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S age Te e a e Ra ge	T	C	-40	+85
Rela i e H idi	RH	%	5	85
P e S l V l age	Vcc	V	-0.5	+3.6
O e a i g Ca e Te e a e Ra ge	Tc	C	-5	75
Recei e Da age Th e h ld Pe La e	P_{dag}	dB	+5.5	

O e a i g Ca e Te e a e Ra ge	Tc	C	0		70
P e S l V l age	Vcc	V	3.2	3.3	3.4
Da a a e		Gb/		103.125	112

I	High V l age	1.2VIH	V	0.84	1.5
I	L V l age	1.2VIL	V	-0.3	0.36
I O	Leakage C e High V l age	1.2IIN	A	-100	+100

OMA f Each La e	
L A e	dB

13	GLB_ALRM	Gl bal Ala	I	3.3V LVCMOS	Ok	Ala	
18	MDIO	Ma age e Da a I O Bi-Di ec i al Da a					

	Dela Ti e					OR f A cia ed MDIO ala & a egi e .Plea e ee MDIO d c e f f he de ail
	Ma age e I e face Cl ck Pe i d	_ d	25 0			MDC i 4MH a e
	H MDIO _ e H MDIO _h ld	_ e _h ld	10 10			

O i al T a i e a d Recei e M i Cl ck Cha ac e i ic

		Mi	T	Ma	U i	N e
I eda ce	Zd	80	100	120	Ω	
F e e c					MH	1/8 f Ne k la e a e
O Diffe e ial V l age	V_{DIFF}	400		1200	V	Peak Peak Diffe e ial
Cl ck D C cle		40		60	%	

CFP Regi e All ca i

S a i g Add e i He	E di g Add e i He	Acce T e	All ca ed

CFP NVR1

He Add	Si e	Acce T e	Bi	Regi e Na e	C e (HEX)	LSB U i
Ba e ID I f a i						
8000	1	RO	7 0	M d le Ide ifie	12	N/A
8001	1	RO	7 0	E e ded Ide ifie	E4	N/A
8002	1	RO	7 0	C ec T e C de	07	N/A
8003	1	RO	7 0	E he e A lica i C de	01	N/A
8004	1	RO	7 0	Fibe Cha el A lica i C de	00	N/A
8005	1	RO	7 0	C e Li k A lica i C de	00	N/A
8006	1	RO	7 0	SONET/SDH A lica i C de	00	N/A
8007	1	RO	7 0	OTN A lica i C de	08	N/A
8008	1	RO	7 0	Addi i al Ca able Ra e S ed	18	N/A
8009	1	RO	7 0	N be f La e S ed	44	N/A
800A	1	RO	7 0	Media P e ie	11	N/A
800B	1	RO	7 0			

				N be		
8069	1	RO	7 0	CFP MSA Ma age e I e face S ecifica i Re i i N be		
806A	2	RO	7 0	M d le Ha d a e Ve i N be		
806C	2	RO	7 0	M d le Fi a e Ve i N be		
806E	1					

809A	2	RO	7 0	A ilia 1 M i High Wa i g Th e h ld		
809C	2	RO	7 0	A ilia 1 M i L Wa i g Th e h ld		
809E	2	RO	7 0	A ilia 1 M i L Ala Th e h ld		
80A0	2	RO	7 0	A ilia 2 M i High Ala Th e h ld		
80A2	2	RO	7 0	A ilia 2 M i High Wa i g Th e h ld		
80A4	2	RO	7 0	A ilia 2 M i L Wa i g Th e h ld		
80A6	2	RO	7 0	A ilia 2 M i L Ala Th e h ld		
80A8	2	RO	7 0	La e Bia C e High Ala Th e h ld		

80AA

				0 15		

He Add	Si e	Acce T e	Bi	Regi e Na e	C e (HEX)	LSB U i
Ba e ID I f a i						
8180	1	RO	7 0	CFP NVR3 Check		
8181	127	RO	7 1	Re e ed		

He Add	Si e	Acce T e	Bi	Regi e Na e	C e (HEX)	LSB U i
M d le C a d/Se Regi e						
A000	2	RO	15 0	Re e ed		
A002	2	RO	15 0	Re e ed		
A004	1	RO				
			8 6	Re e ed		
			4	Re e ed		
			3 2	C a d S a		
		RW	15 9	Re e ed		
			5	U e Re e a d Sa e C a d		
			1 0	E e ded C a d		
A005	1	RO				
			15 8	Re e ed		
		RW	7 0	F c i Selec C de		
A006	1	RO				
			15 8	Re e ed		
		RW	7 0	F c i Selec C de		

S f PRG_CNTL2 C l		
S f PRG_CNTL1 C l		
S f GLB_ALRM Te		
Re e ed		
TX_DIS Pi S a e		
MOD_LOPWR Pi S a e		
PRG_CNTL3 Pi S a e		
PRG_CNTL2 Pi S a e		
PRG_CNTL1 Pi S a e		
Re e ed		
Re e ed		
TX PRBS Ge e a E able		
TX PRBS Pa e 1		
TX PRBS Pa e 0		
TX De- ke E able		
TX FIFO Re e		
TX FIFO A Re e		
TX Re e		
TX MCLK C l		
Re e ed		
TX Ra e Selec (10G la e a e)		

RW

				S a		
			6	La e 6 Ala a d Wa i g S a		
			5	La e 5 Ala a d Wa i g S a		
			4	La e 4 Ala a d Wa i g S a		
			3	La e 3 Ala a d Wa i g S a		
			2	La e 2 Ala a d Wa i g S a		
			1	La e 1 Ala a d Wa i g S a		
			0	La e 0 Ala a d Wa i g S a		
A01A	1	RO				
			15	La e 15 Fa l a d S a S a		
			14	La e 14 Fa l a d S a S a		
			13	La e 13 Fa l a d S a S a		
			12	La e 12 Fa l a d S a S a		
			11	La e 11 Fa l a d S a S a		
			10	La e 10 Fa l a d S a S a		
			9	La e 9 Fa l a d S a S a		
			8	La e 8 Fa l a d S a S a		
			7	La e 7 Fa l a d S a S a		
			6	La e 6 Fa l a d S a		

				S a		
			9	La e 9 Fa l a d S a		
				S a		

			1	M d SOA Bia L Wa i g		
			0	M d SOA Bia L Ala		
A020	1	RO				
			15 8	Re e ed		
			7	M d A 1 High Ala		
			6	M d A 1 High Wa i g		

		RO	0	Re e ed		
A02B	1	RO		M d le Ala a d Wa i g 1 E able		
			15 12	Re e ed		
			11	M d Te Hi Ala E able		
			10	M d Te Hi Wa E able		
			9	M d Te L Wa i g E able		
			8	M d Te L Ala E able		
			7	M d Vcc High Ala E able		
			6	M d Vcc High Wa i g E able		
			5	M d Vcc L Wa i g E able		
			4	M d Vcc L Ala E able		
			3	M d SOA Bia High Ala E able		
			2	M d SOA Bia High Wa i g E able		
			1	M d SOA Bia L Wa i g E able		
			0	M d SOA Bia L Ala E able		
A02C	1					
		RO	15 8			

Ne k La e VR1		
He Add	Si e	

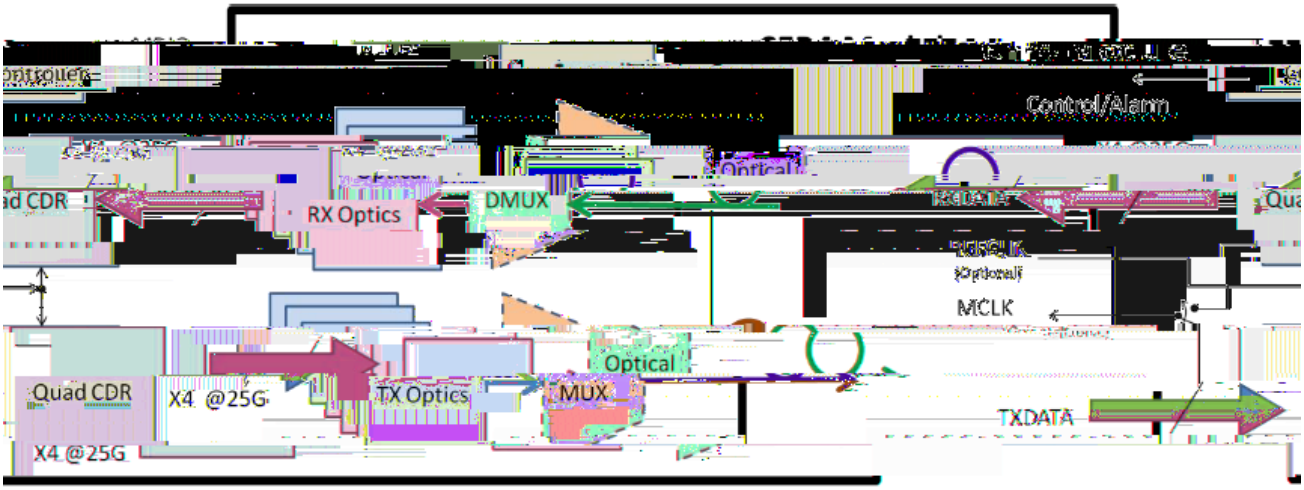
		RW	14	La e Wa ele g h U l cked Fa l E able		
		RW	13	La e APD P e S l Fa l E able		
		RO	12 8	Re e ed		
		RW	7	La e TX_LOSF E able		
		RW	6	La e TX_LOL E able		
		RO	5	Re e ed		
		RW	4	La e RX_LOS E able		
		RW	3	La e RX_LOL E able		
		RW	2	La e RX FIFO S a E able		
		RO	1 0	Re e ed		
A260	32	RO		Re e ed		

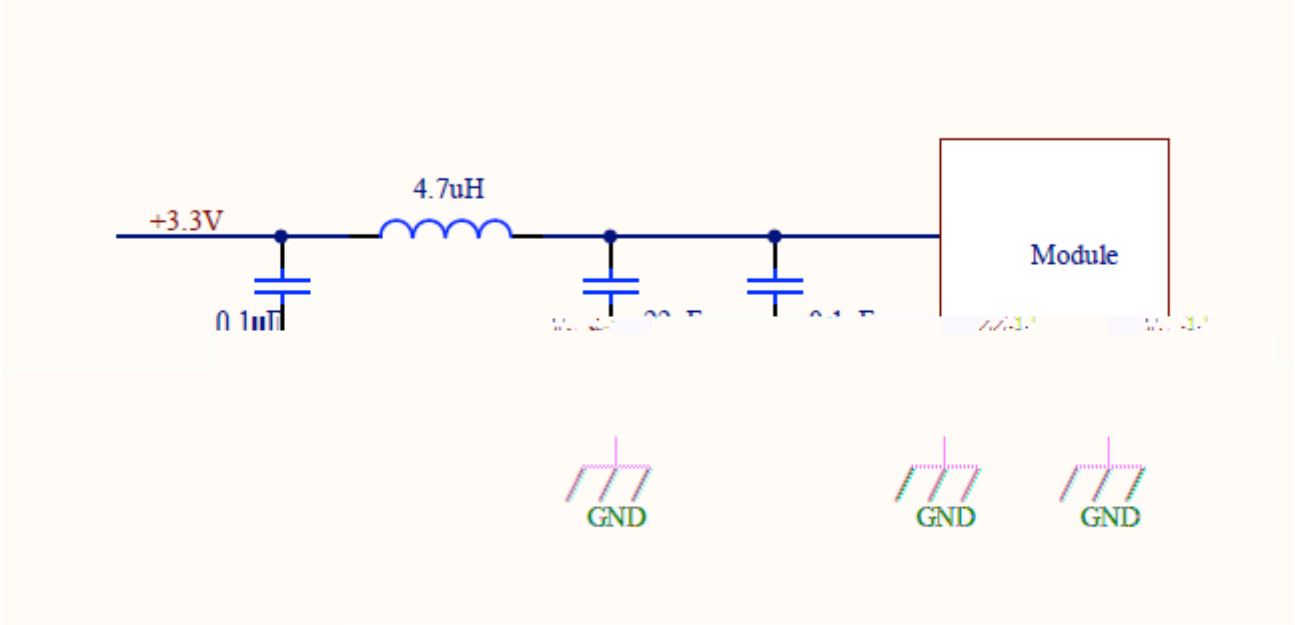
A410	16					
		RO	15 2			

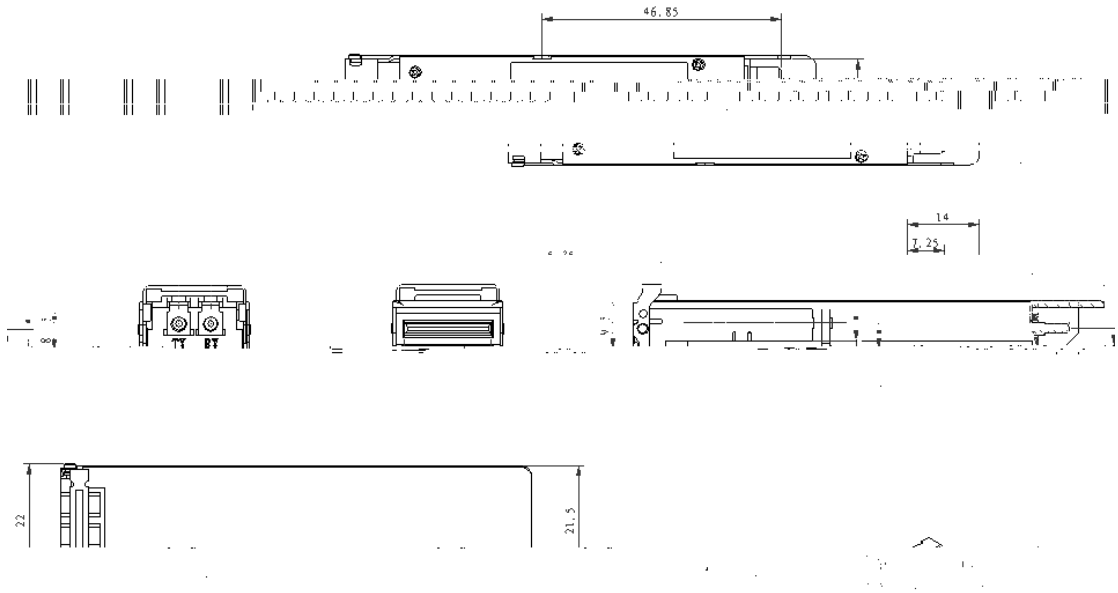
52	TX2	5	3.3V	52	TX1
51	TX2	6	3.3V	51	TX1
50	GND	7	3.3V_GND	50	GND
49	TX1	8	3.3V_GND	49	TX2
48	TX1	9	VND_IO_A	48	TX2
47	GND	10	VND_IO_B	47	GND
46	TX0	11	TX_DIS(PRG_CNTL1)	46	TX3
45	TX0	12	RX_LOS(PRG_ALRM1)	45	TX3
44	GND	13	GLB_ALRM	44	GND
43	REFCLK	14	MOD_LOPWR	43	REFCLK
42	REFCLK	15	MOD_ABS	42	REFCLK
41	GND	16	MOD_RST	41	GND
40	RX3	17	MDC	40	RX3
39	RX3	18	MDIO	39	RX3
38	GND	19	PRTADR0	38	GND
37	RX2	20	PRTADR1	37	RX2
36	RX2	21	PRTADR2	36	RX2

8	3.3V_GND			3.3V M d le S l V l age Re G d,ca be e a a e ied ge he i h Sig al
9	VND_IO_A	I/O		M d le Ve d I/O. D N C ec
10	VND_IO_B	I/O		M d le Ve d I/O. D N C ec
11	TX_DIS(PRG_CNTL1)	I	LVCMOS /PUR	T a i e Di able f all la e , 1 NC= a i e di abled, 0 = a i e e abled (O i all c fig able a P g a able C l1 af e Re e)
12	RX_LOS(PRG_ALRM1)	O	LVCMOS	Recei e L f O ical Sig al, "1": l ical ig al, "0": al c di i (O i all c fig able a P g a able Ala 1 af e Re e)
13	GLB_ALRM	O	LVCMOS	Gl bal Ala . 0": ala c di i i a MDIO Ala egi e , "1": ala c di i , O e D ai , P ll U Re i H
14	MOD_LOPWR	I	LVCMOS / PUR	M d le L P e M de. "1" NC: d le i l e (afe) de, "0": e - e abled

30	RX0	O	CML	O Da a
31	RX0	O	CML	I e ed O Da a
32	GND			
33	RX1	O	CML	O Da a
34	RX1	O	CML	I e ed O Da a
35	GND			
36	RX2	O	CML	O Da a
37	RX2	O	CML	I e ed O Da a
38	GND			
39	RX3	O	CML	O Da a
40	RX3	O	CML	I e ed O Da a
41	GND			
42	REFCLK	I	CML	Refe e ce I Cl ck
43	REFCLK	I	CML	Refe e ce I e ed I Cl ck
44	GND			
45	TX0	I	CML	I Da a
46	TX0	I	CML	I e ed I Da a
47	GND			
48	TX1	I	CML	I Da a
49	TX1	I	CML	I e ed I Da a
50	GND			
51	TX2	I	CML	I Da a
52	TX2	I	CML	I e ed I Da a
53	GND			
54	TX3	I	CML	


Control/Alarm
RX Optics
DMUX
Optical
MCLK
Quad CDR
X4 @25G
TX Optics
MUX
Optical
TXDATA
X4 @25G


+3.3V
4.7uH
Module
GND
GND
GND



Elec	a ic	Di cha ge	MIL-STD
(ESD)	he Elec	ical Pi	

CDRH 21