1 0

1.4 2024.4

1

1.1

1.2

1.3

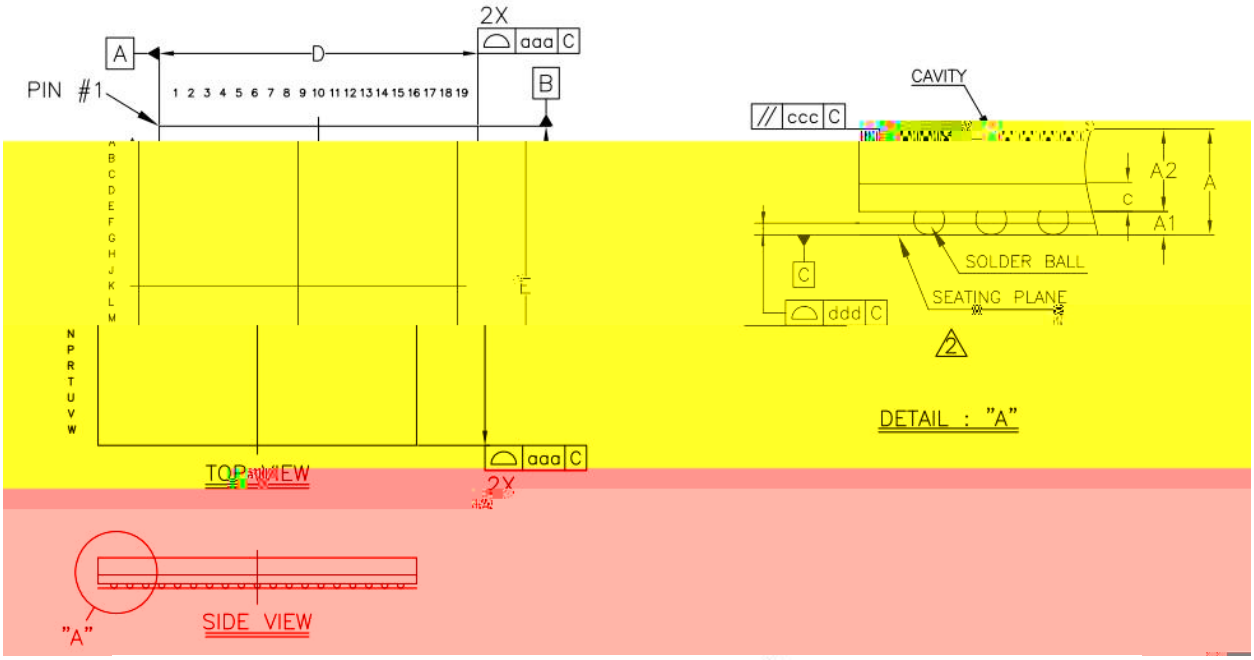
1.4

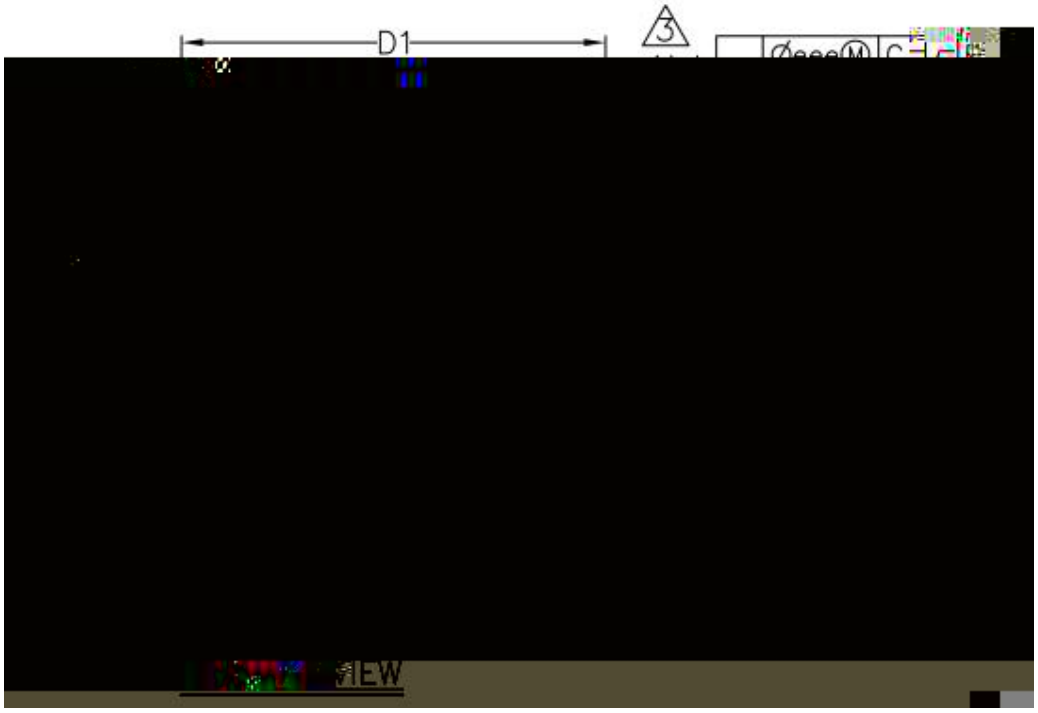
1.5

1.

2

2.1


2X
aaa C
A
D
B
PIN #1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
A B C D E F G H J K L M
N P R T U V W
TOP VIEW
2X
aaa C
"A"
SIDE VIEW
CAVITY
ccc C
A2
A
c
A1
SOLDER BALL
C
SEATING PLANE
ddd C
2
DETAIL : "A"


D1
3
VIEW


GND_PEP
HY_GD
PE_TX_N_
PE_TX_P
UART_SRX
SPI_CLK_D
IV_0
N0_GPIO_
1
N2_GPIO_
1
N3_GPIO_
1
GND
PE_RST_S
EQ
SPI_CLK
JRST_N
JTDI
MNG_BSY
PRB_HIT
PRB_CLKO
UT
MNG_GPI
O_1
SPI_SI
JTMS
N0_DIS_N
N2_DIS_N
VCC33_EF
GND33A
GND_TS_
PE_REF_CL
LK_P
PE_PHY_R
EF
VCC3IO
VCCK
VCC18IO_
25V
N2_LED_2
N3_LED_1
RMII_TXD
1
RMII_TX_
EN
N0_TS158
8_SDP_1
N2_LED_0
RMII_RXD
0_
N0_TS158
8_SDP_3
N1_TS158
8_SDP_1
N2_TS158
8_SDP_3
MNG_IC_
SMBALT_
N
VCC11A_P
LL
GND11A_
PLL
VCC33A_G
IGA
N0_RGMII
N1_RGMII
N2_RGMII
N3_RGMII
RXC
MDIO
TX_0
TX_2
TX_3
RX_1

2.3

2.3.1

2.3.2 #0

2.3.4 #1

2.3.5 #1

2.3.

2.3. #3 (4-)

2.3.10

	Y G Y b

2.3.11

2.3.12 15

2.3.13

2.3.14

2.3.15

2.3.1

2.4

	MNG	
	MNG	

	MNG	

	MNG	

	MNG	

3

3.1

	-65		140	° C
Tj(PN)	-55		125	° C
VCCK VCC11A	-0.1	1.1	1.155	V
VCC11A_PE,VCC11A_A10,VCC11A_CEN,VCC11A_PLL	-0.1	1.1	1.155	V
VCC3IO,VCC33A VCC33	-0.4	3.3	3.7	V
VCC18IO_25V	-0.4	3.3	3.7	V

3.2

	-40		85	° C
VCCK VCC11A	1.045	1.1	1.155	V
VCC11A_PE,VCC11A_A10,VCC11A_CEN,VCC11A_PLL	1.045	1.1	1.155	V
VCC3IO,VCC33A VCC33	3.135	3.3	3.465	V
VCC18IO_25V	3.135	3.3	3.465	V

3.3

IO reference voltage	Vref		3.0	3.3	3.6	V
Input low voltage	Vil				0.8	V
Input high voltage	Vih		2.0			V
Input low current	Iil	Vin=0V	-20		0	μA
Input high current	Iih	Vin=Vref-Vref,max	0		200	μA
Output low voltage	Vol	Iol=4mA,Vref=min	0		400	mV
Output high voltage	Voh	IOh=-4mA,Vref=min	2.4		Vref	V

3.4

Tckf	NCSI_REF_CLK Frequency		50		MHz
Rdc	NCSI_REF_CLK duty cycle	35		65	%
Racc	NCSI_REF_CLK accuracy			100	ppm
Tco	Clock-to-out (10 pF =< cload <=50 pF) NCSI_RXD[1:0], NCSI_CSR_DV Data valid from NCSI_REF_CLK rising edge	2.5		12.5	ns
Tsu	NCSI_TXD[1:0], NCSI_TX_EN Data Setup to NCSI_CLK_IN rising edge	3			ns
Thold	NCSI_TXD[1:0], NCSI_TX_EN Data hold from NCSI_REF_CLK rising edge	1			ns
Tor	NCSI_RXD[1:0], NCSI_CSR_DV Output Time rise	0.5		6	ns
Tof	NCSI_RXD[1:0], NCSI_CSR_DV Output Time fall	0.5		6	ns
Tckr/Tckf	NCSI_REF_CLK Rise/Fall Time	0.5		3.5	ns

3.5

Frequency	-	-	25	-	MHz

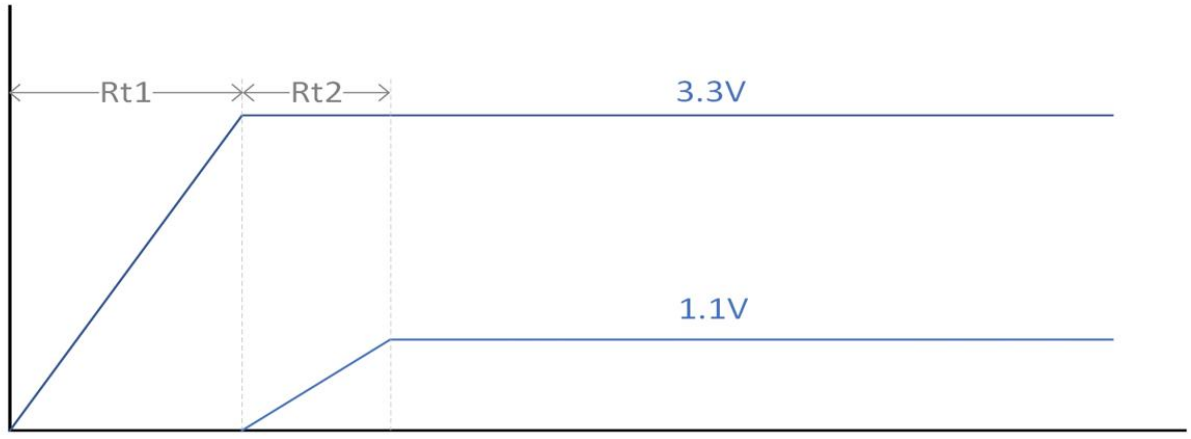
Vibration mode			Fundamental		
Frequency Stability	Ta=0-70	-30		+30	ppm
Frequency Tolerance	Ta=25	-50		+50	ppm
Load Capacitance			20		pf

Frequency	-	-	25	-	MHz
Frequency Stability	Ta=0-70	-30		+30	ppm
Frequency Tolerance	Ta=25	-50		+50	ppm
Duty Cycle		40		60	%
Broadband Peak-to-peak Jitter				200	ps
Vpeak-to-peak		3.135	3.3	3.465	V
Rise time 10%-90%				10	ns
Fall time 10%-90%				10	ns
Operation temperature Range		0		70	

3.5

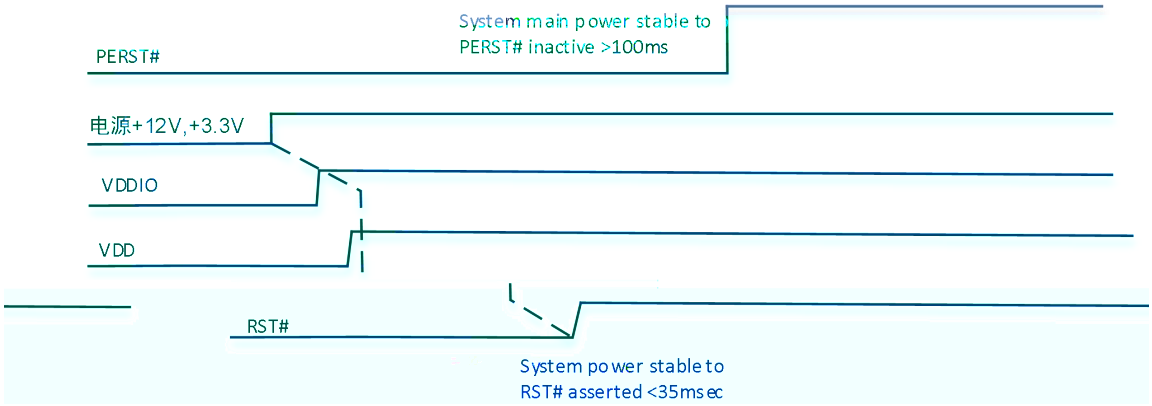
GPHY IP 1.1V 3.3V 5ms 3.3V rise time 1ms

3.3V 1.1V



Rt1	3.3V rise time	1	-	100	ms
Rt2	3.3V ready to 1.1V ready time	-5	-	-	ms

WX1860 RST# J1 PERST# G3



VDDIO VCCIO VCC33A VDD VCCK VCC11A

3.6

WX1860 socket socket Z390-A PCI
4 CH1 CH2 CH3 CH4
1000M WX1860A4/WX1860AL4 70

4

winbond	W25Q80DV
microchip	SST25VF080B
	GD25Q80

5

1	WX1860A2		0 -70 ,40nm,2	2
2	WX1860A4		0 -70 ,40nm,4	4
3	WX1860AL1		-40 -85 ,40nm,1 SM2/SM3/SM4	1
4	WX1860AL2		-40 -85 ,40nm,2 SM2/SM3/SM4	2
5	WX1860AL4		-40 -85 ,40nm,4 SM2/SM3/SM4	4

1 N0 2 N0 N1 N2 N3
N0 N1 N2 N3