

TransFlash 规格书

XCTF008GAJ-NTS

深圳市芯存科技有限公司

Tel: 0755-29708864

Technical support: fae@szxincun.com

Website: www.szxincun.com

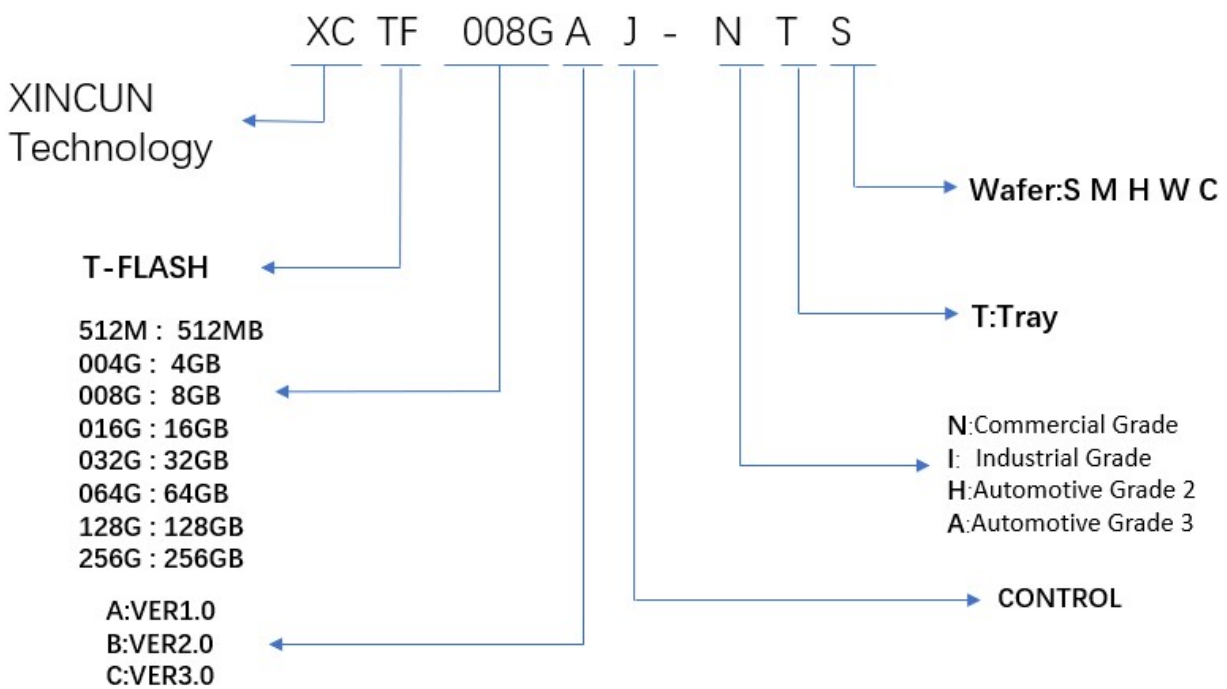
Change History:

Rev	Changes	Date	Note
Rev1.0	Initial release	2019.12.23	
Rev2.0	change read write speed	2020.07.17	
Rev3.0	Change control	2021.08.25	
Rev4.0	Change to 8GB dedicated version	2023.04.22	
Rev5.0	Update logo	2023.05.20	

Product Outline

TransFlash memory card is a new ultra small large-capacity mobile storage card. This product adopts the new package technology, and with the NAND FLASH mature and stable high-speed MLC process and advanced control technology, multimedia products a wide variety of popular support for the. Products using the SD framework design, size (11mm x 15mm x1mm), storage capacity available is 8GB , transmission speed is high, good compatibility, high pixel used in large capacity and high transmission rate of the latest generation of multimedia equipment will be a tiger with wings added.

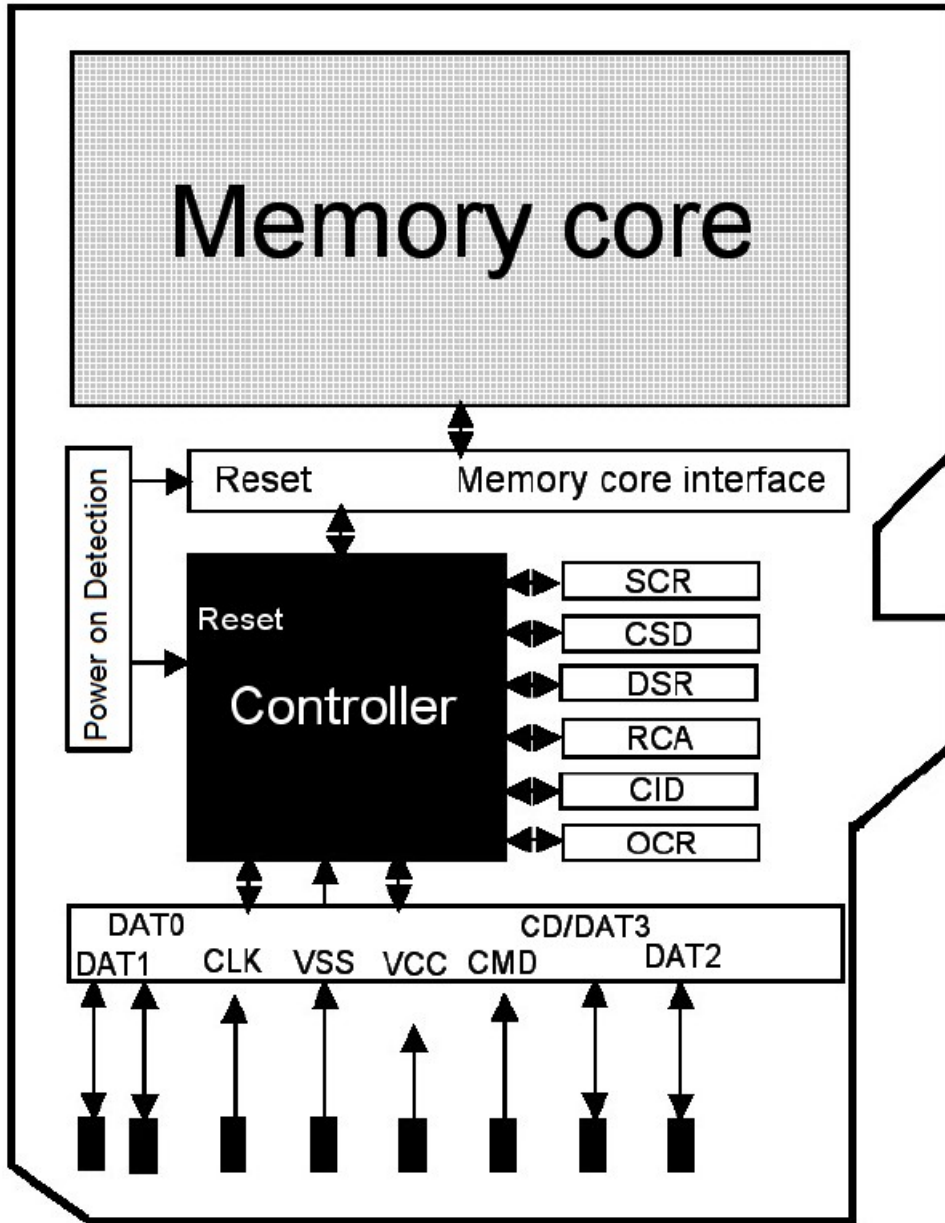
XINCUN 命名规则说明



Features

- Support Capacity: 8GB.
- Support SD system specification version 3.0.
- Correction of memory field errors.
- Voltage range : Basic communication (CMD0, CMD15, CMD55, ACMD41) : 2.0 - 3.6V.
Other command and memory access : 2.7 - 3.6V.
- Low power consumption, With the standby energy saving management mode automatically.
- High Speed model, Support Speed class4/class6/class8/class10.
- Support SD SPI mode.
- Copyrights Protection Mechanism—Complies with highest security of SDMI standard.
- Ambient temperature: -10℃ To 85℃.
- Flash Memory Support.
Samsung MLC NAND type Flash.
- High-speed Flash Controller inside.
- Dimension : 15mm(L) x 11mm(W) x 1mm(H).

Block Diagram



Pin Assignments

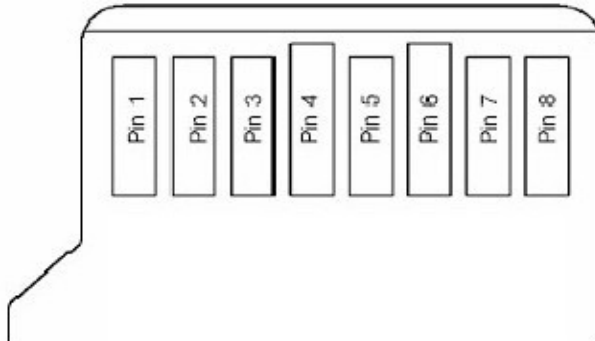


Figure: contact area

PIN	SD MODE			SPI MODE		
	NAME	TYPE ¹	DESCRIPTION	NAME	TYPE	DESCRIPTION
1	DAT2	I/O/PP	Data Line[Bit2]	RSV		Reserved
2	CD/DAT3 ²	I/O/PP ³	Card Detect/	CS	I ³	Chip Select(Neg True)
3	CMD	PP	Command/Response	DI	I	Data In
4	VCC	S	Supply Voltage	VCC	S	Supply Voltage
5	CLK	I	Clock	SCLK	I	Clock
6	VSS	S	Supply Voltage Ground	VSS	S	Supply Voltage Ground
7	DAT0	I/O/PP	Data Line[Bit0]	DO	O/PP	Data Out
8	DAT1	I/O/PP	Data Line[Bit1]	RSV		Reserved

Table : MicroSD Contact Pad Assignment

- 1) S: power supply; I: input; O: output using push-pull drivers; PP: I/O using push-pull drivers ;
- 2) The extended DAT lines (DAT1-DAT3) are input on power up. They start to operate as DAT lines after SET_BUS_WIDTH command. The Host shall keep its own DAT1-DAT3 lines in input mode, as well, while they are not used. It is defined so, in order to keep compatibility to MultiMediaCards.
- 3) After power up this line is input with 50KOhm pull-up (can be used for card detection or SPI mode selection). The pull-up should be disconnected by the user, during regular data transfer, with SET_CLR_CARD_DETECT (ACMD42) command

Function / Electrical Characteristics / Registers\

Refer to the SD Memory Card Specifications Part 1 Physical Layer Specification Version 1.10.

Product characteristic value

Parameter	Range				
	8GB (C10)				...
Capacity	7.49GB				...
Write Speed	25.0MB/s				...
Read Speed	80MB/s				...
Thenstandbycurrent	80 uA				...
Work current	10 mA				...
MTBF	1,000,000 hours				
Controller	AS2703HLT				
Controller details	AS2703HLT DIE				
Nand wafer	K9GCGD8U0F-W0				

* Test condition :2.66G CPU, 1GB DDR, winXP OS, GL827 Card Reader, Voltage 3.3V

parameter	Range	
Temperature	Work Model	-10 ~ 85°C
	Storage Model	-50 ~ 125°C
Humidity	WorkModel	8% to 95%, Non-condensing
	Storage Model	8% to 95%, Non-condensing

Physical Specifications

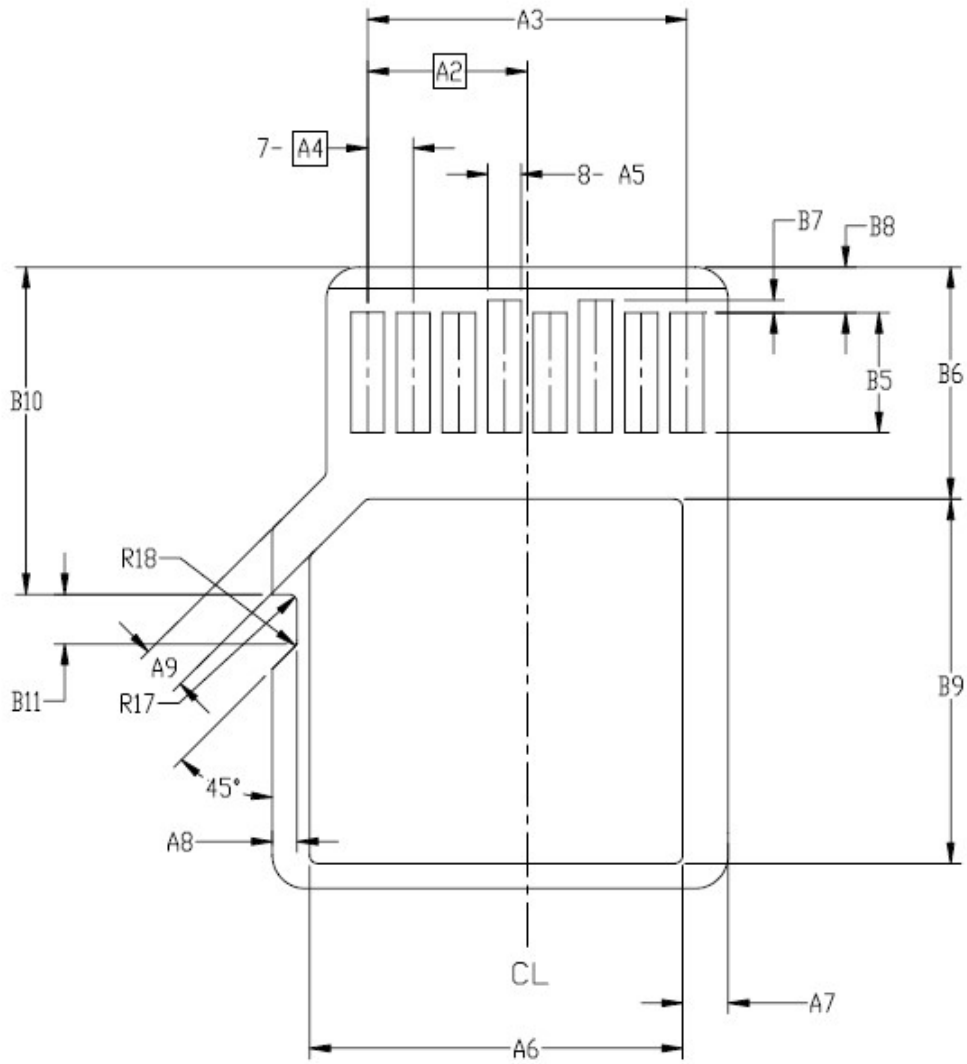


Figure :Mechanical Description:Bottom View

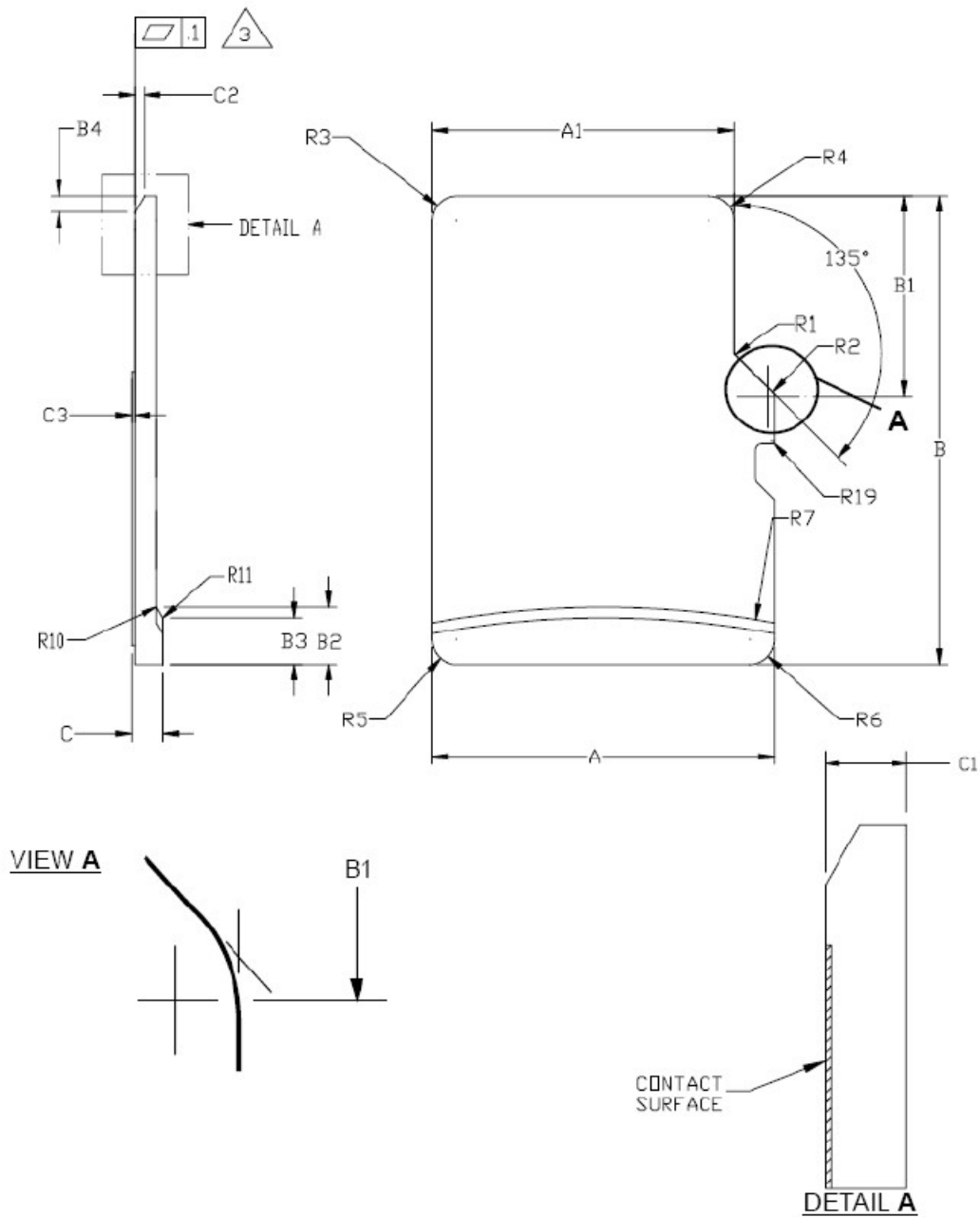


Figure :Mechanical Description:Top View

SYMBOL	COMMON DIMENSIONS			NOTE
	MIN	NOM	MAX	
A	10.90	11.00	11.10	
A1	9.60	9.70	9.80	
A2	-	3.85	-	BASIC
A3	7.60	7.70	7.80	
A4	-	1.10	-	BASIC
A5	0.75	0.80	0.85	
A6	-	-	8.50	
A7	0.90	-	-	
A8	0.60	0.70	0.80	
A9	0.80	-	-	
B	14.90	15.00	15.10	
B1	6.30	6.40	6.50	
B2	1.64	1.84	2.04	
B3	1.30	1.50	1.70	
B4	0.42	0.52	0.62	
B5	2.80	2.90	3.00	
B6	5.50	-	-	
B7	0.20	0.30	0.40	
B8	1.00	1.10	1.20	
B9	-	-	9.00	
B10	7.80	7.90	8.00	
B11	1.10	1.20	1.30	
C	0.90	1.00	1.10	
C1	0.60	0.70	0.80	
C2	0.20	0.30	0.40	
C3	0.00	-	0.15	
D1	1.00	-	-	
D2	1.00	-	-	
D3	1.00	-	-	
R1	0.20	0.40	0.60	
R2	0.20	0.40	0.60	
R3	0.70	0.80	0.90	
R4	0.70	0.80	0.90	
R5	0.70	0.80	0.90	
R6	0.70	0.80	0.90	
R7	29.50	30.00	30.50	
R10	-	0.20	-	
R11	-	0.20	-	
R17	0.10	0.20	0.30	
R18	0.20	0.40	0.60	
R19	0.05	-	0.20	

Notes:


1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
2. DIMENSIONS ARE IN MILLIMETERS.
3.  COPLANARITY IS ADDITIVE TO C1 MAX THICKNESS.

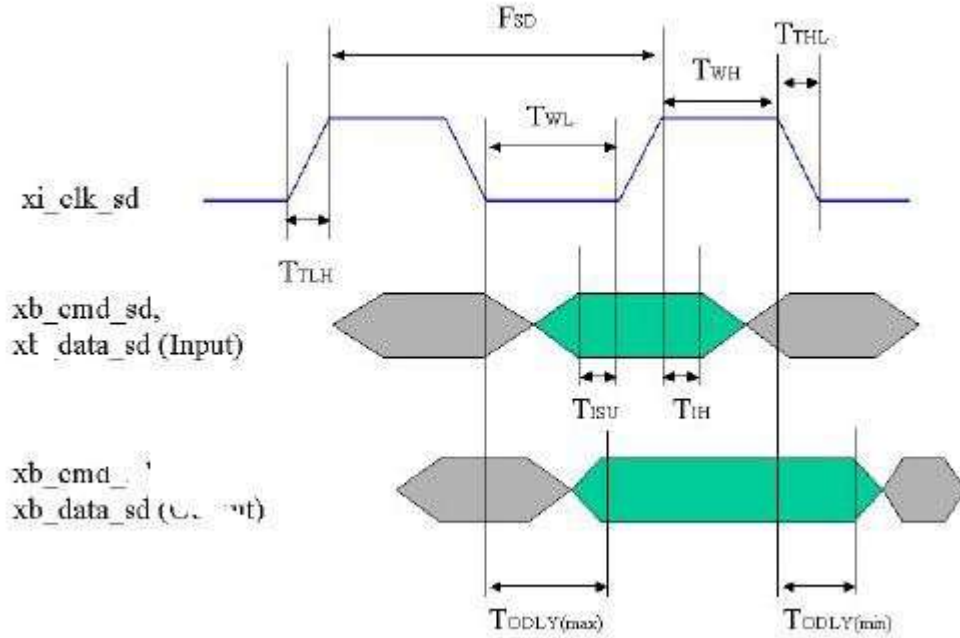
Table: MicroSD Packge:Dimensions

DC Characteristics

SYMBOL	PARAMETER	CONDITIONS	MIN	TYPE	MAX	UNITS
V _{IL}	Input low voltage		V _{SS} -0.3		0.25V _{CC}	V
V _{IH}	Input high voltage		0.625V _{CC}		V _{CC} +0.3	V
V _{OL}	output low voltage	I _{OL} =100μA @V _{CC_min}			0.125V _{CC}	V
V _{OH}	output high voltage	I _{OH} =100μA @V _{CC_min}	0.75V _{CC}			V
V _{IN}	Input leakage current	V _{IN} =V _{CC} or 0	-10	+/-1		μA
I _{OUT}	Tri-state output leakage current		-10	+/-1		μA
I _{STBY}	Standby current	3.3v@clock stop		80		μA
I _{OP}	Operation current	3.3v@25MHZ (Write)	6.0	10	30	mA
		3.3v@25MHZ (Read)	6.0	10	30	mA
I _{OP}	Operation current	3.3v@50MHZ (Write)	6.0	12	30	mA
		3.3v@50MHZ (Read)	6.0	12	30	mA

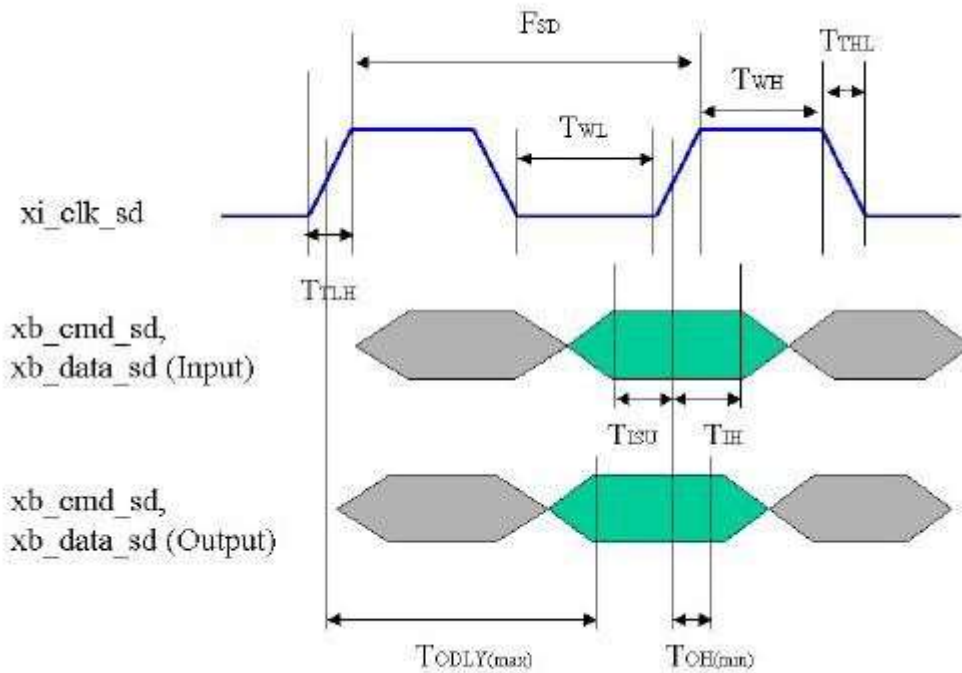
AC Characteristics

G-1 Bus Timing(Default Mode)



SYMBOL	PARAMETER	MIN	MAX	UNIT	NOTE
FSD	SD clock frequency	0	25	MHz	
tWL	Clock low time	10		ns	
tWH	Clock high time	10		ns	
tTLH	Clock rise time		10	ns	
tTHL	Clock fall time		10	ns	
tISU	Input setup time	5		ns	
tIH	Input hold time	5		ns	
tODLY	Output delay time	0	14	ns	

G-2 Bus Timing(High-speed Mode)



SYMBOL	PARAMETER	MIN	MAX	UNIT	NOTE
F_{SD}	SD clock frequency	0	25	MHz	
t_{WL}	Clock low time	10		ns	
t_{WH}	Clock high time	10		ns	
t_{TLH}	Clock rise time		10	ns	
t_{THL}	Clock fall time		10	ns	
t_{ISU}	Input setup time	5		ns	
t_{IH}	Input hold time	5		ns	
t_{ODLY}	Output delay time	0	14	ns	
t_{oH}	Output hold time	2.5		ns	