

SK Hynix
Dreams
Good Memory



Q1' 2013 DATABOOK



Computing Memory

DDR3 SDRAM : Component

DDR3 SDRAM Solder-Down

VDD	DENSITY	ORG.	SPEED	PART NUMBER	PKG.	FEATURE	AVAIL.	
1.5V (DDR3)	2Gb	256Mx8	DDR3 1866	H5TQ2G83EFR-RDC	FBGA(78ball)	8Bank, 1.5V, CL13,13-13-13	Now	
			DDR3 1600	H5TQ2G83CFR-PBC	FBGA(78ball)	8Bank, 1.5V, CL11,11-11-11	Now	
				H5TQ2G83EFR-PBC	FBGA(78ball)	8Bank, 1.5V, CL11,11-11-11	Now	
			DDR3 1333	H5TQ2G83CFR-H9C	FBGA(78ball)	8Bank, 1.5V, CL9,9-9-9	Now	
				H5TQ2G83EFR-H9C	FBGA(78ball)	8Bank, 1.5V, CL9,9-9-9	Now	
		128Mx16	DDR3 1866	H5TQ2G63FFR-RDC	FBGA(96ball)	8Bank, 1.5V, CL13,13-13-13	Now	
			DDR3 1600	H5TQ2G63DFR-PBC	FBGA(96ball)	8Bank, 1.5V, CL11,11-11-11	Now	
				H5TQ2G63FFR-PBC	FBGA(96ball)	8Bank, 1.5V, CL11,11-11-11	Now	
	DDR3 1333		H5TQ2G63DFR-H9C	FBGA(96ball)	8Bank, 1.5V, CL9,9-9-9	Now		
		H5TQ2G63FFR-H9C	FBGA(96ball)	8Bank, 1.5V, CL9,9-9-9	Now			
	4Gb	512Mx8	DDR3 1866	H5TQ4G83AFR-RDC	FBGA(78ball)	8Bank, 1.5V, CL13,13-13-13	Now	
				DDR3 1600	H5TQ4G83MFR-PBC	FBGA(78ball)	8Bank, 1.5V, CL11,11-11-11	Now
					H5TQ4G83AFR-PBC	FBGA(78ball)	8Bank, 1.5V, CL11,11-11-11	Now
			DDR3 1333	H5TQ4G83MFR-H9C	FBGA(78ball)	8Bank, 1.5V, CL9,9-9-9	Now	
				H5TQ4G83AFR-H9C	FBGA(78ball)	8Bank, 1.5V, CL9,9-9-9	Now	
			256Mx16	DDR3 1866	H5TQ4G63AFR-RDC	FBGA(96ball)	8Bank, 1.5V, CL13,13-13-13	Now
DDR3 1600					H5TQ4G63MFR-PBC	FBGA(96ball)	8Bank, 1.5V, CL11,11-11-11	Now
					H5TQ4G63AFR-PBC	FBGA(96ball)	8Bank, 1.5V, CL11,11-11-11	Now
DDR3 1333		H5TQ4G63MFR-H9C		FBGA(96ball)	8Bank, 1.5V, CL9,9-9-9	Now		
		H5TQ4G63AFR-H9C		FBGA(96ball)	8Bank, 1.5V, CL9,9-9-9	Now		
8Gb		1Gx8(DDP)		DDR3 1866	H5TQ8G83AMR-RDC	FBGA(78ball)	8Bank, 1.5V, CL13,13-13-13	Q2'13
			DDR3 1600	H5TQ8G83AMR-PBC	FBGA(78ball)	8Bank, 1.5V, CL11,11-11-11	Q2'13	
			DDR3 1333	H5TQ8G83AMR-H9C	FBGA(78ball)	8Bank, 1.5V, CL9,9-9-9	Q2'13	
			DDR3 1066	H5TQ8G83AMR-G7C	FBGA(78ball)	8Bank, 1.5V, CL7,7-7-7	Q2'13	
		512Mx16(DDP)	DDR3 1866	H5TQ6G63AMR-RDC	FBGA(96ball)	8Bank, 1.5V, CL13,13-13-13	Q2'13	
			DDR3 1600	H5TQ6G63AMR-PBC	FBGA(96ball)	8Bank, 1.5V, CL11,11-11-11	Q2'13	
	DDR3 1333		H5TQ6G63AMR-H9C	FBGA(96ball)	8Bank, 1.5V, CL9,9-9-9	Q2'13		
	DDR3 1066		H5TQ6G63AMR-G7C	FBGA(96ball)	8Bank, 1.5V, CL7,7-7-7	Q2'13		



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DDR3 SDRAM : Component

DDR3 SDRAM Solder-Down

VDD	DENSITY	ORG.	SPEED	PART NUMBER	PKG.	FEATURE	AVAIL.	
1.35V (DDR3L)	2Gb	256Mx8	DDR3 1600	H5TC2G83CFR-PBA	FBGA(78ball)	8Bank, 1.35V, CL11,11-11-11	Now	
				H5TC2G83EFR-PBA	FBGA(78ball)	8Bank, 1.35V, CL11,11-11-11	Now	
			DDR3 1333	H5TC2G83CFR-H9A	FBGA(78ball)	8Bank, 1.35V, CL9,9-9-9	Now	
				H5TC2G83EFR-H9A	FBGA(78ball)	8Bank, 1.35V, CL9,9-9-9	Now	
		128Mx16	DDR3 1600	H5TC2G63DFR-PBA	FBGA(96ball)	8Bank, 1.35V, CL11,11-11-11	Now	
				H5TC2G63FFR-PBA	FBGA(96ball)	8Bank, 1.35V, CL11,11-11-11	Now	
			DDR3 1333	H5TC2G63DFR-H9A	FBGA(96ball)	8Bank, 1.35V, CL9,9-9-9	Now	
				H5TC2G63FFR-H9A	FBGA(96ball)	8Bank, 1.35V, CL9,9-9-9	Now	
	4Gb	512Mx8	DDR3 1600	H5TC4G83MFR-PBA	FBGA(78ball)	8Bank, 1.35V, CL11,11-11-11	Now	
					H5TC4G83AFR-PBA	FBGA(78ball)	8Bank, 1.35V, CL11,11-11-11	Now
				DDR3 1333	H5TC4G83MFR-H9A	FBGA(78ball)	8Bank, 1.35V, CL9,9-9-9	Now
					H5TC4G83AFR-H9A	FBGA(78ball)	8Bank, 1.35V, CL9,9-9-9	Now
256Mx16			DDR3 1600	H5TC4G63MFR-PBA	FBGA(96ball)	8Bank, 1.35V, CL11,11-11-11	Now	
				H5TC4G63AFR-PBA	FBGA(96ball)	8Bank, 1.35V, CL11,11-11-11	Now	
			DDR3 1333	H5TC4G63MFR-H9A	FBGA(96ball)	8Bank, 1.35V, CL9,9-9-9	Now	
				H5TC4G63AFR-H9A	FBGA(96ball)	8Bank, 1.35V, CL9,9-9-9	Now	
8Gb		1Gx8(DDP)	DDR3 1600	H5TC8G83AMR-PBA	FBGA(78ball)	8Bank, 1.35V, CL11,11-11-11	Q2'13	
				DDR3 1333	H5TC8G83AMR-H9A	FBGA(78ball)	8Bank, 1.35V, CL9,9-9-9	Q2'13
				DDR3 1066	H5TC8G83AMR-G7A	FBGA(78ball)	8Bank, 1.35V, CL7,7-7-7	Q2'13
			512Mx16(DDP)	DDR3 1600	H5TC8G63AMR-PBA	FBGA(96ball)	8Bank, 1.35V, CL11,11-11-11	Q2'13
	DDR3 1333				H5TC8G63AMR-H9A	FBGA(96ball)	8Bank, 1.35V, CL9,9-9-9	Q2'13
	DDR3 1066				H5TC8G63AMR-G7A	FBGA(96ball)	8Bank, 1.35V, CL7,7-7-7	Q2'13



Computing Memory

DDR3 SDRAM : Component

DDR3 SDRAM Solder-Down

VDD	DENSITY	ORG.	SPEED	PART NUMBER	PKG.	FEATURE	AVAIL.
1.35V (DDR3L-RS)	2Gb	256Mx8	DDR3 1600	H5TC2G83CFR-PBR	FBGA(78ball)	8Bank, 1.35V, CL11,11-11-11	Now
				H5TC2G83EFR-PBR	FBGA(78ball)	8Bank, 1.35V, CL11,11-11-11	Now
			DDR3 1333	H5TC2G83CFR-H9R	FBGA(78ball)	8Bank, 1.35V, CL9,9-9-9	Now
				H5TC2G83EFR-H9R	FBGA(78ball)	8Bank, 1.35V, CL9,9-9-9	Now
	128Mx16	DDR3 1600	H5TC2G63DFR-PBR	FBGA(96ball)	8Bank, 1.35V, CL11,11-11-11	Now	
			H5TC2G63FFR-PBR	FBGA(96ball)	8Bank, 1.35V, CL11,11-11-11	Now	
		DDR3 1333	H5TC2G63DFR-H9R	FBGA(96ball)	8Bank, 1.35V, CL9,9-9-9	Now	
			H5TC2G63FFR-H9R	FBGA(96ball)	8Bank, 1.35V, CL9,9-9-9	Now	
	4Gb	512Mx8	DDR3 1600	H5TC4G83AFR-PBR	FBGA(78ball)	8Bank, 1.35V, CL11,11-11-11	Now
			DDR3 1333	H5TC4G83AFR-H9R	FBGA(78ball)	8Bank, 1.35V, CL9,9-9-9	Now
		256Mx16	DDR3 1600	H5TC4G63AFR-PBR	FBGA(96ball)	8Bank, 1.35V, CL11,11-11-11	Now
			DDR3 1333	H5TC4G63AFR-H9R	FBGA(96ball)	8Bank, 1.35V, CL9,9-9-9	Now
8Gb	1Gx8(DDP)	DDR3 1600	H5TC8G83AMR-PBR	FBGA(78ball)	8Bank, 1.35V, CL11,11-11-11	Q2'13	
		DDR3 1333	H5TC8G83AMR-H9R	FBGA(78ball)	8Bank, 1.35V, CL9,9-9-9	Q2'13	
		DDR3 1066	H5TC8G83AMR-G7R	FBGA(78ball)	8Bank, 1.35V, CL7,7-7-7	Q2'13	
	512Mx16(DDP)	DDR3 1600	H5TC8G63AMR-PBR	FBGA(96ball)	8Bank, 1.35V, CL11,11-11-11	Q2'13	
		DDR3 1333	H5TC8G63AMR-H9R	FBGA(96ball)	8Bank, 1.35V, CL9,9-9-9	Q2'13	
		DDR3 1066	H5TC8G63AMR-G7R	FBGA(96ball)	8Bank, 1.35V, CL7,7-7-7	Q2'13	



Computing Memory

DDR3 SDRAM : Module - UBDIMM

VDD	MODULE		BASED COM.	SPEED	PART NUMBER	COMPONENT PKG.	# OF RANK	HEIGHT	AVAIL.		
	DENSITY	ORG.									
1.5V	8GB	1Gx64	512Mx8	1866-131313	HMT41GU6AFR8C-RD	FBGA(78ball)	2	30mm	Now		
					HMT41GU6BFR8C-RD	FBGA(78ball)	2	30mm	Q2'13		
				1600-111111	HMT41GU6MFR8C-PB	FBGA(78ball)	2	30mm	Now		
					HMT41GU6AFR8C-PB	FBGA(78ball)	2	30mm	Now		
				1333-999	HMT41GU6BFR8C-PB	FBGA(78ball)	2	30mm	Q2'13		
					HMT41GU6MFR8C-H9	FBGA(78ball)	2	30mm	Now		
		1Gx72	512Mx8	1866-131313	HMT41GU6AFR8C-H9	FBGA(78ball)	2	30mm	Now		
					HMT41GU6BFR8C-H9	FBGA(78ball)	2	30mm	Q2'13		
				1600-111111	HMT41GU7AFR8C-RD	FBGA(78ball)	2	30mm	Now		
					HMT41GU7BFR8C-RD	FBGA(78ball)	2	30mm	Q2'13		
				1333-999	HMT41GU7MFR8C-PB	FBGA(78ball)	2	30mm	Now		
					HMT41GU7AFR8C-PB	FBGA(78ball)	2	30mm	Now		
	4GB	512Mx64	512Mx8	1866-131313	HMT451U6AFR8C-RD	FBGA(78ball)	1	30mm	Now		
					HMT451U6BFR8C-RD	FBGA(78ball)	1	30mm	Q2'13		
				1600-111111	HMT451U6MFR8C-PB	FBGA(78ball)	1	30mm	Now		
					HMT451U6AFR8C-PB	FBGA(78ball)	1	30mm	Now		
				1333-999	HMT451U6BFR8C-PB	FBGA(78ball)	1	30mm	Q2'13		
					HMT451U6MFR8C-H9	FBGA(78ball)	1	30mm	Now		
			256Mx8	1866-131313	HMT451U6BFR8C-H9	FBGA(78ball)	1	30mm	Q2'13		
					HMT351U6EFR8C-RD	FBGA(78ball)	2	30mm	Now		
				1600-111111	HMT351U6CFR8C-PB	FBGA(78ball)	2	30mm	Now		
					HMT351U6EFR8C-PB	FBGA(78ball)	2	30mm	Now		
				1333-999	HMT351U6CFR8C-H9	FBGA(78ball)	2	30mm	Now		
					HMT351U6EFR8C-H9	FBGA(78ball)	2	30mm	Now		
		512Mx72	512Mx8	1866-131313	HMT451U7AFR8C-RD	FBGA(78ball)	1	30mm	Now		
					HMT451U7BFR8C-RD	FBGA(78ball)	1	30mm	Q2'13		
				1600-111111	HMT451U7AFR8C-PB	FBGA(78ball)	1	30mm	Now		
					HMT451U7BFR8C-PB	FBGA(78ball)	1	30mm	Q2'13		
				1333-999	HMT451U7AFR8C-H9	FBGA(78ball)	1	30mm	Now		
					HMT451U7BFR8C-H9	FBGA(78ball)	1	30mm	Q2'13		
			256Mx8	1866-131313	HMT351U7CFR8C-RD	FBGA(78ball)	2	30mm	Now		
					HMT351U7CFR8C-PB	FBGA(78ball)	2	30mm	Now		
				1600-111111	HMT351U7EFR8C-PB	FBGA(78ball)	2	30mm	Now		
					HMT351U7CFR8C-H9	FBGA(78ball)	2	30mm	Now		
				1333-999	HMT351U7EFR8C-H9	FBGA(78ball)	2	30mm	Now		
					HMT351U7CFR8C-H9	FBGA(78ball)	2	30mm	Now		
2GB	256Mx64	256Mx8	1866-131313	HMT325U6EFR8C-RD	FBGA(78ball)	1	30mm	Now			
				HMT325U6CFR8C-PB	FBGA(78ball)	1	30mm	Now			
			1333-999	HMT325U6EFR8C-PB	FBGA(78ball)	1	30mm	Now			
		HMT325U6CFR8C-H9		FBGA(78ball)	1	30mm	Now				
		256Mx72	256Mx8	1866-131313	HMT325U7EFR8C-RD	FBGA(78ball)	1	30mm	Now		
					HMT325U7CFR8C-PB	FBGA(78ball)	1	30mm	Now		
	1333-999			HMT325U7EFR8C-PB	FBGA(78ball)	1	30mm	Now			
			HMT325U7CFR8C-H9	FBGA(78ball)	1	30mm	Now				
	1.35V		8GB	1Gx72	512Mx8	1600-111111	HMT41GU7MFR8A-PB	FBGA(78ball)	2	30mm	Now
							HMT41GU7AFR8A-PB	FBGA(78ball)	2	30mm	Now
		1333-999			HMT41GU7BFR8A-PB	FBGA(78ball)	2	30mm	Q2'13		
				HMT41GU7MFR8A-H9	FBGA(78ball)	2	30mm	Now			
4GB		512Mx72		512Mx8	1600-111111	HMT41GU7AFR8A-H9	FBGA(78ball)	2	30mm	Now	
						HMT41GU7BFR8A-H9	FBGA(78ball)	2	30mm	Q2'13	
			1333-999	HMT451U7AFR8A-PB	FBGA(78ball)	1	30mm	Now			
		HMT451U7BFR8A-PB		FBGA(78ball)	1	30mm	Q2'13				
		256Mx8	1600-111111	256Mx8	HMT451U7AFR8A-H9	FBGA(78ball)	1	30mm	Now		
					HMT451U7BFR8A-H9	FBGA(78ball)	1	30mm	Q2'13		
1333-999				HMT351U7CFR8A-PB	FBGA(78ball)	2	30mm	Now			
			HMT351U7EFR8A-PB	FBGA(78ball)	2	30mm	Now				
2GB	256Mx72		256Mx8	1600-111111	HMT351U7CFR8A-H9	FBGA(78ball)	2	30mm	Now		
					HMT351U7EFR8A-H9	FBGA(78ball)	2	30mm	Now		
		1333-999	HMT325U7CFR8A-PB	FBGA(78ball)	1	30mm	Now				
	HMT325U7EFR8A-PB		FBGA(78ball)	1	30mm	Now					
	1333-999	HMT325U7CFR8A-H9	FBGA(78ball)	1	30mm	Now					
		HMT325U7EFR8A-H9	FBGA(78ball)	1	30mm	Now					



Computing Memory

DDR3 SDRAM : Module - RDIMM

VDD	MODULE		BASED COM.	SPEED	PART NUMBER	COMPONENT PKG.	# OF RANK	HEIGHT	AVAIL.			
	DENSITY	ORG.										
1.5V	32GB	4Gx72	2Gx4 (DDP)	1600-111111	HMT84GR7AMR4C-PB	FBGA(78ball)	4	30mm	Q2'13			
				1333-999	HMT84GR7MMR4C-H9	FBGA(78ball)	4	30mm	Now			
				1066-777	HMT84GR7AMR4C-H9	FBGA(78ball)	4	30mm	Q2'13			
					HMT84GR7MMR4C-G7	FBGA(78ball)	4	30mm	Now			
	16GB	2Gx72	1Gx4	1866-131313	HMT42GR7AFR4C-RD	FBGA(78ball)	2	30mm	Now			
				1600-111111	HMT42GR7MFR4C-PB	FBGA(78ball)	2	30mm	Now			
					HMT42GR7AFR4C-PB	FBGA(78ball)	2	30mm	Now			
				1333-999	HMT42GR7MFR4C-H9	FBGA(78ball)	2	30mm	Now			
			1Gx4 (DDP)	1333-999	HMT42GR7CMR4C-H9	FBGA(78ball)	4	30mm	Now			
				1066-777	HMT42GR7CMR4C-G7	FBGA(78ball)	4	30mm	Now			
				8GB	1Gx72	1Gx4	1866-131313	HMT41GR7AFR4C-RD	FBGA(78ball)	1	30mm	Now
							1600-111111	HMT41GR7MFR4C-PB	FBGA(78ball)	1	30mm	Now
	HMT41GR7AFR4C-PB	FBGA(78ball)	1					30mm	Now			
	1333-999	HMT41GR7MFR4C-H9	FBGA(78ball)				1	30mm	Now			
	512Mx8	1866-131313	512Mx8	HMT41GR7AFR8C-RD	FBGA(78ball)	2	30mm	Now				
				1600-111111	HMT41GR7MFR8C-PB	FBGA(78ball)	2	30mm	Now			
					HMT41GR7AFR8C-PB	FBGA(78ball)	2	30mm	Now			
				1333-999	HMT41GR7MFR8C-H9	FBGA(78ball)	2	30mm	Now			
		512Mx4	1866-131313	512Mx4	HMT31GR7EFR4C-RD	FBGA(78ball)	2	30mm	Now			
					1600-111111	HMT31GR7CFR4C-PB	FBGA(78ball)	2	30mm	Now		
						HMT31GR7EFR4C-PB	FBGA(78ball)	2	30mm	Now		
					1333-999	HMT31GR7CFR4C-H9	FBGA(78ball)	2	30mm	Now		
	4GB	512Mx72	512Mx8	1866-131313	HMT451R7AFR8C-RD	FBGA(78ball)	2	30mm	Now			
				1600-111111	HMT451R7AFR8C-PB	FBGA(78ball)	2	30mm	Now			
				1333-999	HMT451R7AFR8C-H9	FBGA(78ball)	2	30mm	Now			
			512Mx4	1866-131313	512Mx4	HMT351R7EFR4C-RD	FBGA(78ball)	1	30mm	Now		
						1600-111111	HMT351R7CFR4C-PB	FBGA(78ball)	1	30mm	Now	
							HMT351R7EFR4C-PB	FBGA(78ball)	1	30mm	Now	
				1333-999	HMT351R7CFR4C-H9	FBGA(78ball)	1	30mm	Now			
				256Mx8	1866-131313	256Mx8	HMT351R7EFR8C-RD	FBGA(78ball)	2	30mm	Now	
							1600-111111	HMT351R7CFR8C-PB	FBGA(78ball)	2	30mm	Now
			HMT351R7EFR8C-PB					FBGA(78ball)	2	30mm	Now	
1333-999			HMT351R7CFR8C-H9	FBGA(78ball)	2	30mm	Now					
2GB			256Mx72	256Mx8	1866-131313	HMT325R7EFR8C-RD	FBGA(78ball)	1	30mm	Now		
	1600-111111	HMT325R7CFR8C-PB			FBGA(78ball)	1	30mm	Now				
		HMT325R7EFR8C-PB			FBGA(78ball)	1	30mm	Now				
	1333-999	HMT325R7CFR8C-H9			FBGA(78ball)	1	30mm	Now				
	HMT325R7EFR8C-H9	FBGA(78ball)			1	30mm	Now					



Computing Memory

DDR3 SDRAM : Module - RDIMM

VDD	MODULE		BASED COM.	SPEED	PART NUMBER	COMPONENT PKG.	# OF RANK	HEIGHT	AVAIL.			
	DENSITY	ORG.										
1.35V	32GB	4Gx72	2Gx4 (DDP)	1333-999	HMT84GR7MMR4A-H9	FBGA(78ball)	4	30mm	Now			
					HMT84GR7AMR4A-H9	FBGA(78ball)	4	30mm	Q2'13			
				1066-777	HMT84GR7MMR4A-G7	FBGA(78ball)	4	30mm	Now			
					HMT84GR7AMR4A-G7	FBGA(78ball)	4	30mm	Q2'13			
	16GB	2Gx72	1Gx4	1866-131313	HMT42GR7AFR4A-RD	FBGA(78ball)	2	30mm	Now			
					HMT42GR7MFR4A-PB	FBGA(78ball)	2	30mm	Now			
				1333-999	HMT42GR7AFR4A-PB	FBGA(78ball)	2	30mm	Now			
					HMT42GR7MFR4A-H9	FBGA(78ball)	2	30mm	Now			
			1Gx4 (DDP)	HMT42GR7AFR4A-H9	FBGA(78ball)	2	30mm	Now				
				HMT42GR7CMR4A-H9	FBGA(78ball)	4	30mm	Now				
	8GB	1Gx72	1Gx4	1866-131313	HMT41GR7AFR4A-RD	FBGA(78ball)	1	30mm	Now			
					HMT41GR7MFR4A-PB	FBGA(78ball)	1	30mm	Now			
				1333-999	HMT41GR7AFR4A-PB	FBGA(78ball)	1	30mm	Now			
					HMT41GR7MFR4A-H9	FBGA(78ball)	1	30mm	Now			
				512Mx8	1866-131313	HMT41GR7AFR8A-RD	FBGA(78ball)	2	30mm	Now		
						HMT41GR7MFR8A-PB	FBGA(78ball)	2	30mm	Now		
			1333-999		HMT41GR7AFR8A-PB	FBGA(78ball)	2	30mm	Now			
					HMT41GR7MFR8A-H9	FBGA(78ball)	2	30mm	Now			
			512Mx4	1600-111111	HMT31GR7CFR4A-PB	FBGA(78ball)	2	30mm	Now			
					HMT31GR7EFR4A-PB	FBGA(78ball)	2	30mm	Now			
				1333-999	HMT31GR7CFR4A-H9	FBGA(78ball)	2	30mm	Now			
					HMT31GR7EFR4A-H9	FBGA(78ball)	2	30mm	Now			
				4GB	512Mx72	512Mx8	1866-131313	HMT451R7AFR8A-RD	FBGA(78ball)	1	30mm	Now
								HMT451R7AFR8A-PB	FBGA(78ball)	1	30mm	Now
1333-999			HMT451R7AFR8A-H9				FBGA(78ball)	1	30mm	Now		
512Mx4			1600-111111			HMT351R7CFR4A-PB	FBGA(78ball)	1	30mm	Now		
						HMT351R7EFR4A-PB	FBGA(78ball)	1	30mm	Now		
			1333-999			HMT351R7CFR4A-H9	FBGA(78ball)	1	30mm	Now		
	HMT351R7EFR4A-H9	FBGA(78ball)				1	30mm	Now				
	256Mx8	1600-111111	HMT351R7CFR8A-PB			FBGA(78ball)	2	30mm	Now			
			HMT351R7EFR8A-PB			FBGA(78ball)	2	30mm	Now			
1333-999		HMT351R7CFR8A-H9	FBGA(78ball)			2	30mm	Now				
2GB	256Mx72	256Mx8	1600-111111			HMT325R7CFR8A-PB	FBGA(78ball)	1	30mm	Now		
						HMT325R7EFR8A-PB	FBGA(78ball)	1	30mm	Now		
			1333-999	HMT325R7CFR8A-H9	FBGA(78ball)	1	30mm	Now				
				HMT325R7EFR8A-H9	FBGA(78ball)	1	30mm	Now				



Computing Memory

DDR3 SDRAM : Module – VLP RDIMM

VDD	MODULE		BASED COM.	SPEED	PART NUMBER	COMPONENT PKG.	# OF RANK	HEIGHT	AVAIL.	
	DENSITY	ORG.								
1.5V	32GB	4Gx72	4Gx4 (DDP)	1600-111111	HMTA4GV7AHR4C-PB	FBGA(82ball)	4	18.75mm	Q2'13	
				1333-999	HMTA4GV7MHR4C-H9	FBGA(82ball)	4	18.75mm	Now	
				1066-777	HMTA4GV7AHR4C-H9	FBGA(82ball)	4	18.75mm	Q2'13	
					HMTA4GV7MHR4C-G7	FBGA(82ball)	4	18.75mm	Now	
	16GB	2Gx72	2Gx4 (DDP)	1866-131313	HMT82GV7AMR4C-RD	FBGA(78ball)	2	18.75mm	Q2'13	
				1600-111111	HMT82GV7MMR4C-PB	FBGA(78ball)	2	18.75mm	Now	
					HMT82GV7AMR4C-PB	FBGA(78ball)	2	18.75mm	Q2'13	
				1333-999	HMT82GV7MMR4C-H9	FBGA(78ball)	2	18.75mm	Now	
					HMT82GV7AMR4C-H9	FBGA(78ball)	2	18.75mm	Q2'13	
				1066-777	HMT82GV7MMR4C-G7	FBGA(78ball)	2	18.75mm	Now	
					HMT82GV7AMR4C-G7	FBGA(78ball)	2	18.75mm	Q2'13	
				8GB	1Gx72	1Gx4	1866-131313	HMT41GV7AFR4C-RD	FBGA(78ball)	1
	1600-111111	HMT41GV7MFR4C-PB	FBGA(78ball)				1	18.75mm	Now	
		HMT41GV7AFR4C-PB	FBGA(78ball)				1	18.75mm	Now	
	1333-999	HMT41GV7MFR4C-H9	FBGA(78ball)				1	18.75mm	Now	
		HMT41GV7AFR4C-H9	FBGA(78ball)				1	18.75mm	Now	
1Gx4 (DDP)	1600-111111	HMT41GV7CMR4C-PB	FBGA(78ball)				2	18.75mm	Now	
	1333-999	HMT41GV7CMR4C-H9	FBGA(78ball)				2	18.75mm	Now	
	1066-777	HMT41GV7CMR4C-G7	FBGA(78ball)				2	18.75mm	Now	
512Mx8	1866-131313	HMT41GV7AFR8C-RD	FBGA(78ball)			2	18.75mm	Now		
	1600-111111	HMT41GV7MFR8C-PB	FBGA(78ball)			2	18.75mm	Now		
		HMT41GV7AFR8C-PB	FBGA(78ball)			2	18.75mm	Now		
	1333-999	HMT41GV7MFR8C-H9	FBGA(78ball)			2	18.75mm	Now		
HMT41GV7AFR8C-H9		FBGA(78ball)	2			18.75mm	Now			
512Mx8 (DDP)	1333-999	HMT41GV7CMR8C-H9	FBGA(78ball)			4	18.75mm	Now		
	1066-777	HMT41GV7CMR8C-G7	FBGA(78ball)			4	18.75mm	Now		
4GB	512Mx72	512Mx8	1866-131313			HMT451V7AFR8C-RD	FBGA(78ball)	1	18.75mm	Now
			1600-111111	HMT451V7AFR8C-PB	FBGA(78ball)	1	18.75mm	Now		
				HMT451V7AFR8C-H9	FBGA(78ball)	1	18.75mm	Now		
		512Mx4	1866-131313	HMT351V7EFR4C-RD	FBGA(78ball)	1	18.75mm	Now		
			1600-111111	HMT351V7CFR4C-PB	FBGA(78ball)	1	18.75mm	Now		
				HMT351V7EFR4C-PB	FBGA(78ball)	1	18.75mm	Now		
			1333-999	HMT351V7CFR4C-H9	FBGA(78ball)	1	18.75mm	Now		
		HMT351V7EFR4C-H9		FBGA(78ball)	1	18.75mm	Now			
		256Mx8	1866-131313	HMT351V7EFR8C-RD	FBGA(78ball)	2	18.75mm	Now		
			1600-111111	HMT351V7CFR8C-PB	FBGA(78ball)	2	18.75mm	Now		
				HMT351V7EFR8C-PB	FBGA(78ball)	2	18.75mm	Now		
			1333-999	HMT351V7CFR8C-H9	FBGA(78ball)	2	18.75mm	Now		
		HMT351V7EFR8C-H9		FBGA(78ball)	2	18.75mm	Now			
		2GB	256Mx72	256Mx8	1866-131313	HMT325V7EFR8C-RD	FBGA(78ball)	1	18.75mm	Now
					1600-111111	HMT325V7CFR8C-PB	FBGA(78ball)	1	18.75mm	Now
						HMT325V7EFR8C-PB	FBGA(78ball)	1	18.75mm	Now
1333-999	HMT325V7CFR8C-H9				FBGA(78ball)	1	18.75mm	Now		
	HMT325V7EFR8C-H9				FBGA(78ball)	1	18.75mm	Now		



Computing Memory

DDR3 SDRAM : Module – VLP RDIMM

VDD	MODULE		BASED COM.	SPEED	PART NUMBER	COMPONENT PKG.	# OF RANK	HEIGHT	AVAIL.	
	DENSITY	ORG.								
1.35V	32GB	4Gx72	4Gx4 (DDP)	1333-999	HMTA4GV7AHR4A-H9	FBGA(82ball)	4	18.75mm	Q2'13	
				1066-777	HMTA4GV7MHR4A-G7	FBGA(82ball)	4	18.75mm	Now	
					HMTA4GV7AHR4A-G7	FBGA(82ball)	4	18.75mm	Q2'13	
	16GB	2Gx72	2Gx4 (DDP)	1600-111111	HMT82GV7MMR4A-PB	FBGA(78ball)	2	18.75mm	Now	
					HMT82GV7AMR4A-PB	FBGA(78ball)	2	18.75mm	Q2'13	
				1333-999	HMT82GV7MMR4A-H9	FBGA(78ball)	2	18.75mm	Now	
					HMT82GV7AMR4A-H9	FBGA(78ball)	2	18.75mm	Q2'13	
				1066-777	HMT82GV7MMR4A-G7	FBGA(78ball)	2	18.75mm	Now	
					HMT82GV7AMR4A-G7	FBGA(78ball)	2	18.75mm	Q2'13	
	8GB	1Gx72	1Gx4	1600-111111	HMT41GV7MFR4A-PB	FBGA(78ball)	1	18.75mm	Now	
					HMT41GV7AFR4A-PB	FBGA(78ball)	1	18.75mm	Now	
				1333-999	HMT41GV7MFR4A-H9	FBGA(78ball)	1	18.75mm	Now	
					HMT41GV7AFR4A-H9	FBGA(78ball)	1	18.75mm	Now	
			1Gx4 (DDP)	1333-999	HMT41GV7CMR4A-H9	FBGA(78ball)	2	18.75mm	Now	
				1066-777	HMT41GV7CMR4A-G7	FBGA(78ball)	2	18.75mm	Now	
			512Mx8	1600-111111	512Mx8	HMT41GV7MFR8A-PB	FBGA(78ball)	2	18.75mm	Now
						HMT41GV7AFR8A-PB	FBGA(78ball)	2	18.75mm	Now
					1333-999	HMT41GV7MFR8A-H9	FBGA(78ball)	2	18.75mm	Now
						HMT41GV7AFR8A-H9	FBGA(78ball)	2	18.75mm	Now
			512Mx8 (DDP)	1333-999	HMT41GV7CMR8A-H9	FBGA(78ball)	4	18.75mm	Now	
					1066-777	HMT41GV7CMR8A-G7	FBGA(78ball)	4	18.75mm	Now
	4GB	512Mx72	512Mx8	1866-131313	HMT451V7AFR8A-RD	FBGA(78ball)	1	18.75mm	Now	
				1600-111111	HMT451V7AFR8A-PB	FBGA(78ball)	1	18.75mm	Now	
				1333-999	HMT451V7AFR8A-H9	FBGA(78ball)	1	18.75mm	Now	
512Mx4			1600-111111	512Mx4	HMT351V7CFR4A-PB	FBGA(78ball)	1	18.75mm	Now	
					HMT351V7EFR4A-PB	FBGA(78ball)	1	18.75mm	Now	
				1333-999	HMT351V7CFR4A-H9	FBGA(78ball)	1	18.75mm	Now	
					HMT351V7EFR4A-H9	FBGA(78ball)	1	18.75mm	Now	
256Mx8			1600-111111	256Mx8	HMT351V7CFR8A-PB	FBGA(78ball)	2	18.75mm	Now	
					HMT351V7EFR8A-PB	FBGA(78ball)	2	18.75mm	Now	
				1333-999	HMT351V7CFR8A-H9	FBGA(78ball)	2	18.75mm	Now	
					HMT351V7EFR8A-H9	FBGA(78ball)	2	18.75mm	Now	
2GB			256Mx72	256Mx8	1600-111111	HMT325V7CFR8A-PB	FBGA(78ball)	1	18.75mm	Now
	HMT325V7EFR8A-PB	FBGA(78ball)				1	18.75mm	Now		
	1333-999	HMT325V7CFR8A-H9			FBGA(78ball)	1	18.75mm	Now		
		HMT325V7EFR8A-H9			FBGA(78ball)	1	18.75mm	Now		

Computing Memory

DDR3 SDRAM : Module - LRDIMM

VDD	MODULE		BASED	SPEED	PART NUMBER	PACKAGE	RANK	HEIGHT	Availability
	DENSITY	ORG.	COM.						
1.5V	64GB	8Gx72	4Gx4 (QDP)	1600-111111	HMTA8GL7MHR4C-PB	FBGA(82ball)	4	30.35mm	Now
					HMTA8GL7AHR4C-PB	FBGA(82ball)	4	30.35mm	Q2'13
				1333-999	HMTA8GL7MHR4C-H9	FBGA(82ball)	4	30.35mm	Now
					HMTA8GL7AHR4C-H9	FBGA(82ball)	4	30.35mm	Q2'13
	32GB	4Gx72	2Gx4 (DDP)	1866-131313	HMT84GL7AMR4C-RD	FBGA(78ball)	4	30.35mm	Q1'13
					1600-111111	HMT84GL7AMR4C-PB	FBGA(78ball)	4	30.35mm
				1333-999	HMT84GL7MMR4C-H9	FBGA(78ball)	4	30.35mm	Now
					HMT84GL7AMR4C-H9	FBGA(78ball)	4	30.35mm	Q1'13
1.35V	64GB	8Gx72	4Gx4 (QDP)	1600-111111	HMTA8GL7AHR4A-PB	FBGA(82ball)	4	30.35mm	Q2'13
					1333-999	HMTA8GL7MHR4A-H9	FBGA(82ball)	4	30.35mm
					HMTA8GL7AHR4A-H9	FBGA(82ball)	4	30.35mm	Q2'13
	32GB	4Gx72	2Gx4 (DDP)	1333-999	HMT84GL7MMR4A-H9	FBGA(78ball)	4	30.35mm	Now
					HMT84GL7AMR4A-H9	FBGA(78ball)	4	30.35mm	Q1'13



Computing Memory

DDR3 SDRAM : Module - SODIMM

VDD	MODULE		BASED COM.	SPEED	PART NUMBER	COMPONENT PKG.	# OF RANK	HEI GHT	AVAIL.					
	DENSI TY	ORG.												
1.5V	8GB	1Gx64	512Mx8	1866-131313	HMT41GS6AFR8C-RD	FBGA(78ball)	2	30mm	Now					
					HMT41GS6BFR8C-RD	FBGA(78ball)	2	30mm	Q2'13					
				1600-111111	HMT41GS6MFR8C-PB	FBGA(78ball)	2	30mm	Now					
					HMT41GS6AFR8C-PB	FBGA(78ball)	2	30mm	Now					
					HMT41GS6BFR8C-PB	FBGA(78ball)	2	30mm	Q2'13					
					HMT41GS6MFR8C-H9	FBGA(78ball)	2	30mm	Now					
			1333-999	HMT41GS6AFR8C-H9	FBGA(78ball)	2	30mm	Now						
				HMT41GS6BFR8C-H9	FBGA(78ball)	2	30mm	Q2'13						
				4GB	512Mx64	512Mx8	1866-131313	HMT451S6AFR8C-RD	FBGA(78ball)	1	30mm	Now		
								HMT451S6BFR8C-RD	FBGA(78ball)	1	30mm	Q2'13		
							1600-111111	HMT451S6MFR8C-PB	FBGA(78ball)	1	30mm	Now		
								HMT451S6AFR8C-PB	FBGA(78ball)	1	30mm	Now		
	HMT451S6BFR8C-PB	FBGA(78ball)	1					30mm	Q2'13					
	HMT451S6MFR8C-H9	FBGA(78ball)	1					30mm	Now					
	1333-999	HMT451S6AFR8C-H9	FBGA(78ball)	1	30mm	Now								
		HMT451S6BFR8C-H9	FBGA(78ball)	1	30mm	Q2'13								
		256Mx16	512Mx64	512Mx8	1866-131313	HMT451S6AFR6C-RD	FBGA(78ball)	2	30mm	Now				
						HMT451S6AFR6C-PB	FBGA(78ball)	2	30mm	Now				
					1600-111111	HMT451S6MFR8C-H9	FBGA(78ball)	2	30mm	Now				
						HMT351S6CFR8C-PB	FBGA(78ball)	2	30mm	Now				
	1333--999					HMT351S6EFR8C-PB	FBGA(78ball)	2	30mm	Now				
						HMT351S6CFR8C-H9	FBGA(78ball)	2	30mm	Now				
	256Mx8	512Mx64	512Mx8	1866-131313	HMT425S6AFR6C-RD	FBGA(78ball)	1	30mm	Now					
					HMT425S6AFR6C-PB	FBGA(78ball)	1	30mm	Now					
				1600-111111	HMT425S6AFR6C-H9	FBGA(78ball)	1	30mm	Now					
					HMT325S6CFR8C-PB	FBGA(78ball)	1	30mm	Now					
					1333-999	HMT325S6EFR8C-H9	FBGA(78ball)	1	30mm	Now				
						HMT325S6CFR8C-H9	FBGA(78ball)	1	30mm	Now				
	2GB	256Mx64	256Mx16	1866-131313	HMT425S6AFR6C-RD	FBGA(78ball)	1	30mm	Now					
					HMT425S6AFR6C-PB	FBGA(78ball)	1	30mm	Now					
				1600-111111	HMT425S6AFR6C-H9	FBGA(78ball)	1	30mm	Now					
					HMT325S6CFR8C-PB	FBGA(78ball)	1	30mm	Now					
					1333-999	HMT325S6EFR8C-H9	FBGA(78ball)	1	30mm	Now				
						HMT325S6CFR8C-H9	FBGA(78ball)	1	30mm	Now				
			128Mx16	256Mx64	256Mx16	1600-111111	HMT325S6DFR6C-PB	FBGA(96ball)	2	30mm	Now			
							HMT325S6DFR6C-H9	FBGA(96ball)	2	30mm	Now			
1333-999						HMT312S6DFR6C-PB	FBGA(96ball)	1	30mm	Now				
						HMT312S6DFR6C-H9	FBGA(96ball)	1	30mm	Now				
						1GB	128Mx64	128Mx16	1600-111111	HMT312S6DFR6C-PB	FBGA(96ball)	1	30mm	Now
										HMT312S6DFR6C-H9	FBGA(96ball)	1	30mm	Now
1333-999	HMT41GS6MFR8A-PB	FBGA(78ball)	2	30mm	Now									
	HMT41GS6AFR8A-PB	FBGA(78ball)	2	30mm	Now									
	1333-999	HMT41GS6BFR8A-PB	FBGA(78ball)	2	30mm				Q2'13					
		HMT41GS6MFR8A-H9	FBGA(78ball)	2	30mm				Now					
4GB	512Mx64	512Mx8	1600-111111	HMT41GS6AFR8A-PB	FBGA(78ball)			2	30mm	Now				
				HMT41GS6BFR8A-PB	FBGA(78ball)			2	30mm	Q2'13				
			1333-999	HMT41GS6MFR8A-H9	FBGA(78ball)			2	30mm	Now				
				HMT41GS6AFR8A-H9	FBGA(78ball)			2	30mm	Now				
				256Mx16	HMT41GS6BFR8A-H9			FBGA(78ball)	2	30mm	Q2'13			
					HMT451S6MFR8A-PB			FBGA(78ball)	1	30mm	Now			
256Mx8	512Mx64	512Mx8	1600-111111	HMT451S6AFR8A-PB	FBGA(78ball)	1	30mm	Now						
				HMT451S6BFR8A-PB	FBGA(78ball)	1	30mm	Q2'13						
			1333-999	HMT451S6MFR8A-H9	FBGA(78ball)	1	30mm	Now						
				HMT451S6AFR8A-H9	FBGA(78ball)	1	30mm	Now						
				256Mx16	HMT451S6BFR8A-H9	FBGA(78ball)	1	30mm	Q2'13					
					HMT451S6AFR6A-PB	FBGA(78ball)	2	30mm	Now					
2GB	256Mx64	256Mx16	1600-111111	HMT451S6AFR6A-PB	FBGA(78ball)	2	30mm	Now						
				HMT451S6AFR6A-H9	FBGA(78ball)	2	30mm	Now						
			1333-999	HMT325S6CFR8A-PB	FBGA(78ball)	1	30mm	Now						
				HMT325S6EFR8A-PB	FBGA(78ball)	1	30mm	Now						
				128Mx16	HMT325S6CFR8A-H9	FBGA(78ball)	1	30mm	Now					
					HMT325S6EFR8A-H9	FBGA(78ball)	1	30mm	Now					
1GB	128Mx64	128Mx16	1600-111111	HMT325S6DFR6A-PB	FBGA(96ball)	2	30mm	Now						
				HMT325S6DFR6A-H9	FBGA(96ball)	2	30mm	Now						
			1333-999	HMT312S6DFR6A-PB	FBGA(96ball)	1	30mm	Now						
				HMT312S6DFR6A-H9	FBGA(96ball)	1	30mm	Now						