



2P0500

V1. 02

2025 09



4R2722

4R2722















1

4R2722 1 UQE

C6

4R2722

4R2722

NC586 86

N3 Ece:jg\*KlF+ 54MD N4

Ece:jg 734MD 972O J |

NC354 54

622O J |

3 54 FFT5

4 32O1322O13222O IOCE TIOKKIOKK

5 WUD402 JQUV 3 QVI

6 URK 3

3 : NUW

3 3 CHGIEKU

3 6 : FC

6 K4E

: WCTV

4 UFKQ

62 RYO

5 ROKQ

35; IRKQ

3

TVEIJRGV

FHU1FRO



## 1.1

4R2722

Ecejg KQ Ecejg Ecejg KQFOC

IOCE WUD KOCIG RTKPV UECF

K4E WCTV

4R2722

3/3



303 4R2722

## 1.2

30403

NC586 NC354

Nqqpi Ctej

3 86

54MD Ecejg 54MD Ecejg

734MD Ecejg

KIQ FOC Ecejg

LVC I



30404

54 FFT5 622O J |  
54138

30405 USB

5 WUD402 J QUV  
3 QVI  
WUD303 WUD402  
GJEK 6:2Odru  
QJEK

30406 GMAC

32132213222Odru OCE  
KGGG :2405  
RJ [ T I O K K I O K K  
1  
Vko guvc o r  
EUOCIEF  
ETE

30407 SPI

6  
\* URK2 +  
KIQ URK Hncuj



30408 **UART**

3            WCTV            VZF.TZF.EVU. TVU. FUT.FVT.FEF. TK  
:    WCTV



304033 **PMIO**

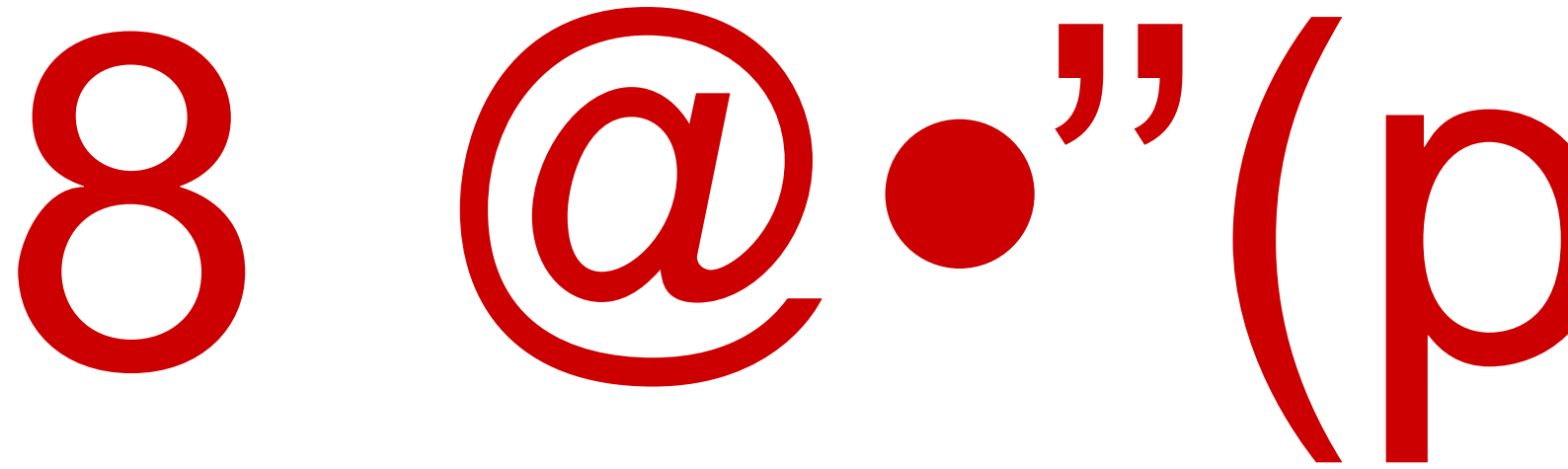
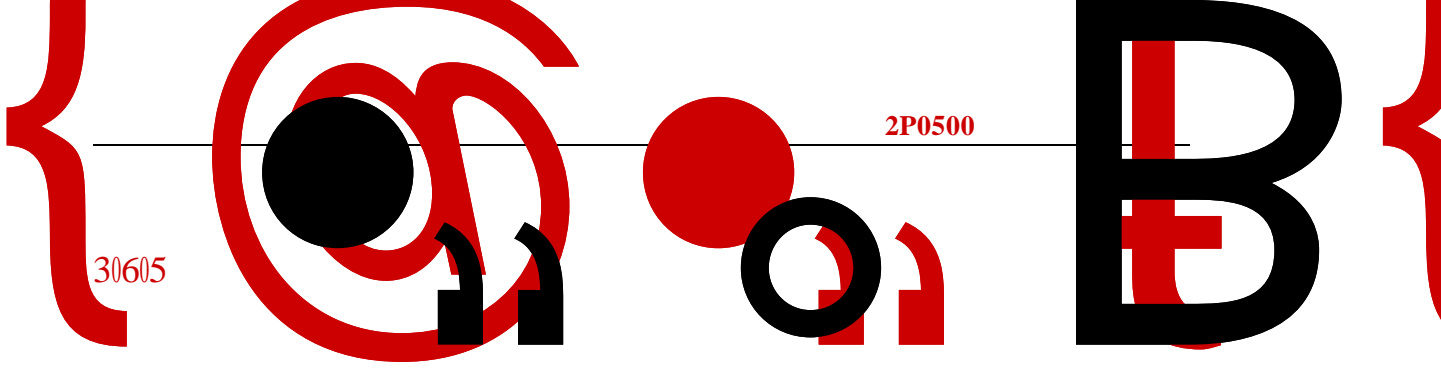
5 ROKQ

:2

o \$











RTVaURkaEUP	Q	øjz	SPI	XFFa5X5	-	8mA
RTVaURkaOQUK	Q	øjz	SPI	XFFa5X5		8mA
RTVaURkaOKUQ	K	-	SPI	XFFa5X5		-
UECaURkaENM	Q	øj2	SPI	XFFa5X5	-	8mA
UECaURkaEUP	Q	øjz	SPI	XFFa5X5	-	8mA
UECaURkaOQUK	Q	øjz	SPI	XFFa5X5		8mA
UECaURkaOKUQ	K	-	SPI	XFFa5X5		-

## 2.5 UART

WCTVJ3<2_aVZF	Q	øj3	0-1	XFFa5X5	-	2mA
WCTVJ3<2_aTZF	K	-	0-1	XFFa5X5	-	-
RTVaWCTVaVZF	Q	øj3		XFFa5X5	-	2mA
RTVaWCTVaTZF	K	-		XFFa5X5	-	-
UECaWCTVaVZF	Q	øj3		XFFa5X5	-	2mA
UECaWCTVaTZF	K	-		XFFa5X5	-	-

4R2722

\*WCTV2+

\*WCTV3+

WCTV2

4z6 6z4

### WCTV

1x8	2x4	4x2
TXDQ(O)	TXDQ(O)	TXDQ(O)
RTSQ(O)	RTSQ(O)	TXD3(O)
DTRO(O)	TXD1(O)	TXD1(O)
RXDQ(I)	RXDQ(I)	RXDQ(I)
CTSQ(I)	CTSQ(I)	RXD3(I)
DSRO(I)	RXD1(I)	RXD1(I)
DCDQ(I)	CTS1(I)	RXD2(I)
RIQ(I)	RTS1(O)	TXD2(O)

WCTV3

3z6 4z4

1x4	2x2
TXD1(O)	TXD1(O)
RTS1(O)	TXD3(O)
RXD1(I)	RXD1(I)
CTS1(I)	RXD3(I)









## 2.16





rtvawctv2atz	r o2kq]2_	rtvar y o]2_	RTVa IRkQ22
rtvawctv2avz	r o2kq]3_	rtvar y o]3_	RTVa IRkQ23
rtvak4e2auen	r o2kq]4_	rtvar y o]4_	RTVa IRkQ24
rtvak4e2aufc	r o2kq]5_	rtvar y o]5_	RTVa IRkQ25
rtvak4e3auen	rtvawctv3atz	rtvar y o]6_	RTVa IRkQ26
rtvak4e3aufc	rtvawctv3avz	rtvar y o]7_	RTVa IRkQ27
rtvaurkaemm	i oce2aeqñ	rtvar y o]8_	RTVa IRkQ28
rtvaurka okuq	i oce2aetu	rtvar y o]9_	RTVa IRkQ29
rtvaurka o quk	i oce2arvravtki	rtvar y o]:_	RTVa IRkQ2:
rtvaurkaeu	i oce2arvrarru	rtvar y o]:_	

ñ.

321

321

D B/E

E B/E

r





uecaekuem]4_	r o2kq]4:_	r o3kq]4:_	UECa IRKQ56
uecaekurmu]2_	r o2kq]4;_	r o3kq]4;_	UECa IRKQ57
uecaekur y o	r o2kq]52_	r o3kq]52_	UECa IRKQ58



3

3.1 DDR3



4R2722

50303 DDR3

355/6220 J \

50304 DDR3

4R2722	3	EU	3;	38	
5	Dcpm				
			FFT5		
ECUap	38	EUap	3	TCUap	38
		DCPMap	5		
ERW					

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uncx ` x

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Β5155

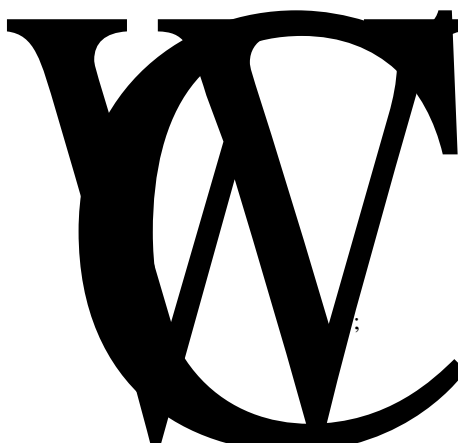
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### 3.2 USB

4R2722 WUD  
 WUD Tgx 303 WUD Tgx 402  
 QJEK Tgx 302 GJEK Tgx 302  
 NU Nqy Urggf HU Hwnm Urggf JU Jkij Urggf WUD

WUD402  
 WUD402 GJEK  
 QJEK GJEK  
 QJEK  
 GJEK

### 3.3 OTG

4R2722 QVI <  
 JPR UTR  
 FOC QVI  
 fgxkeg 6:2Odru  
 jquv 6:2Odru  
 fgxkeg 32 gpfrqkpv gpfrqkpv2

fgxkeg 6 KP  
 jquv 34 ejcppgn ejcppgn  
 jquv rgtkqfke QWV

### 3.4 GMAC

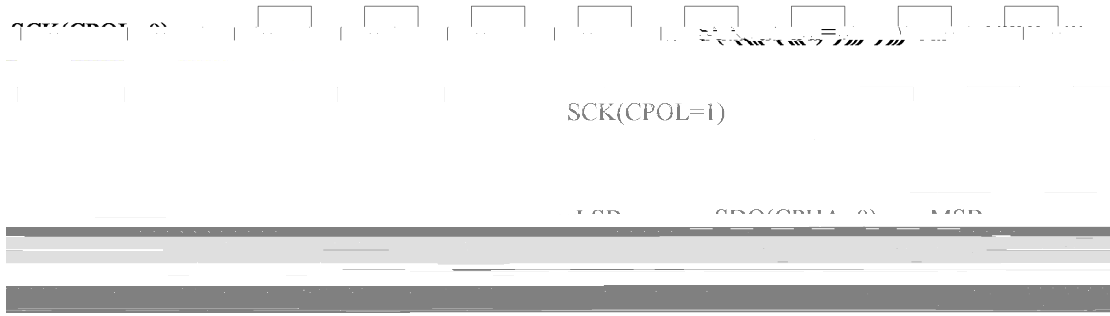
4R2722 IOCE IOCE2 IOCE3

### 3.5 SPI

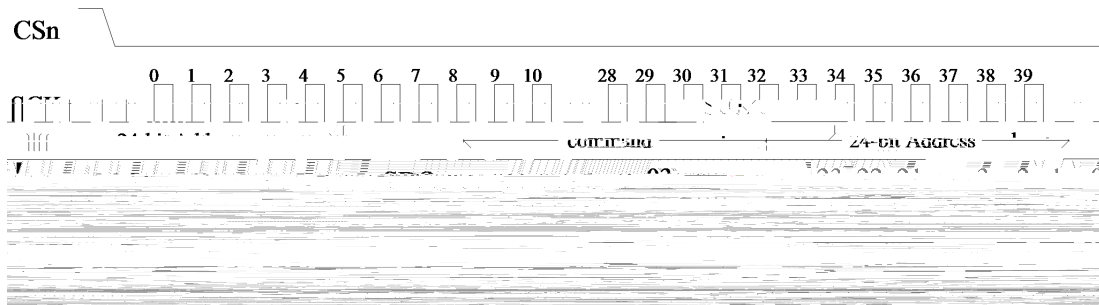
URK



4R2722 URK  
URK KQ URK Hncuj  
ogoqt{ ogoqt{ DQQV  
URK Hncuj  
URK



503 URK



504 URK Hncuj





505 URK Hncuj



506 URK Hncuj KIQ

### 3.6 UART

4R2722 : WCTV 3 \*WCTV2+ 3

\*WCTV4WCT V



### 3.7 I<sup>2</sup>C

4R2722 K4E  
K4E UFC UEN  
622mdru

### 3.8 PRINTER

4R2722 LDKI :7 :

### 3.9 SCANNER

4R2722 TID ugi o g p v  
E K U C H G

### 3.10 DA

4R2722 F C 6 : F C

### 3.11 SDIO

4R2722 U F K Q | g O O E U F | g O O E O g o q t { U F K Q  
U F K Q 2 U F | g O O E O g o q t {  
U F K Q

\*734M D { v g

+



### 3.12 PMIO

4R2722 KQ Rtqitc o ocdng Ownvkhwpvkqp KQ  
ROKQ ROKQ  
ROKQ ROKQ Vkogt RYO Igpgtcvqt  
IRKQ

### 3.13 PWM

4R2722 62 1 RYO  
RYO RYO  
54

### 3.14 GPIO

4R2722 35; IRKQ  
IRKQ

### 3.15 HPET

4R2722 54 3  
4



### 3.16 RTC

TVE  
TVE 54098: MJ \ TVE 32  
203

### 3.17

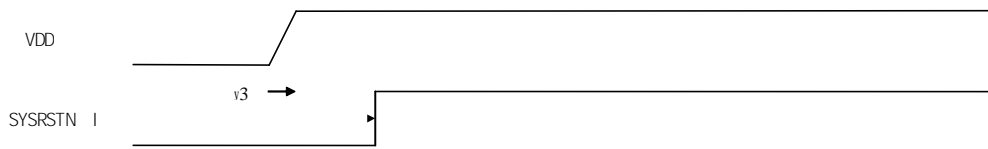
4R2722  
\* QVI +  
F {p c o k e R q y g t O c p c i g o g p v F R O  
P Q F G E Q T G - U E C E J G F F T K O C I G U E C P U [ U  
F {p c o k e H t g s w g p e { U e c n k p i F H U F H U  
NC354



# 4

## 4.1

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XFFa3X3aWUD	WUD xr	xrvz	/20





### 5.3 DDR3

#### 70503

7/6

Symbol	Parameter	Min.	Typ.	Max.	Unit
XFF	Uwr rn{ Xqncig	3064	307	307:	X
XFFS	Uwr rn{ Xqncig hqt Qwrvv	3064	307	307:	X

#### 70504

#### 7050403

7/7

Symbol	Parameter	DDR3-800/1066/1333/1600		Unit
		Min	Max	
XKJ0 j2e 5				



705 ce/uykpi ce/ngxgn vFXC

7/9

Symbol	Parameter	DDR3-800.1066		Unit
		Min	Max	
X <sub>KJ fkh</sub>	Fkhhtgtpvkn kprwv jki j	- 20422	pqvg 5	X
X <sub>KN fkh</sub>	Fkhhtgtpvkn kprwv nqike nqy	Pqvg 5	/ 20422	X
X <sub>KJ fkh*ce+</sub>	Fkhhtgtpvkn kprwv jki j ce	4 z *X <sub>KJ</sub> *ce+ / Xtgh+	Pqvg 5	X
X <sub>KN fkh*ce+</sub>	Fkhhtgtpvkn kprwv nqy ce	pqvg 5	4 z *X <sub>KN</sub> *ce+ / Xtgh+	X

7050405

EM EM FSU FSU 7/ :

XKZ

XFF XUU





XQN CE XQJ CE

7/33 706

7/33

Description	Measured		Defined by
	from	to	
Ukping/gpfgf qwrww ungy tcvg hqt tkukpi gfig	XQN*CE+	XQJ*CE+	]XQJ*CE+ /XQN*CE+_1 *CE+ J



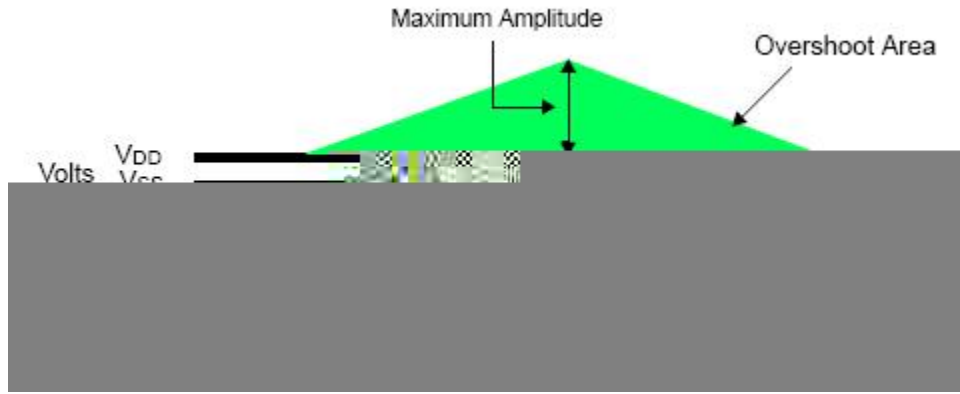
708

7/36

		DDR3-800		DDR3-1066		DDR3-1333		DDR3-1600		Units
Parameter	Symbol	Min	Max	Min	Max	Min	Max	Min	Max	
Fkhgtgpkcn Qwrrw Ungy Tcvg	UTS fkh	7	32	7	32	7	32	VDF	32	Xlpu

7050507





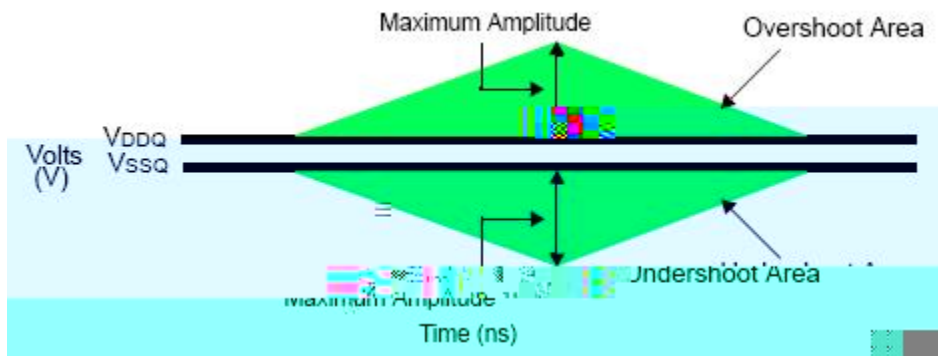
709

7/38

1

	DDR3-800	DDR3-1066	DDR3-1333	DDR3-1600	Units
Oczk owo rgcm co rnkvwfg cnnqygf hqt qxgtujqqv ctgc0	206	206	206	206	X
Oczk owo rgcm co rnkvwfg cnnqygf hqt wpfgtujqqv ctgc0	206	206	206	206	X
Oczk owo qxgtujqqv ctgc cdqxcg XFFS	2047	203;	2037	2035	X/pu
Oczk owo wpfgtujqqv ctgc dgnqy XUUS	2047	203;	2037	2035	X/pu

\*EM. EM%. FS. FSU. FSU%. FO+



70:

7050508 QFV

7/39 QFV

Symbol	Begin Point Definition	End Point Definition	Figure
vCQP	Tkukpi gfig qh EM /EM% fghkpgf d{ vjg gpf rqpvn qh QFVNqp	Gzvtcrqncvfg rqpvn cv XUUS	Hkiwtg 325
vCQPRF	Tkukpi gfig qh EM /EM% ykvj QFV dgkpi hktuv tgikuvgtgf jki j	Gzvtcrqncvfg rqpvn cv XUUS	Hkiwtg 326
vCQH	Tkukpi gfig qh EM /EM% fghkpgf d{ vjg gpf rqpvn qh QFVNqhh	Gpf rqpvn Gzvtcrqncvfg rqpvn cv XTVVaPqo	Hkiwtg 327
vCQHRF	Tkukpi gfig qh EM /EM% ykvj QFV dgkpi hktuv tgikuvgtgf nqy	Gpf rqpvn Gzvtcrqncvfg rqpvn cv XTVVaPqo	Hkiwtg 328
vCFE	Tkukpi gfig qh EM /EM% fghkpgf d{ vjg gpf rqpvn qh QFVNepy. QFVNepy6 qt QFVNepy:	Gpf rqpvn Gzvtcrqncvfg rqpvn cv XTVVaYt cpf XTVVaPqo t gurgevixgn{	Hkiwtg 329

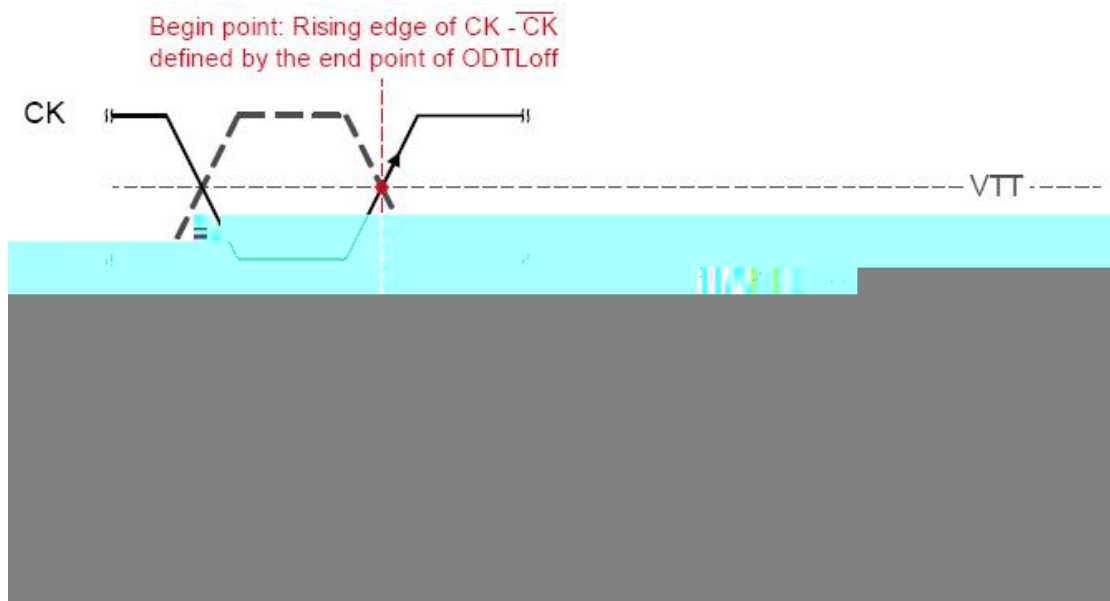


## 7/3: QFV

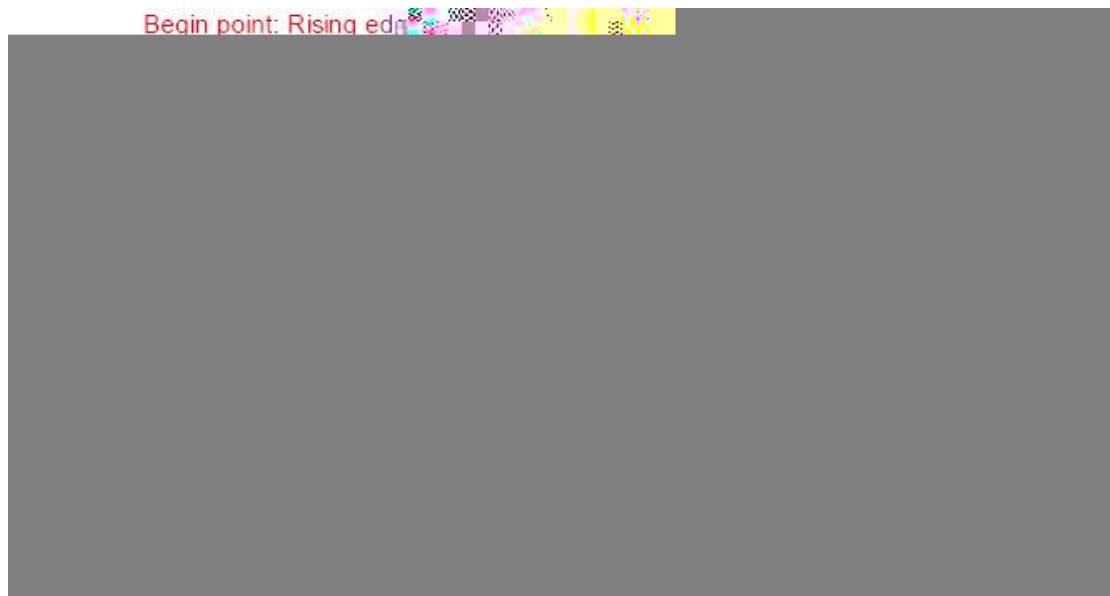
Measured Parameter	RTT_Nom Setting	RTT_Wr Setting	VSW1[V]	VSW2[V]
√CQP	T \ S16	PC	2027	2032
	T \ S134	PC	2032	2042
√CQPRF	T \ S16	PC	2027	2032
	T \ S134	PC	2032	2042
√CQH	T \ S16	PC	2027	2032
	T \ S134	PC	2032	2042
√CQHRF	T \ S16	PC	2027	2032
	T \ S134	PC	2032	2042
√CF	T \ S134	T \ S14	2042	2052



7032 vCQPRF

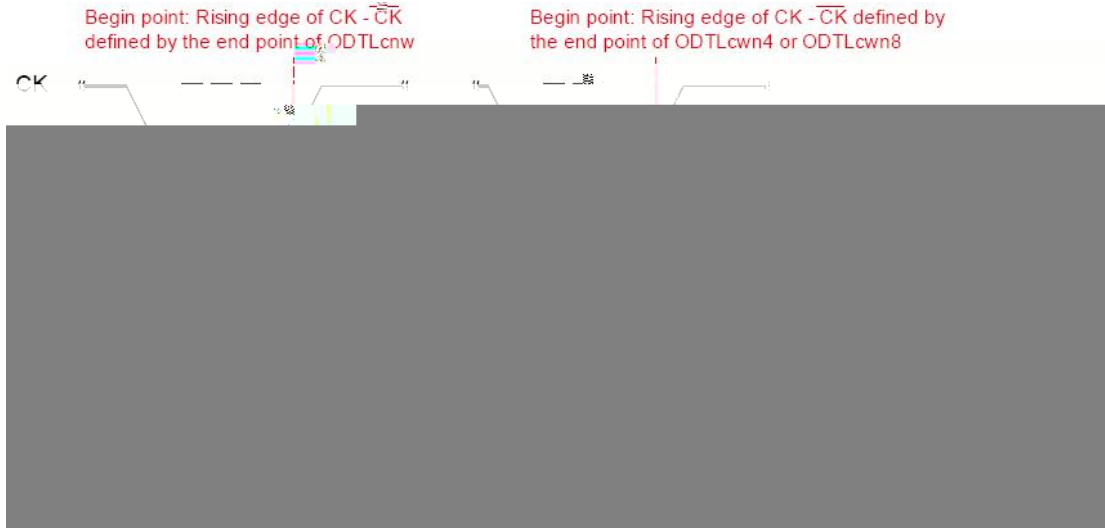


7033 vCQH



7034 vCQHRF





7035 vCFE

70506 **IDD** **IDDQ**

Symbol	7/3; KFF KFFS												Unit						
	DDR3-800			DDR3-1066			DDR3-1333			DDR3-1600									
	5-5	5-6	6-6	6-6	6-7	7-7	8-8	8-8	8-9	9-9	10-10	10-10	10-8	8-8	9-9	10-10	10-11	11-11	
vEM	407		30	97			307						3047						pu
EN	7	8	8	9	:	9	:	:	32	:	:	32	33						pEM
pTEF	7	8	8	9	:	9	:	:	32	:	:	32	33						pEM
pTE	42	43	48	49	4:	53	54	55	56	58	59	5:	5;						pEM
pTCU	37		42				46			4:									p?ò



70507 /

Parameter	Symbol	7/42		1		DDR3-800		DDR3-1066		DDR3-1333		DDR3-1600		Units
		Min	Max	Min	Max	Min	Max	Min	Max	Min	Max			
κprwvlqwrww ecrcekcvcpeg *FS.	ExQ	307	502	307	409	307	407	307	407	307	407	307	407	
FO. FSU. FSU%.														
VFSU.VFSU%+														







7/47 FFT5/3822 Uggf Dkpu cpf Qrgtcvkpi Eqpfkvkqpu

SpeedBin

**DDR3-1600G**  
(optional)

**DDR3-1600H**

**DDR3-1600J**

**DDR3-1600K**



7050: DDR3

7/48 Vkokpi Rctc ovgtu d{ Urggf Dkp

Parameter	Symbol	DDR3-800		DDR3-1066		DDR3-1333		DDR3-1600		Units
		Min	Max	Min	Max	Min	Max	Min	Max	
<b>Clock Timing</b>										
Okpkowo Enqem E{eng Vkog *FNN qhh oqfg+	vEM*FNNaQHH+	:	/	:	/	:	/	:	/	pu
Cxgtcig Enqem Rgtkqf	vEM*cx i+									ru
Cxgtcig jki j rwnug ykfvj	vE J*cx i+	2069	2075	2069	2075	2069	2075	2069	2075	vEM*cx i+
Cxgtcig nqy rwnug ykfvj	vEN*cx i+	2069	2075	2069	2075	2069	<del>2075</del>	2069	2075	vEM*cx i+
Cduqnvwg Enqem Rgtkqf	vEM*cdu+	vEM*cx i+ okp - vLKV*rgt+o kp	vEM*cx i+ ocz - vLKV*rgt+ ocz	vEM*cx i+ okp - vLKV*rgt+o kp	vEM*cx i+ +ocz - vLKV*rgt+ ocz	vEM*cx i+ +okp - vLKV*rgt+ okp	vEM*cx i+ +ocz - vLKV*rgt+ ocz	vEM*cx i+ +okp - vLKV*rgt+ okp	vEM*cx i+ +ocz - vLKV*rgt+ ocz	



Ew o wncixg gttqt  
cetquu 32 e{engu vGTT\*32rgt+ /479 479





Oqfg Tgikuygt  
Ugv eqo ocpf  
wrfcvg fgn{



Rqygt/wr cpf TGUGV ecnkdtcvkqp vk o g	v \ Skpkv	ocz*734p EM.862pu+	/	ocz*734p EM.862pu+	/	ocz*734 pEM.862 pu+	/	ocz*734 pEM.862 pu+	/	
Pqt ocn qrgtcvkqp Hwmn ecnkdtcvkqp vk o g	v \ Sqrgt	ocz*478p EM.542pu+	/	ocz*478p EM.542pu+	/	ocz*478 pEM.542 pu+	/	ocz*478 pEM.542 pu+	/	
Pqt ocn qrgtcvkqp Ujqtv ecnkdtcvkqp vk o g	v \ SEU	ocz*86pE M. : 2pu+	/	ocz*86pE M. : 2pu+	/	ocz*86p EM. : 2pu +	/	ocz*86p EM. : 2pu +	/	
<b>Reset Timing</b>										
Gzkv Tgugv htq o EMG JKI J vq c xcnkf eq o ocpf	vZRT	ocz*7pEM .vTHE*okp +- 32pu+	/	ocz*7pEM .vTHE*okp +- 32pu+	/	ocz*7p EM.vTH E*okp+- 32pu+	/	ocz*7p EM.vTH E*okp+- 32pu+	/	
<b>Self Refresh Timings</b>										
Gzkv Ugnh Tghtguj vq eq o ocpfu pqv tgswtkpi c nqemgf FNN	vZU	ocz*7pEM .vTHE*okp - 32pu+	/	ocz*7pEM .vTHE*okp - 32pu+	/	ocz*7p EM. vTHE*ok p+ - 32pu+	/	ocz*7p EM. vTHE*ok p+ - 32pu+	/	
Gzkv Ugnh Tghtguj vq eq o ocpfu tgswtkpi c nqemgf FNN	vZUFNN	vFNNM*ok p+	/	vFNNM*ok p+	/	vFNNM* okp+	/	vFNNM* okp+	/	pEM
Okpko wo EMG nqy ykfvj hqt Ugnh Tghtguj gpvt{ vq gzkv vk okpi	vEMGUT	vEMG*okp + - 3 pEM	/	vEMG*okp + - 3 pEM	/	vEMG*ok p+ - 3 pEM	/	vEMG*ok p+ - 3 pEM	/	
Xcnkf Enqem Tgswktg o gpv chvgt Ugnh Tghtguj Gpvt{ *UTG+ qt Rqygt/ Fqyp Gpvt{ *RFG+	vEMUTG	ocz*7pEM .32pu+	/	ocz*7pEM .32pu+	/	ocz*7p EM.32pu +	/	ocz*7p EM.32pu +	/	
Xcnkf Enqem Tgswktg o gpv dghqtg Ugnh Tghtguj Gzkv *UTZ+ qt Rqygt/ Fqyp Gzkv *RFZ+ qt Tgugv Gzkv	vEMUTZ	ocz*7pEM .32pu+	/	ocz*7pEM .32pu+	/	ocz*7p EM.32pu +	/	ocz*7p EM.32pu +	/	
<b>Power Down Timings</b>										
Gzkv Rqygt Fqyp ykvj FNN qp vq cp{ xcnkf eq o ocpf= Gzkv Rtgejctig Rqygt Fqyp ykvj FNN htq gp vq eq o ocpfu pqv tgswtkpi c nqemgf FNN	vZR	ocz*5pEM .907pu+	/	ocz*5pEM .907pu+	/	ocz*5p EM.8pu+	/	ocz*5p EM.8pu+	/	
Gzkv Rtgejctig Rqygt Fqyp ykvj FNN htq gp vq eq o ocpfu tgswtkpi c nqemgf FNN	vZRFNN	ocz*32pE M.46pu+	/	ocz*32pE M.46pu+	/	ocz*32p EM.46pu +	/	ocz*32p EM.46pu +	/	



EMG okpkowo rwnug ykfvj	vEMG	ocz*5pEM 907pu+	/	ocz*5pEM .70847pu+	/	ocz*5p EM.7084 7pu+	/	ocz*5p EM.7pu+	/	
Eqo ocpf rcuu fkucdng fgnc{	vERFGF	3	/	3	/	3	/	3	/	pEM
Rqygt Fqyp Gpvt{ vq Gzkv Vkokpi	vRF	vEMG*okp +	; ,vTGHK	vEMG*okp +	; ,vTGHK	vEMG*ok p+	; ,vTGHK	vEMG*ok p+	; ,vTGHK	
Vkokpi qh CEV eqo ocpf vq Rqygt Fqyp gpvt{	vCEVRFGP	3	/	3	/	3	/	3	/	pEM
Vkokpi qh RTG qt RTGC eqo ocpf vq Rqygt Fqyp gpvt{	vRTRFGP	3	/	3	/	3	/	3	/	pEM
Vkokpi qh TFITFC eqo ocpf vq Rqygt Fqyp gpvt{	vTFRFGP	TN-6-3	/	TN-6-3	/	TN-6-3	/	TN-6-3	/	pEM
Vkokpi qh YT eqo ocpf vq Rqygt Fqyp gpvt{ *DN:QVH. DN: OTU. DE6QVH+	vYTRFGP	YN-6-*v YTlvEM*c xi++	/	YN-6-*v YTlvEM*c xi++	/	YN-6-* vYtlvE M*cxii++	/	YN-6-* vYtlvE M*cxii++	/	pEM
Vkokpi qh YTC eqo ocpf vq Rqygt Fqyp gpvt{ *DN:QVH. DN: OTU. DE6QVH+	vYTCRFGP	YN-6- Y T-3	/	YN-6- Y T-3	/	YN-6- YT-3	/	YN-6- YT-3	/	pEM
Vkokpi qh YT eqo ocpf vq Rqygt Fqyp gpvt{ *DE6OTU+	vYTRFGP	YN-4-*v YTlvEM*c xi++	/	YN-4-*v YTlvEM*c xi++	/	YN-4-* vYtlvE M*cxii++	/	YN-4-* vYtlvE M*cxii++	/	pEM
Vkokpi qh YTC eqo ocpf vq Rqygt Fqyp gpvt{ *DE6OTU+	vYTCRFGP	YN-4- Y T-3	/	YN-4- Y T-3	/	YN-4- YT-3	/	YN-4- YT-3	/	pEM
Vkokpi qh TGH eqo ocpf vq Rqygt Fqyp gpvt{	vTGHFRFGP	3	/	3	/	3	/	3	/	pEM
Vkokpi qh OTU eqo ocpf vq Rqygt Fqyp gpvt{	vOTURFGP	vOQF*ok p+	/	vOQF*ok p+	/	vOQF* okp+	/	vOQF* okp+	/	
<b>ODT Timings</b>										
QFV wvtp qp Ncvgpe{	QFVNqp	YN/4?EYN-CN/4								pEM
QFV wvtp qhh Ncvgpe{	QFVNqhh	YN/4?EYN-CN/4								pEM
QFV jki j vkog ykvjqwv ytkvg eqo ocpf qt ykvj ytkvg eqo ocpf cpf DE6	QFVJ6	6	/	6	/	6	/	6	/	pEM
QFV jki j vkog ykvj Ytkvg eqo ocpf cpf DN:	QFVJ :	8	/	8	/	8	/	8	/	pEM



Cu{pej tqpqwu TVV vwtp/qp fgnc{ *Rqygt/ Fqyp ykvj FNN htq gp+	vCQPRF	4	:07	4	:07	4	:07	4	:07	pu
Cu{pej tqpqwu TVV vwtp/qhh fgnc{ *Rqygt/ Fqyp ykvj FNN htq gp+	vCQHRF	4	:07	4	:07	4	:07	4	:07	pu
TVV vwtp/qp	vCQP	/622	622	/522	522	/472	472	/447	447	ru
TVVaPqo cpf TVVa YT vwtp/ qhh vk og htq o QFVNqhh tghgtgpeg	vCQH	205	209	205	209	205	209	205	209	vEM*cx i+
TVV f{pc oke ejcpig umgy	vCFE	205	209	205	209	205	209	205	209	vEM*cx i+
<b>Write Leveling Timings</b>										
Hktuv FSU FSU% tkukpi fgig chvgt y tkvg ngxgnkpi oqfg ku rtqitco ogf	vYNOTF	62	/	62	/	62	/	62	/	pEM
FSU FSU% fgnc{ chvgt y tkvg ngxgnkpi oqfg ku rtqitco ogf	vYNFSUGP	47	/	47	/	47	/	47	/	pEM
Y tkvg ngxgnkpi ugvwr vk og htq o tkukpi EM. EM% etquukpi vq tkukpi FSU. FSU% etquukpi	vYNU	547	/	467	/	3;7	/	387	/	ru
Y tkvg ngxgnkpi jqnf vk og htq o tkukpi FSU. FSU% etquukpi vq tkukpi EM. EM% etquukpi	vYNJ	547	/	467	/	3;7	/	387	/	ru
Y tkvg ngxgnkpi qwrwv fgnc{	vYNQ	2	;	2	;	2	;	2	907	pu
Y tkvg ngxgnkpi qwrwv gttqt	vYNQG	2	4	2	4	2	4	2	4	pu

5.4 RGMII

T I O K K

X F F a 5 X 5

505X

70603 RGMII

7/49 T I O K K

Kqj	*XFFG/206X+	34	oC
Kqn	*206X+	34	oC





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Parameter	Symbol	Conditions	Min.	Max.	Units
<b>Input Levels for Low-/full-speed:</b>					
Jki j*ftkxgp+	XXJ		4		X
Jki j*hnqcvkpi+	XXJ \		409	508	X
Nqy	XKN			20:	X
Fkhhgtgpkcn Kprwv Ugpuvkxkv{	XFK	.*F -+/*F/+	204		X
Fkhhgtgpkcn Eq o oqp Oqfg Tcpi g	XEO	kpenwfgu XFK tci pi g	20:	407	X
<b>Input Levels for High-speed:</b>					
Jki j/urggf uswgnej fgvgevkqp vjtgujqnf *fkhhgtgpkcn ukipcn c o rnkvwfg+	XJUUS		322	372	o X
Jki j/urggf fkueqppgev fgvgevkqp vjtgujqnf *fkhhgtgpkcn ukipcn c o rnkvwfg+	XJUFUE		747	847	o X
Jki j/urggf fkhhgtgpkcn kprwv ukipcnkpi ngxgnu					
Jki j/urggf fevc ukipcnkpi eq o oqp oqfg xqncig tci pi g*iwkfg nkg hqt tgegkxgt+	XJUEO		/72	722	o X
<b>Output Levels for Low-/full-speed:</b>					
Nqy	XQN		2	205	X
Jki j*Ftkxgp+	XQJ		40:	508	X
UG3	XQUG3		20:		X
Qwvrvv Ukipcn Etquuxgt Xqncig	XETU		305	4	X
<b>Output Levels for High-speed:</b>					
Jki j/urggf kfng ngxgn	XJUQK		/32	32	o X
Jki j/urggf fevc ukipcnkpi jki j	XJUQJ		582	662	o X
Jki j/urggf fevc ukipcnkpi nqy	XJUQN		/32	32	o X
Ej ktr L ngxgn*fkhhgtgpkcn xqncig+	XEJKTRL		922	3322	o X
Ej ktr M ngxgn*fkhhgtgpkcn xqncig+	XEJKTRM		/;22	/722	o X
<b>Decoupling Capacitance:</b>					
Fqypwvtgc o Hcekpi Rqtv D{rcuu Ecrcekvpeg *rgtjwd+	EJRD	XDWU vq I P F	342		μ H
Wrwvtgc o Hcekpi Rqtv D{rcuu Ecrcekvpeg	ETRD	XDWU vq I P F	3	32	μ H
<b>Input Capacitance for Low-/full-speed:</b>					
Fqypwvtgc o Hcekpi Rqtv	EKPF			372	rH
Wrwvtgc o Hcekpi Rqtv*ylqecdng+	EKPWD			322	rH
Vtpeuegkxgt gf ig tcvg eqpvtqn ecrcekvpeg	EGF IG			97	rH
<b>Input Impedance for High-speed:</b>					
VF Turgehqt jki j/urggf vgt o kpcvkqp					



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5.6 **Swash**



## 6

## 6.1

8/3

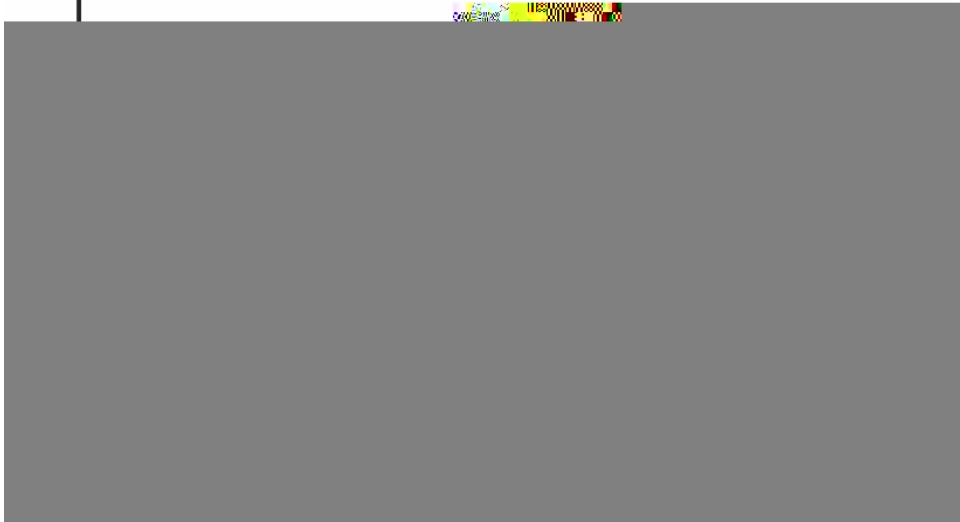
Rctc o gvt	Xc nwg
VFR Ocz Rq ygt	7 Y cvu
Tvj *L/E+	8 ÅEI Y
VI	347 ÅE

## 6.2

8/4

Rtqhkn g Hgcwtg		Rd/Htgg Cuug o dn{
Cxgtc ig t e o r/wr tcv g *Vuocz vq Vr+		5ÅElugeqpf o czl
Rtgjgcv	Vg o rgtcwtg Okp *Vuokp+	372 ÅE
	Vg o rgtcwtg Ocz *Vuocz+	422 ÅE
	Vkog *Vuokp vq Vuocz+ *vu+	82/3:2 ugeqpfu
Vkog o ckpvckpgf cdq xg	Vg o rgtcwtg *VN+	439 ÅE
	Vkog *vN+	82/372 ugeqpfu
Rgcm Vg o rgtcwtg *Vr+		467ÅE
Vkog ykvjlp 7ÅE qh cevwcn Rgcm Vg o rgtcwtg *vr+4		42/62 ugeqpfu
Tco r/fqyp Tcv g		8 ÅElugeqpf o czl
Vkog 47ÅE vq Rgcm Vg o rgtcwtg		: okpwgu o czl





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2P0500

b

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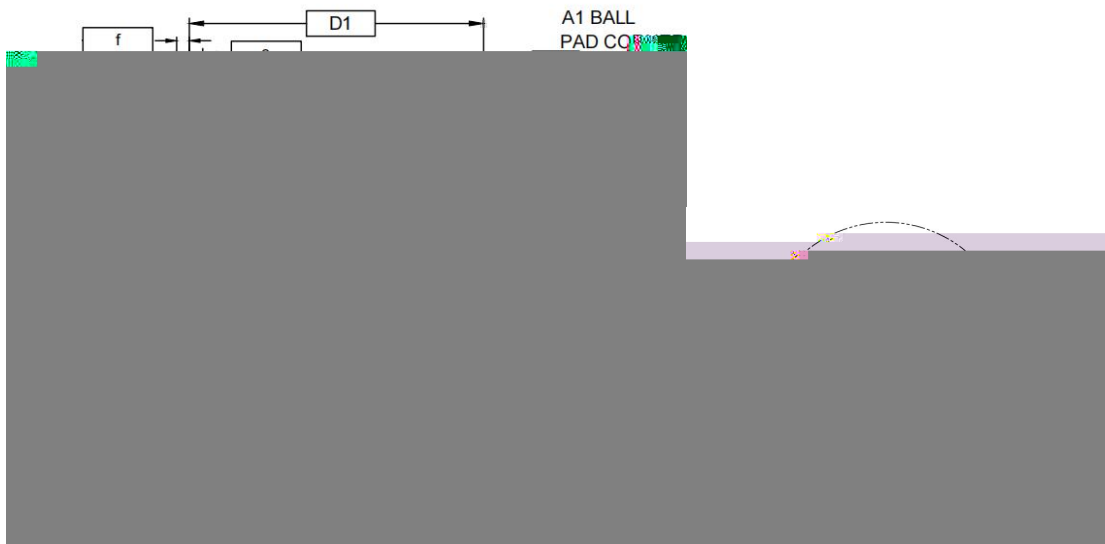
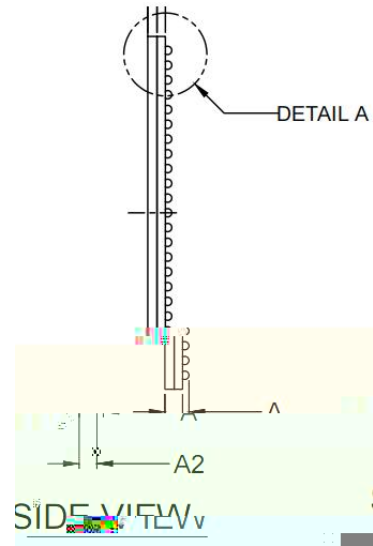




	20	21	22	23
A	FFTaFS38	FFTaFSUR4	XUU	XUU
B	FFTaFSO4	FFTaFSUP4	FFTaFS3;	XUU
C	FFTaYGP	FFTaFS39	FFTaFS43	FFTaFS45
D	>FWOO [aPGV@	FFTaFS3:	FFTaFS42	FFTaFS44
E	>FWOO [aPGV@	XUU	FFTaFS46	
F	>FWOO [aPGV@	FFTaFSO5	FFTaFS47	FFTaFS48
G	>FWOO [aPGV@	XUU	FFTaFS49	

U U X

7.2



904



9/4

A	1. 06	-	1. 26
A1	0. 26	-	0. 36
A2	0. 78	-	0. 92
D/E	16. 90	-	17. 10
D1/E1	-	15. 646	-
b	0. 35	-	0. 45
e	-	0. 71	-
f	-	0. 68	-
ddd	-	-	0. 15

PQVG&lt;

- 30 FKOGPUKQPU CTG KP OKNNKOGVGTU0  
40 CNN FKOGPUKQPU CPF VQNGTCPEG EQPHQTO VQ CUOG [ 3607O/422;0  
50 VGTOKPCNRQUOQPU FGUK I PCVKQP RGT LGUF ;70  
60 TGHNQY DCNN FKCOGVGT0  
70 FKOGPUKQP ðdö KU OGPUWTGF CV VJG OCZKOWO UQNFGT DCNN  
FKCOGVGT RCTCNNGN VQ RTKOCT [ FCVWO E0  
80 TCY UQNFGT DCNN UK\G FWTKP I CUUGODN[ KU 0. 50MM



8

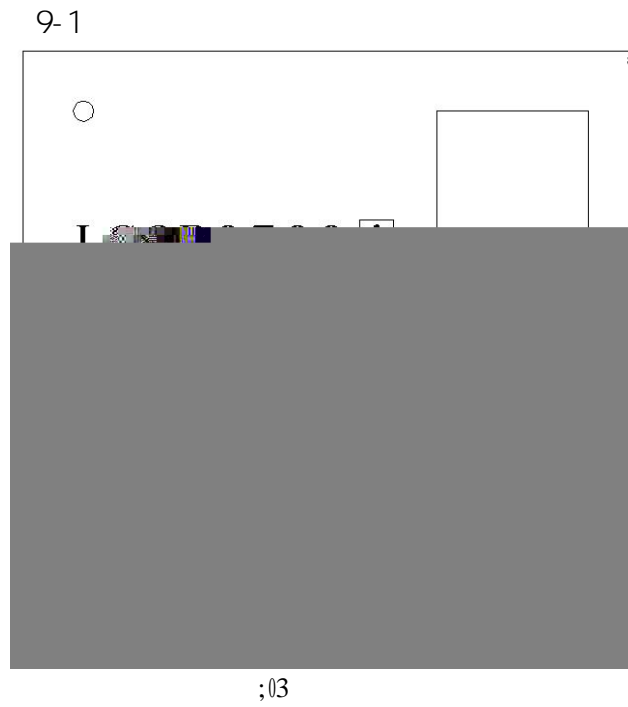
:/3

9



2

9



c+  
d+ NU4R2722 " NU4R2722" ☐ /k  
e+ EJP [ [ Y Y XX J  
f+ XFCCCCCCCPPPP  
g+ NQQP IUQP<sup>ì</sup>  
h+ e



V1.0	
V1.01	1
V1.02	2.13 5.1.1 5.1.3 9

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