Rockchip Solutions DDR SDRAM Support List

Ver 2.10

2015/4/13

◆ **Revision History**

Revision No.	History	Date
2.00	ORG.	2012.12.24
2.01	Add some supporting messages	2013.01.28
2.02	Add some supporting messages	2013.5.17
2.03	Add some supporting messages	2013.10.07
2.04	Add some supporting messages	2014.01.08
2.05	Add some supporting messages	2014.03.21
2.06	Add some supporting messages	2014.05.09
2.07	Add some supporting messages	2014.06.10
2.08	Add some supporting messages	2014.09.16
2.09	Add some supporting messages	2015.03.16
2.10	Add some supporting messages	2015.04.13

Rockchip 瑞芯微电子

◆ Symbol

Symbol	Description
√	Fully Tested and Mass production
T/A	Fully Tested and Applicable
N/A	Not Applicable

◆The Latest Reference Circuits Version

Chip	DRAM Support Type	RK Reference Circuit Version
RK281x	DDR2	RK2818_REF_V1.3
RK2906	DDR2/DDR3	RK2906_PMIC_REF_V20_0418
RK2918	DDR2/DDR3	RK2918_REF_V13_20110517
RK2926/RK3026	DDR3	2926_86v_v1.2_20121109
RK2928/RK3028/RK3028A	DDR3	RK2928-DDR3P208SD4-V10-20120712LX.pcb
RK3066	DDR3/LPDDR2	RK3066_REF_TPS659102_V12_20121024_1CELL
PX2	DDR3/LPDDR2	PX2_CAR_V11.pcb
RK3168/RK3188	DDR3/LPDDR2	RK3188-DDR3P416SS4-V10-20130607WF.pcb
RK3126	DDR3	2926_86v_v1.2_20121109
RK3128	DDR3/LPDDR2	RK3128-DDR3P216SD4-V10-20140912HJH.pcb
RK3288	DDR3/LPDDR2/LPDDR3	RK3288-DDR3P416SD6-V11-20140305HJH
RK3368	DDR3/LPDDR2/LPDDR3	R88(RK3368)_V01_20150313

Application Note:

    [1] Following SOCs not support the 512Mx8 DDR3 because of the package without Address Input pin A15:

       RK2906-6,RK2906-8,RK3066.

    [2]The DRAM Part Number is usually consists of two parts divided by '-', which the first part contains memory type, density, orgainization, package, and the second part usually means data rate.

    [3]RockChip platform can support all the chips that match the first part of Part Number which marks '√' or 'T/A', and do not need to care the second part.
If you want your system running more effective , you may need to find out the exact data rate in DRAM datasheet and config in kernel menuconfig.

    [4]Since DDR is high speed device. Please directly copy our PCB DRAM Part Template and follow our PCB product guide.

    Contact information: fae@rock-chips.com

Manufacturer	Part Number	Density	Organization	Type	package	RK281x	RK290x RK2918	RK2928/RK3028A/RK3128	RK2926/RK3026/RK3036/RK3126	RK3066/RK3066A/PX2 RK3168/RK3188	RK3288	RK3368	与RK兼容情况
Elpida	E1116AEBG-8E-F	1G bit	64M×16	DDR2	84ball	√	√						除个别老款颗粒如：EDJ2108BDBG对pcb要求偏高外总体兼容情况良好
	EDJ1108DJBG	1G bit	128M x 8	DDR3	78ball		√						
	EDJ1116DJBG	1G bit	64M×16	DDR3	96ball								
	EDJ2116DEBG	2G bit	128M×16	DDR3	96ball		√						
	EDJ2116EEBG	2G bit	128M×16	DDR3L	96ball		T/A						
	EDJ2108DEBG	2G bit	256M×8	DDR3	78ball		√	T/A	T/A	√	√		
	EDJ2108BDBG	2G bit	256M×8	DDR3	78ball		√	T/A	N/A	√	√		
	EDJ2108EEBG	2G bit	256M×8	DDR3L	78ball								
	EDJ4216BASE	4G bit	256M×16	DDR3	96ball		√						
	EDJ4216BBBG	4G bit	256M×16	DDR3	96ball		√			√	√		
	EDJ4216EBBG	4G bit	256M×16	DDR3L	96ball		T/A			T/A	T/A		
	EDJ2108EDBG	2G bit	256M×8	DDR3L	78ball					T/A	T/A		
	EDJ4216EFBG	4G bit	256M×16	DDR3L	96ball		T/A	T/A	T/A	T/A	T/A		
	EDJ4208BBBG	4G bit	512M×8	DDR3	78ball			T/A	T/A	T/A [1]	T/A		
	EDJ4208EFBG	4G bit	512M×8	DDR3L	78ball			T/A	T/A	T/A [1]	T/A		
	EDJ4208EBBG	4G bit	512M×8	DDR3L	78ball			T/A	N/A	T/A [1]	T/A		
	EDB4032B2MA	4Gb/2CS	64M×32×2pcs	LPDDR2	134ball					T/A	T/A		
	EDB8132B3MA	8Gb/2CS	128M×32×2pcs	LPDDR2	134ball					T/A	T/A		
	EDBM164B1PD-1D-I	12Gb/2channel	256Mx32+128Mx32	LPDDR2	220ball					N/A	T/A		
	FA232A1MA-GD-F	16Gb	512M×32	LPDDR3	178ball						T/A		
	EDFA232A2MA-GD-F-D	16Gb	512M×32	LPDDR3	178ball						T/A		
	EDF8132A3MA-GD-F-D	8Gb	256Mx32	LPDDR3	178ball						T/A		
	EDF8132A1MC-GD-F-D	8Gb	256Mx32	LPDDR3	178ball						T/A		
Micron	MT47H64M16HR-25	1G bit	64M×16	DDR2	84ball	√	√						兼容性好
	MT41J128M8JP-15E:G	1G bit	128M x 8	DDR3	78ball		√						
	MT41J128M16HA-15E:D	2G bit	128M×16	DDR3	96ball		√						
	MT41J256M8HX-15E:D	2G bit	256M×8	DDR3	78ball		√	T/A	T/A	T/A	T/A		
	MT41K128M16HA-15E:D	2G bit	128M×16	DDR3L	96ball		√						
	MT41K256M16RE-15E:D	4G bit	256M×16	DDR3L	96ball		√						
	MT41K512M8RA-15E:D	4G bit	512M×8	DDR3L	78ball								
	MT41K256M8DA-125:K	2G bit	256M×8	DDR3L	78ball		√	T/A	T/A	T/A	T/A		
	MT41K128M16JT-125:K	2G bit	128M×16	DDR3L	96ball		√			T/A	T/A		
	MT41K512M8RH-125:E	4G bit	512M×8	DDR3L	78ball			T/A	T/A	T/A [1]	T/A		
	MT41K256M16HA-125:E	4G bit	256M×16	DDR3L	96ball		√	T/A	T/A	T/A	T/A		
	MT41K256M8DA-125:M	2G bit	256M×8	DDR3L	78ball		T/A	T/A	T/A	T/A	T/A		
	MT41K256M16HA-125M:E	4G bit	256Mx16	DDR3L	96ball								
	MT41K256M16LY-107:N	4G bit	256Mx16	DDR3L	96ball			T/A	T/A	T/A	T/A		
	MT42L128M32D1GU-25 WT:A	4G bit	128Mx32	LPDDR2	134ball					T/A	T/A		

Manufacturer	Part Number	Density	Organization	Type	package	RK281x	RK290x RK2918	RK2928/RK3028A/RK3128	RK2926/RK3026/RK3036/RK3126	RK3066/RK3066A/PX2 RK3168/RK3188	RK3288	RK3368	与RK兼容情况
Hynix	H5PS1G63CFP	1G bit	64M×16	DDR2	84ball	√	√						兼容性好
	H5PS1G63EFR	1G bit	64M×16	DDR2	84ball	√	√						
	H5TQ1G83DFR	1G bit	128M×8	DDR3	78ball		√			T/A	T/A		
	H5TQ2G63BFR	2G bit	128M×16	DDR3	96ball		√						
	H5TQ2G83CFR	2G bit	256M×8	DDR3	78ball		√	√	√	√	√		
	H5TQ2G83BFR	2G bit	256M×8	DDR3	78ball		T/A	T/A	T/A	√	√		
	H5TQ1G83TFR	1G bit	128M×8	DDR3	78ball		√						
	H5TQ4G63MFR	4G bit	256M×16	DDR3	96ball		√	T/A	T/A	T/A	T/A		
	H5TQ2G63DFR	2G bit	128M×16	DDR3	96ball		√			T/A	T/A		
	H5TQ2G83EFR	2G bit	256Mx8	DDR3	78ball		T/A	T/A	T/A	T/A	T/A		
	H5TQ4G83AFR	4G bit	512M×8	DDR3	78ball			T/A	T/A	T/A[1]	T/A		
	H5TC4G83AFR	4G bit	512M×8	DDR3L	78ball					T/A[1]	T/A		
	H5TQ4G63AFR	4G bit	256M×16	DDR3	96ball		T/A	T/A	T/A	T/A	T/A		
	H5TC4G63AFR	4G bit	256Mx16	DDR3L	96ball			T/A	T/A	T/A	T/A		
	H5TQ1G63DFR	1G bit	64M×16	DDR3	96ball								
	H5TQ4G83MFR	4G bit	512Mx8	DDR3	78ball			T/A	T/A	T/A[1]	T/A		
	H5TC4G83BFR	4G bit	512Mx8	DDR3L	78ball			T/A	T/A				
	H5TC4G63CFR	4G bit	256Mx16	DDR3L	96ball						T/A		
	H9TCNNN4JDMMPR	4Gb/2CS	128M×32	LPDDR2	134ball								
	H9TCNNN8JDMMPR	8Gb/2CS	256M×32	LPDDR2	134ball					T/A	T/A		
	H8TJR00X0MLR	8Gb/2CS	256M×32	LPDDR2	168ball					T/A	T/A		
	H9TP33A8LDMCMR	8Gb/2CS	256M×32	LPDDR2+eNAND	162ball								
	H9TKNNNBPDMRAR	16Gb/2Channel	256Mx32x2Ch	LPDDR2	220ball					N/A	T/A		
	H9CCNNNBLTALAR-NTM	16Gb	512M×32	LPDDR3	178ball						T/A		
	H9CCNNN8JTALARNTD	8Gb	512M×32	LPDDR3	178ball						T/A		
	H9CCNNN8GTMLAR	8Gb	256Mx32	LPDDR3	178ball						T/A		
	H9CCNNNBJTMLAR	16Gb	512M×32	LPDDR3	178ball						T/A		
Nanya	NT5TU32M16CG-3C	512M bit	32M×16	DDR2	84ball	√	√						兼容性好
	NT5TU64M16GG	1G bit	64M×16	DDR2	84ball	√							
	NT5CB128M8DN	1G bit	128M×8	DDR3	96ball		√						
	NT5CB128M16BP	2G bit	128M×16	DDR3	96ball		√	T/A	T/A	T/A	T/A		
	NT5CB128M16HP	2G bit	128M×16	DDR3	96ball	T/A				T/A	T/A		
	NT5CC128M8DN	1G bit	128M×8	DDR3L	78ball		√			T/A	T/A		
	NT5CC128M16BP	2G bit	128M×16	DDR3L	96ball		√						
	NT5CB256M8GN	2G bit	256M×8	DDR3	78ball		√	T/A	T/A	T/A	T/A		
	NT5CB256M8BN	2G bit	256M×8	DDR3	78ball		√	T/A	T/A	T/A	T/A		
	NT5CB256M16BP	4G bit	256M×16	DDR3	96ball		√	T/A	T/A	T/A	T/A		
	NT5CB256M8FN	2G bit	256M×8	DDR3	78ball		√	T/A	T/A	T/A	T/A		
	NT5CB128M8FN	1G bit	128Mx8	DDR3	78ball					T/A	T/A		
	NT5CB128M16FP	2G bit	128M×16	DDR3	96ball		√			T/A	T/A		
	NT5CB512M8BN	4G bit	512M×8	DDR3	78ball			T/A	T/A	T/A[1]	T/A		
	NT5CB256M16CP	4G bit	256M×16	DDR3	96ball			T/A	T/A	T/A	T/A		
	NT5CC256M16CP	4G bit	256M×16	DDR3L	96ball	T/A	T/A	T/A	T/A	T/A	T/A		
	NT5CC256M16DP	4G bit	256M×16	DDR3L	96ball			T/A	T/A	T/A	T/A		
	NT5CC512M8CN	4G bit	512M×8	DDR3L	78ball			T/A	T/A	T/A[1]	T/A		
	NT6TL256F32AI	8G bit	256M×32	LPDDR2	134ball					T/A	T/A		
	NT6TL256T32AI	8G bit	256M×32	LPDDR2	134ball					T/A	T/A		
	NT6TL256T32AQ	8G bit	256M×32	LPDDR2	168ball					T/A	T/A		
	NT6TL128M32AQ	4G bit	128Mx32	LPDDR2	168ball					T/A	T/A		

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Samsung	K4T1G164QE	1G bit	64M×16	DDR2	84ball	√	√						兼容性好
	K4B2G1646C	2G bit	128M×16	DDR3	96ball		√						
	K4B1G0846G	1G bit	128M×8	DDR3	78ball		√			T/A	T/A		
	K4B2G0846C	2G bit	256M×8	DDR3	78ball		√						
	K4B2G1646E	2G bit	128Mx16	DDR3	96ball		T/A			T/A	T/A		K3PE0E000M RZQ需要
	K4B2G1646Q	2G bit	128Mx16	DDR3	96ball		T/A			T/A	T/A	T/A	改为150ohm
	K4B4G1646B-xCxx	4G bit	256M×16	DDR3	96ball		√	T/A	T/A	T/A	T/A	T/A	K3PE0E000A-XGC2 RZQ
	K4B4G1646Q-xYxx	4G bit	256M×16	DDR3L	96ball			T/A	T/A	T/A	T/A	T/A	需要改为NC
	K4B4G1646D-xYxx	4G bit	256M×16	DDR3L	96ball			T/A	T/A	T/A	T/A		
	K4B4G1646D-xCxx	4G bit	256M×16	DDR3	96ball			T/A	T/A	T/A	T/A		
	K4W4G1646Q-xCxx	4G bit	256M×16	DDR3	96ball					T/A	T/A		
	KMKJS000VM	8Gb/2CS	256M×32	LPDDR2+eMMC	162ball								
	K3PE0E000A-XGC2	16Gb/2Channel	256Mx32x2Ch	LPDDR2	220ball					N/A	T/A		
	K3PE0E000M-XGC2	16Gb/2Channel	256Mx32x2Ch	LPDDR2	216ball					N/A	T/A		
	K4E8E304ED-EGCC	8Gb	256Mx32	LPDDR3	178ball						T/A		
	K4E8E304EE-EGCE	8Gb	256Mx32	LPDDR3	178ball						T/A		
	K4E6E304EE-EGCE	16Gb	512M×32	LPDDR3	178ball						T/A	T/A	
SPECTEK	PE918-15E (PRN256M8V79DG8GQF-15E)	2G bit	256M×8	DDR3	78ball		T/A	T/A	T/A	T/A	T/A		MICRON子品牌，兼容性良好
	PE936-15E (PRN256M8V89CG8GQF-15E)	2G bit	256Mx8	DDR3	78ball		T/A	T/A	T/A	N/A	N/A		
	PE947-15E (PRN256M8V80AG8RHF-15E)	2G bit	256Mx8	DDR3	78ball								
	PEB08-15E (PRN512M8V80AG8RHF-15E)	4G bit	512M×8	DDR3	78ball			T/A	T/A	T/A [1]	T/A		
	PEB15-15E (PRN256M16V80AG8GPF-15E)	4G bit	256Mx16	DDR3	96ball			T/A	T/A	T/A	T/A		
	PEB16-15E (PRM256M16V80AG8GPF-15E)	4G bit	256Mx16	DDR3	96ball			T/A	T/A	T/A	T/A		
	Z9QHG (SM128MX32U80MD1LGU-25FT)	4G bit	128Mx32	LPDDR2	134ball					T/A	T/A		
	D9QQG-25BT	8G bit	128Mx32x2Ch	LPDDR2	216ball					N/A	T/A		
Elixir	N2TU1G16GG-AC	1G bit	64M×16	DDR2	84ball		√						NANYA子品牌，兼容性良好，特供指定渠道及客户使用。南亚科技指定经销商:彩虹奥特姆(Aotom)、AVT、富鸿(FHL)、芯智(SMC)、伟世科技(WEISHI)、世平(WPI)，提供正品保固及售后服务
	N2CB1G80GN-CG	1G bit	128M×8	DDR3	78ball		√						
	N2CB2G80GN	2G bit	256M×8	DDR3	78ball		√			√	√		
	N2CB2G16BP-CG	2G bit	128M×16	DDR3	96ball		√						
	N2CB2G16FP-DI	2G bit	128Mx16	DDR3	96ball			T/A	T/A	T/A	T/A		
	N2CB4G08DN-CG	4G bit	512M×8	DDR3	78ball			T/A	T/A	T/A [1]	T/A		
	N2CB4G16BP-DI	4G bit	256Mx16	DDR3	96ball			T/A	T/A	T/A	T/A		

Manufacturer	Part Number	Density	Organization	Type	package	RK281x	RK290x RK2918	RK2928/RK3028A/RK3128	RK2926/RK3026/RK3036/RK3126	RK3066/RK3066A/PX2 RK3168/RK3188	RK3288	RK3368	与RK兼容情况
Eorex	EM47DM1688SBA	2G bit	128M×16	DDR3	96ball		N/A						台湾颗粒厂商，兼容性较好
	EM47EM0888SBA-150	2G bit	256Mx8	DDR3	78ball		T/A	N/A	N/A	T/A	T/A		
	EM47EM1688SBA-150	4G bit	256Mx16	DDR3	96ball		T/A						
	EM47EM1688SBB-150A	4G bit	256Mx16	DDR3	96ball			T/A	T/A	T/A	T/A		
	EM47FM0888SBA-150	4G bit	512Mx8	DDR3	78ball			T/A	T/A				
	EM47FM0888SBA-150A	4G bit	512Mx8	DDR3	78ball			T/A	T/A				
	EM47EM3288MBA-125	8G bit	256Mx32	DDR3	136ball					T/A	T/A		
	EM45FM3288LBA-187F	16Gb/2Channel	256Mx32x2Ch	LPDDR2	220ball					N/A	T/A		
Etron Tech	EM68B16CWPA-25H	512M bit	32M×16	DDR2		√	√						台湾颗粒厂商，兼容性较好
	EM6GE16EW5B-15H	4G bit	256M×16	DDR3	96ball		T/A	T/A	T/A	T/A	T/A		
	EM6GE16EWXC-12H	4G bit	256M×16	DDR3	96ball			T/A	T/A	T/A	T/A		
	EM6GE08EW8C-12H	4G bit	512Mx8	DDR3	78ball			T/A	T/A				
	EM6GE16EWXC-12H	4G bit	256M×16	DDR3	96ball			T/A	T/A	T/A	T/A		
MIRA	P3R1GE4CFF-G8E	1G bit	64M×16	DDR2	84ball	√	√						256M16在RK3066，RK31xx平台上需要添加定频相关补丁。并且对参考层完整性要求较高，需要严格遵照我们的布板要求布板。
	P3R1GE3FGF-G8E	1G bit	128M×16	DDR2	84ball	√	√						
	P3P4GF3BLF-GGN	4G bit	512M×8	DDR3	78ball			T/A	N/A	N/A	N/A		
	P3P4GF4BLF-GGN	4G bit	256Mx16	DDR3	96ball			T/A		T/A	T/A		
SCSemicon	HXB18T2G160AF-25D	2G bit	128M×16	DDR2	84ball	√	√						256M16在RK3066，RK31xx平台上需要添加定频相关补丁。并且对参考层完整性要求较高，需要严格遵照我们的布板要求布板。
	HXB18T1G160AF-25D	1G bit	64M×16	DDR2	84ball	√	√						
	HXB15H2G800BF-15H	2G bit	256M×8	DDR3	78ball		N/A	T/A	N/A	T/A	T/A		
	HXB15H4G800BF-15H	4G bit	512M×8	DDR3	78ball		N/T [1]	T/A	N/A	T/A [1]	T/A		
	HXB15H4G160BF-15H	4G bit	256Mx16	DDR3	96ball		T/A			T/A	T/A		
ADATA	3CCD-1211A EL1250V	2G bit	256Mx8	DDR3	78ball		N/A	T/A	N/A	T/A	T/A		使用Elpida晶圆兼容性一般。PCB不允许有参考层有割断的现象。
	DWND-1211A EL1311V	4G bit	512Mx8	DDR3	78ball								
	D2ND-1211A EL1345V	4G bit	256Mx16	DDR3	96ball			T/A	T/A	T/A	T/A		
ANOR	AM43Q2G08AFP-150C	2G bit	256Mx8	DDR3	78ball		N/A	T/A	N/A	T/A	T/A		使用Elpida晶圆兼容性一般。PCB不允许有参考层有割断的现象。
	AM43Q4G08AFP-150C	4G bit	512Mx8	DDR3	78ball			T/A	N/A				
ProMOS	V59C1G01168QBASXJ25	1G bit	64M×16	DDR2	84ball	√	√						
	V59C1G02168QB	2G bit	128M×16	DDR2	84ball		√						
	V73CAG01808RA JI9	1G bit	128M×8	DDR3	78ball		√						

Manufacturer	Part Number	Density	Organization	Type	package	RK281x	RK290x RK2918	RK2928/RK30 28A/RK3128	RK2926/RK3026/R K3036/RK3126	RK3066/RK3066A/PX2 RK3168/RK3188	RK3288	RK3368	与RK兼容情况
SMART	S4B2G0846C-HYH9	2G bit	256Mx8	DDR3	78ball					T/A	T/A		巴西颗粒，国内用的不多
	S4B2G0846D-HYK0	2G bit	256M×8	DDR3	78ball					T/A	T/A		
πPM	PME810816BBR-E6DN	1G bit	64M×16	DDR2	84ball								
	PMF510816ABR-G8DN	1G bit	64M×16	DDR3	96ball		√						
	PMF511816ABR-G8DN	2G bit	128M×16	DDR3	96ball		√						
	PMF510808ABR-I9DN	1G bit	128M x 8	DDR3	78ball								
	PMF512816BBR-KADN	4G bit	256Mx16	DDR3	96ball					T/A	T/A		
	PMF511816DBR-KADN	2G bit	128Mx16	DDR3	96ball					T/A	T/A		
MT.MOSET	ED3E25608CE-P9	2G bit	256M×8	DDR3	78ball		T/A	T/A	N/A	T/A	T/A		
WINS	VP5TQ2G1635FFP-F9	2G bit	128M×16	DDR3	96ball		√	N/A	N/A				
	VP5TQ2G0835L-F9	2G bit	256M×8	DDR3	78ball		√						
	VP5TQ1G0835-F9	1G bit	128M×8	DDR3	78ball		√						
	VP5TQ1G0835L-F9	1G bit	128M×8	DDR3	78ball								
Kingston	D5128EETBPGGBU	4G bit	512Mx8	DDR3	78ball			T/A	T/A	T/A	T/A		256M16在RK3066，RK31xx平台上需要添加定频相关补丁。并且对参考层完整性要求较高，需要严格遵照我们的布板要求布板。
	D2516EC4BXGGB	4G bit	256Mx16	DDR3	96ball			T/A	T/A	T/A	T/A		