns	N/A
RAS# to CAS# Delay Time (tRCD):	12.222 ns	N/A
Row Precharge Delay Time (tRP):	12.222 ns	N/A

Active to Precharge Delay Time (tRAS):	23.250 ns	N/A
Active to Active/Refresh Delay Time (tRC):	35.574 ns	N/A
Four Activate Window Delay Time (tFAW):	22.000 ns	N/A
Short Activate to Activate Delay Time (tRRD_S):	3.892 ns	N/A
Long Activate to Activate Delay Time (tRRD_L):	5.560 ns	N/A
Normal Refresh Recovery Delay Time (tRFC1):	350.000 ns	N/A
2x mode Refresh Recovery Delay Time (tRFC2):	260.000 ns	N/A
4x mode Refresh Recovery Delay Time (tRFC4):	160.000 ns	N/A

Show delays in clock cycles