

DIAMOND SYSTEMS EPSM-12G2F Epsilon Ethernet Switch Module User Guide

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DESCRIPTION

This document is intended as a guide for designing a custom system baseboard for EPSM-12G2F is a compact, rugged Gigabit Ethernet Switch based on the Microsemi VSC7429 24+2 port switch provides both copper and optical interfaces.

The main board provides VSC7429 Switch+ VSC8522 PHY in Com express mini form factor. The main board mounts on a daughterboard. The main board is on top and has heat sink and heat spreader cooling options. The daughter board mounts on the bottom and requires no thermal solution since it has no active components.

Functions

- Microsemi VSC7429-02 Ethernet Switch with a built-in 416MHz MIPS CPU and gigabit PHYs switch with a built-in 12 + 3 QSGMII ports + 2 × 1G/2.5G.
- 12x GbE + 2 SFI sockets on SerDes interface for plugging-in optical SFI modules; Enhanced 10G on 2 ports.
 SFI sockets are on daughter board.
- · Status LEDs on daughter board.
- Two high speed mating connector for daughter board.

Mechanical, Electrical, Environmental

- COM Express mini form factor, 2.165"W x 3.307"H; single board total height ~0.6"; dual board total height ~2.0
- · Heatsink / heat spreader options for cooling
- -40°C to +85°C ambient operating temperature without a fan
- 5-36VDC input range.

BLOCK DIAGRAM

Figure 1 provides an overview of the key functional blocks of the EPSM-12G2F switch. It shows the division of features between the main board and daughter board.

EPSM-12G2F System Block Diagram

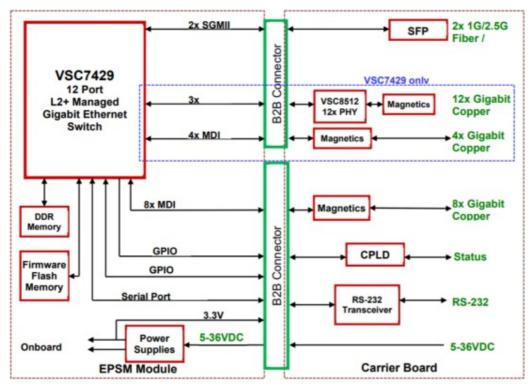


Figure 1: EPSM-12G2F Block Diagram

MECHANICAL DRAWINGS

Component Placement

The figures below show the locations of key components and I/O connectors.

The main board has a High-speed connector on the bottom side for mating with the optional daughterboard. The daughterboard contains a mating connector on its top side. The two boards are mated back to back so that the heat

generating components and heat sinks are on Main board top side the outer sides of both boards when mated together.

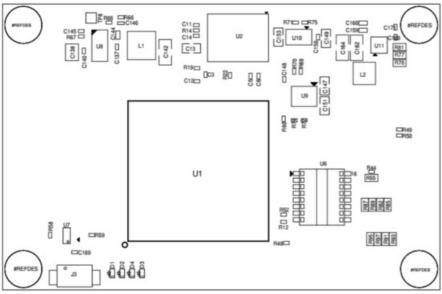


Figure 2: Top view

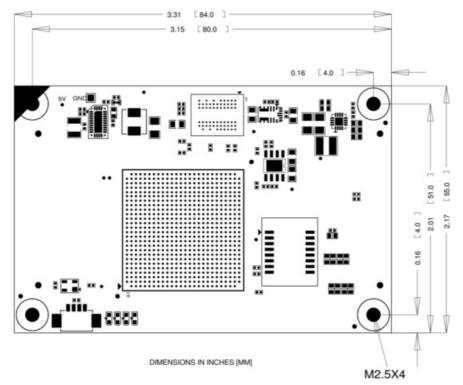


Figure 3: Top side dimension

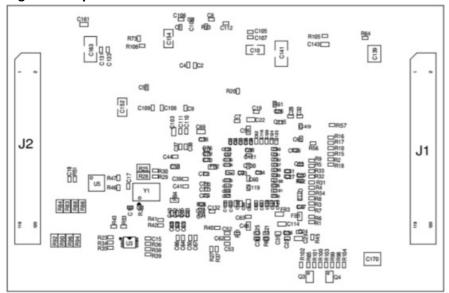


Figure 4: Bottom view



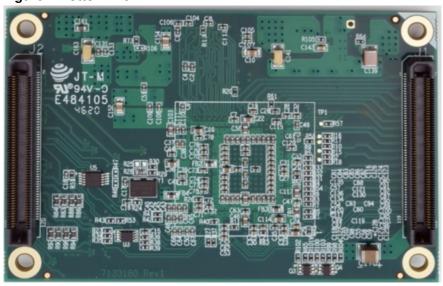
Figure 5: Bottom side dimensions

BOARD IMAGES

Figure 6 Top View



Figure 7 Bottom View



FEATURE DESCRIPTION

Ethernet Switch

Epsilon-12G2F is based on the Microsemi VSC7429 fully integrated 26-port Ethernet switch with 12 Gigabit Ethernet (GE) copper PHYs in a single package. In conjunction with the VSC8522 12-port PHY, 24/26-port switch. The chip contains 1G/2.5G SERDES lanes interface for 2 SFIs. 416MHz MIPS processor 32-bit CPU with DDR2 SDRAM controller.

A single-board model with just the VSC7429 +VSC8522 PHY chip is available for $2 \times 1G/2.5G$ SFI ports+ 12 1G ports+ $3 \times QSGMII$ ports. The VSC8522 PHY may be installed to provide 12 additional ports on the single daughter board. For the 24+2 port version, a daughterboard is installed on the bottom. Power and communication between the two boards is achieved via a pair of high speed board to board connectors.

SFP

Epsilon-12G2F offers support for two SFP sockets. The SFP interface is directly from the VSC7429 switch controller.

Of the two SFP ports one ports supports 1G/2.5G speed and the other port supports only 1G speed.

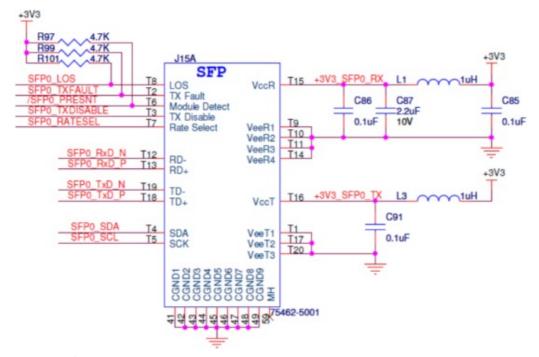


Figure 8 SFP connector on carrier board

Gigabit Ethernet switch magnetic

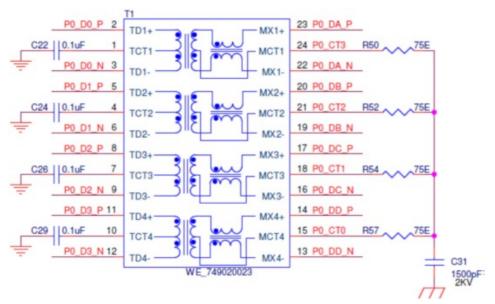


Figure 9 GigE Magnetic on carrier board

Power Supply

EPSM-12G2F Powered by a 5VDC of input voltage. 5V/4.3A

Serial interface

The VSC7429 switch offers a serial port function also controlled by the management software using GPIO lines. These lines need to be connected to a transceiver on the carrier board to provide RS-232 connection for alternate connection to the management features of the switch. Only TX and RX signals are required and provided. The serial interface is provided on a J2 connector.

RS232_RXD	PIN 109
RS232_TXD	PIN 111

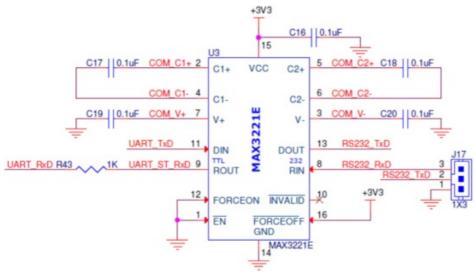


Figure 10 Serial port transceiver on carrier board

I/O CONNECTORS

Two High-speed B2B connectors (J1, J2)

The Main board contains 2x 120 pin 0.5mm pitch High speed connector, which accommodates the 12x 1Gbps copper ports, 6x QSGMII ports, 2x 10G ports, Power and other side band signals. These connectors mates with the carrier board.

Connector Number: Samtec ERF5-060-05.0-L-DV-K-TR **Mating Connector:** Samtec ERM5-060-05.0-L-DV

J1 High-speed B2B connectors

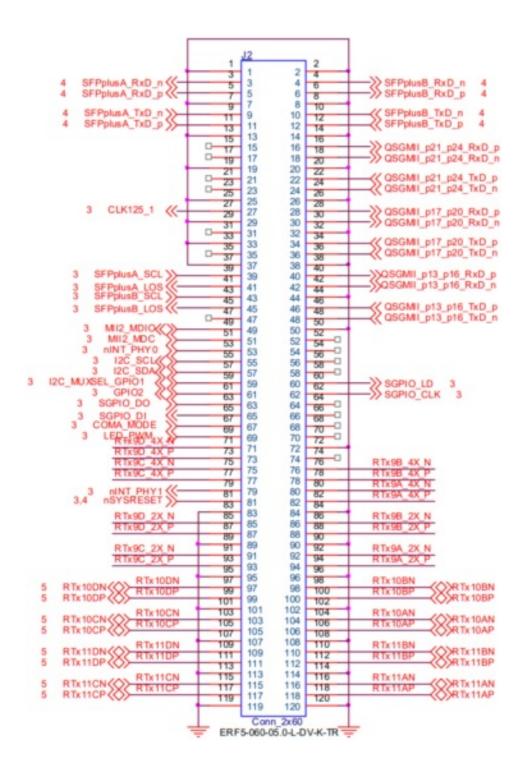
2 4 R TX0BM 4 6 R TX0BM 6 8 R TX0BM 0 12 R TX0AM 0 12 R TX0AM 0 12 R TX0AM 6 18 R TX1BM 6 18 R TX2BM 7 R TX2BM 7 R TX2BM 7 R TX2BM 7 R TX3BM	
4 6 RTX0BF 6 8 10 RTX0AN 0 12 RTX0AN 0 12 RTX0AF 6 18 RTX1BN 6 18 RTX1BN 6 18 RTX1BN 6 18 RTX1BF 6 18 RTX1AF 6 18 RTX2BN 6 18 RTX3BF 7 RTXBF 6 18 RTXBF 7 RTXB	
6 8 10 R TXOAP 10 12 R TXOAP 10 12 R TXOAP 16 R TX1BN 6 18 R TX1BP 8 20 22 R TX1AN 22 R TX1AF 6 8 30 R TX2BF 6 28 R TX2BF 6 38 R TX2BF 6 38 R TX2AF 6 50 R TX2AF 6 50 R TX2AF 6 50 R TX3AF 6 50 R TX3AF 6 50 R TX3AF 6 50 R TX3AF 50	**************************************
8 10 R TXOAN 12 R TXOAN 12 R TXOAN 12 R TXOAN 14 R TX1BN 8 R TX1BN 9 R TX2BN 9 R TX3BN	
0 12 R TXJAF 14 4 16 R TX18A 6 18 R TX18B 8 20 22 R TX1AA 22 24 R TX1AF 4 26 R TX2B 8 30 R TX2B 8 30 R TX2B 8 30 R TX2B 8 30 R TX2B 9 32 R TX1AB 10 32 R TX3B 10 42 R TX3B 10 52 R TX4B 10 70 R TX4B 10 70 R TX3B 10 70 R TX3B	
2 14 16 R TX18M 8 8 10 12 22 R TX1AM 22 R TX1AF 4 26 R TX1AF 4 26 R TX2BF 6 8 30 R TX2BF 6 34 R TX2AF 6 6 38 R TX2AF 6 6 38 R TX2AF 6 6 48 R TX3AF 6 50 R TX3AF 6 50 R TX3AF 6 50 R TX3AF 6 6 8 R TX3AF 6 7 R TX3AF 6 7 R TX3AF	26 26 26 26 26 26 26 26
4 16 R TX18N 6 18 R TX18F 6 18 R TX18F 8 20 0 22 R TX1AN 24 R TX1AF 6 28 R TX28F 8 30 R TX28F 8 30 R TX28F 6 38 R TX2AF 8 50 R TX3AF	5 45 45 45 45 45 45
6 18 RIXIBS 20 0 22 RIXIAN 22 24 RIXIAS 24 26 RIXIAS 28 RIX2BS 30 RIX2BS 30 RIX2BS 30 RIX2BS 30 RIX2BS 40 RIXAS	5 45 45 45 45 45 45
6 18 R XX1BF 20 0 22 R Tx1AB 0 22 R Tx1AF 4 26 6 28 R Tx2BF 8 30 R Tx2BF 20 32 34 R Tx2BF 4 36 R Tx2AF 4 36 R Tx2AF 4 36 R Tx3AF 6 38 R Tx3BF 6 40 R Tx3BF 6 40 R Tx3BF 6 40 R Tx3BF 6 41 R Tx3BF 6 42 R Tx3BF 6 48 R Tx3AF 7 48 R Tx4BF	5 45 45 45 45 45 45
8 20 22 RTx1AA 22 24 RTx1AF 4 26 RTx1AF 6 8 30 RTx2BF 0 32 RTx2BF 0 32 RTx2BF 0 32 RTx2BF 0 32 RTx2BF 0 32 RTx2BF 0 42 RTx3BF 4 36 RTx2AF 4 36 RTx3AF 6 38 RTx3AF 6 48 RTx3AF 6 48 RTx3AF 6 48 RTx3AF 6 48 RTx3AF 50 RTx3AF 7 RTx3BF 7 RTx3BF 8 50 RTx3AF 8 50 RTx3AF 8 7 RTx3BF 9 RTx3AF 9 RTx3AF 8 RTx3AF	4 4 4 4
0 22 RTx1AN 2 24 RTx1AF 6 28 RTx2BN 8 30 RTx2BF 32 34 RTx2AF 4 36 RTx2AF 6 38 40 RTx3BF 6 38 40 RTx3BF 6 44 RTx3BF 6 48 RTx3AF 7 8 8 50 RTx3AF 7 8 8 50 RTx3AF	5
2 24 RIXTAF 4 26 6 28 RIX2BF 8 30 RIX2BF 0 32 34 RIX2AF 4 36 RIX2AF 4 36 RIX2AF 4 36 RIX2AF 6 38 RIX2AF 6 38 RIX3AF 6 RIX3AF 6 RIX3AF 6 RIX3AF 6 RIX3AF 6 RIX3AF 6 RIX3AF 7 RIXABF 7 RI	5
4 26 R1x2BF 6 28 R1x2BF 8 30 R1x2BF 0 32 R1x2BF 4 36 R1x2AF 4 36 R1x2AF 6 38 R1x2AF 4 4 4 R1x3BF 4 4 4 6 R1x3AF 6 48 R1x3AF 8 50 R1x3AF	9 5 9 5 9 5 9 5 9 5 9 5 9 5 9 5 9 5 9 5
6 28 R Tx28h 8 30 R Tx28h 8 30 R Tx28h 2 34 R Tx2Ah 4 36 R Tx2Ah 8 40 R Tx38h 8 40 R Tx38h 6 42 R Tx38h 6 48 R Tx3Ah 6 48 R Tx3Ah 6 50 R Tx3Ah 7 Tx48h 8 50 R Tx3Ah	5 4 5 4 5 7 7
8 30 RTx2BF 0 32 RTx2BF 0 32 RTx2AF 4 36 RTx2AF 6 38 RTx2AF 6 38 RTx3BF 40 RTx3BF 40 RTx3BF 44 RTx3BF 46 RTx3AF 6 48 RTx3AF 50 RTx3AF 50 RTx3BF 2 44 RTx3BF 4 RTx3BF 4 RTx3AF 5 RTx3AF 6 RTx3AF 6 RTx3AF 6 RTx3AF 6 RTx3AF 7 RTx3BF 7 RTx3BF 7 RTx3BF 8 RTx3AF 8 RTx3	5 4 5 4 5 7 7
0 32 R TX2AP 34 R TX2AP 4 36 R TX2AF 6 38 TX2AF 8 40 R TX3BP 44 R TX3BF 46 R TX3AF 46 R TX3AF 50 R TX3AF 50 R TX3AF 50 R TX3AF 7 R TX4BF	4 5
2 34 RTx2AN 4 36 RTx2AF 8 8 40 RTx3BN 0 42 RTx3BN 42 RTx3BF 446 RTx3AF 6 48 RTx3AF 50 RTx3AF 52 RTx4BN 2 54 RTx4BF	2 2
4 36 RTx2AF 6 38 RTx2AF 6 38 40 RTx3BN 0 42 RTx3BF 2 44 RTx3BF 6 48 RTx3AF 50 RTx3AF 50 RTx4BF	2 2
4 36 RTX2AF 38 38 40 RTX3BN 0 42 RTX3BF 44 RTX3AF 6 48 RTX3AF 8 50 RTX3AF 50 RTX4BF	2 2
6 38	V 5
8 40 R Tx3BN 0 42 R Tx3BF 44 46 R Tx3AF 6 48 R Tx3AF 8 50 R Tx4BF 52 R Tx4BF	<u> </u>
0 42 RTX3BF 44 46 RTX3AF 6 48 RTX3AF 8 50 RTX4BF 2 54 RTX4BF	<u> </u>
2 44 46 RTx3AN 6 48 RTx3AF 50 0 52 RTx4BN 2 54 RTx4BF	N S
4 46 RTx3AA 6 48 RTx3AF 8 50 0 52 RTx4BA 2 54 RTx4BF	5
6 48 RTx3AF 8 50 RTx4BN 0 52 RTx4BN 2 54 RTx4BF	5
8 50 0 52 RTx4BN 2 54 RTx4BF	_
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4 106 RTX8AN	4
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8 110	_
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J1 High-speed B2B connector						
Description	Net Name	PIN	PIN	Net Name	Description	
Ground	GND	1	2	GND	Ground	
Port 0 Data pair D Connect t	RTX0DN	3	4	RTX0BN	Port 0 Data pair BConnect to R	
o RJ45 pin through a magnet ics.	RTX0DP	5	6	RTX0BP	J45 pin through a magnetics.	
Ground	GND	7	8	GND	Ground	
Port 0 Data pair C Connect t	RTX0CN	9	10	RTX0AN	Port 0 Data pair A Connect to F	
o RJ45 pin through a magnet ics.	RTX0CP	11	12	RTX0AP	J45 pin through a magnetics.	
Ground	GND	13	14	GND	Ground	
Port 1 Data pair D Connect t	RTX1DN	15	16	RTX1BN	Port 1 Data pair BConnect to R	
o RJ45 pin through a magnet ics.	RTX1DP	17	18	RTX1BP	J45 pin through a magnetics.	
Ground	GND	19	20	GND	Ground	
Port 1 Data pair C Connect t	RTX1CN	21	22	RTX1AN	Post 1 Data nais A Connect to D	
o RJ45 pin through a magnet			•		Port 1 Data pair A Connect to R	

ics.	RTX1CP	23	24	RTX1AP	J45 pin through a magnetics
Ground	GND	25	26	GND	Ground
Port 2 Data pair D Connect t	RTX2DN	27	28	RTX2BN	Port 2 Data pair BConnect to R
o RJ45 pin through a magnet ics.	RTX2DP	29	30	RTX2BP	J45 pin through a magnetics.
Ground	GND	31	32	GND	Ground
Port 2 Data pair C Connect t	RTX2CN	33	34	RTX2AN	Port 2 Data pair A Connect to R
o RJ45 pin through a magnet ics.	RTX2CP	35	36	RTX2AP	J45 pin through a magnetics
Ground	GND	37	38	GND	Ground
Port 3 Data pair D Connect t	RTX3DN	39	40	RTX3BN	Port 3 Data pair BConnect to R
o RJ45 pin through a magnet ics.	RTX3DP	41	42	RTX3BP	J45 pin through a magnetics.
Ground	GND	43	44	GND	Ground
Port 3 Data pair C Connect t	RTX3CN	45	46	RTX3AN	Port 3 Data pair A Connect to R
o RJ45 pin through a magnet ics.	RTX3CP	47	48	RTX3AP	J45 pin through a magnetics
Ground	GND	49	50	GND	Ground
Port 4 Data pair D Connect t	RTX4DN	51	52	RTX4BN	Port 4 Data pair BConnect to R
o RJ45 pin through a magnet ics.	RTX4DP	53	54	RTX4BP	J45 pin through a magnetics.
Ground	GND	55	56	GND	Ground
Port 4 Data pair CConnect to	RTX4CN	57	58	RTX4AN	Port 4 Data pair AConnect to R
RJ45 pin through a magnetic s.	RTX4CP	59	60	RTX4AP	J45 pin through a magnetics
Ground	GND	61	62	GND	Ground
Port 5 Data pair DC connect	RTX5DN	63	64	RTX5BN	Port 5 Data pair B Connect to R
to RJ45 pin through a magne tics.	RTX5DP	65	66	RTX5BP	J45 pin through a magnetics.
Ground	GND	67	68	GND	Ground
Port 5 Data pair C Connect t	RTX5CN	69	70	RTX5AN	Port 5 Data pair A Connect to R
o RJ45 pin through a magnet ics.	RTX5CP	71	72	RTX5AP	J45 pin through a magnetics
Ground	GND	73	74	GND	Ground
Port 6 Data pair D Connect t	RTX6DN	75	76	RTX6BN	Port 6 Data pair B Connect to R
o RJ45 pin through a magnet ics.	RTX6DP	77	78	RTX6BP	J45 pin through a magnetics.
Ground	GND	79	80	GND	Ground
Port 6 Data pair C Connect t	RTX6CN	81	82	RTX6AN	Port 6 Data pair A Connect to R
o RJ45 pin through a magnet ics.	RTX6CP	83	84	RTX6AP	J45 pin through a magnetics
Ground	GND	85	86	GND	Ground

		_	1	
RTX7DN	87	88	RTX7BN	Port 7 Data pair B Connect to R J45 pin through a magnetics.
RTX7DP	89	90	RTX7BP	
GND	91	92	GND	Ground
RTX7CN	93	94	RTX7AN	Port 7 Data pair A Connect to R J45 pin through a magnetics
RTX7CP	95	96	RTX7AP	
1PPS_0	97	98	3V3	3.3V/0.6A OUTPUT. Leave no c onnect if unused
RTX8DN	99	100	RTX8BN	Port 8 Data pair B Connect to R J45 pin through a magnetics.
RTX8DP	101	102	RTX8BP	
5V0	103	104	5V0	Power Input to EPSM
RTX8CN	105	106	RTX8AN	Port 8 Data pair AC connect to RJ45 pin through a magnetics.
RTX8CP	107	108	RTX8AP	
RS232_RXD	109	110	5V0	
RS232_TXD	111	112	5V0	
APPS_1	113	114	5V0	
DB CONFIG 1	115	116	5V0	Power Input to EPSM
DBCONFIG2	117	118	5V0	
/MR_RST	119	120	5V0	
	RTX7DP GND RTX7CN RTX7CP 1PPS_0 RTX8DN RTX8DP 5V0 RTX8CN RTX8CP RS232_RXD RS232_TXD APPS_1 DB CONFIG 1 DBCONFIG2	RTX7DP 89 GND 91 RTX7CN 93 RTX7CP 95 1PPS_0 97 RTX8DN 99 RTX8DP 101 5V0 103 RTX8CN 105 RTX8CP 107 RS232_RXD 109 RS232_TXD 111 APPS_1 113 DB CONFIG 1 115 DBCONFIG 1 117	RTX7DP 89 90 GND 91 92 RTX7CN 93 94 RTX7CP 95 96 1PPS_0 97 98 RTX8DN 99 100 RTX8DP 101 102 5V0 103 104 RTX8CN 105 106 RTX8CP 107 108 RS232_RXD 109 110 RS232_TXD 111 112 APPS_1 113 114 DB CONFIG 1 115 116	RTX7DP 89 90 RTX7BP GND 91 92 GND RTX7CN 93 94 RTX7AN RTX7CP 95 96 RTX7AP 1PPS_0 97 98 3V3 RTX8DN 99 100 RTX8BN RTX8DP 101 102 RTX8BP 5V0 103 104 5V0 RTX8CN 105 106 RTX8AN RTX8CP 107 108 RTX8AP RS232_RXD 109 110 5V0 APPS_1 113 114 5V0 DB CONFIG 1 115 116 5V0 DBCONFIG2 117 118 5V0

J2 High-speed B2B connectors



Description	Net Name	PI N	PI N	Net Name	Description	
Ground	GND	1	2	GND	Ground	
SFP Di ffereni al data inputs. 1G	SFPPLUSA_R XD_N	3	4	SFPPLUSB_FOCD_N	SFP Differential data inputs.	
	SFPPLUSA RX D_P	5	6	SFPPLUSB_RXD_P	2.5G/1G	
Ground	GND	7	8	GPM	Ground	
SFP Differential data outputs .10	SFPPLUSPLTX D_N	9	1	SFPPLUSB_TXD_N	SFP Differential data outputs	
	SFPPLUSA TX D_P	1	1 2	SFPPLUSB_TXD_P	2.5Gi1G	

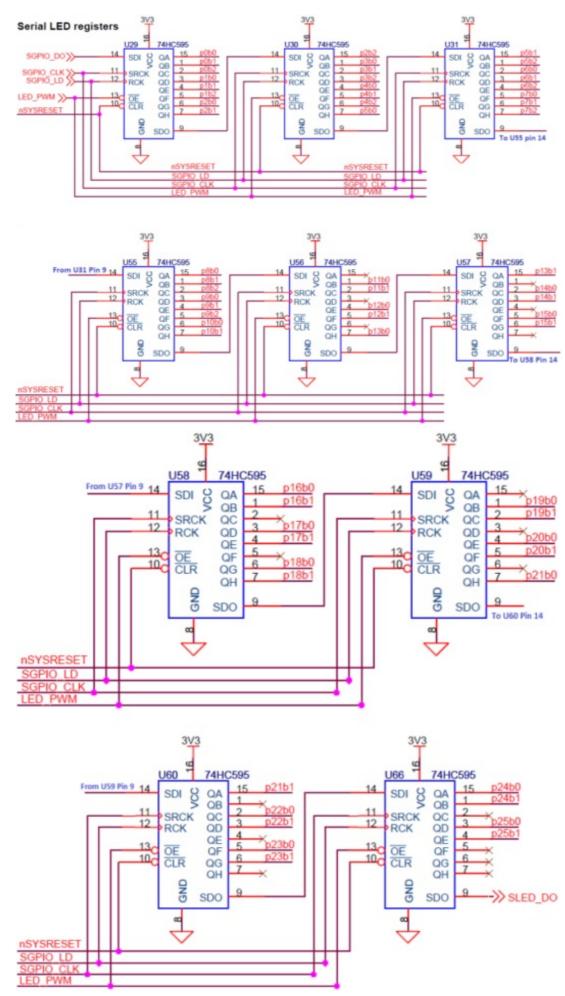
Ground	GND	1 3	1 4	GND	Ground
		1 5	1 8	OSGMII_P21_P24_Ft XD_P	Differentia data
•		1 7	1 8	CISGIAII_P21_P24_F OD_N	inputs.O.SGM1102.5G/1G
Ground	910	1 9	2	GND	Ground
		2	2 2	OSGMII_P21_P24 T XD_P	Differenial data
		2	2 4	OSGMII_P21_P24 T XD_N	ouhuts.0SGM110/2.5G/1G
Ground	GND	2 5	2 6	GND	Ground
Referent one input to VSC74 29. Leave unconnected if not us ed	CLK125_1	2 7	2 8	OSGMILP17_P2O_R XD_P	Differential data Inputs.OSCM1102.5G/1G
Ground	GND	2 9	3	0SGMII_P17_P20_F0 CD_N	
		3	3 2	GND	Ground
Ground	(3413	3	3 4	OSGMII_P17_P20 T XD_P	Wormed data
		3 5	3 8	OSGMII_P17_P20 T XD_N	oulputs.CISGM110/2.56/16
Ground	GND	3 7	3 8	910	Ground
SFP PLUS A and Input to VS C7429	SFPPLUSA_S CL	3 9	4 0	OSGMILP13_P16_RX D_P	Differential data
SFP PLUS A loss nut to VS C7429	SFPPLUSA_L OS	4	4 2	OSGMII_P13_P16_R XD_N	lputs.OSGM1102.5G/1G
SFP PLUS 8 select input to VSC7429	SFPFLUSB_S CL	4 3	4	CND	
SFP PLUS B loss Input to V SC7429	SFPPLUSA_L OS	4 5	4 6	OSGMII_P 13_P 16 T XD_P	Differemlial dma
		4 7	4 8	OSGMII_P13_P16 T XD_N	oulputs.OSGM110/2.5G/1G
MIIM data input Output Jed VSC7429	MI12M010	4 9	5 0	GND	Ground
MOM clock for VSC7429	MI12_MDC	5	5 2		

IFt00 IN	NINT_FHY0	5	5 4		
VSC7429 I2C Clock	12C_SCL	5 5	5 6		
VSC7429 I2C Data	I2C_SDA	5 7	5 8		
12C_MUXSEL_GP101	GPO1	5 9	6 0	SGP102_10	SIO load data output
GP102	GP102	6	€ 2	SGP102 CI. K	SIO clock output
SIO data output	SGP102_1:10	6 3	6 4		
SIO data int	SGP102_1:11	6 5	6 8		
gni:brain VSC8512	COMA_MODE	6 7	6 8		
ESLED1_Pube Tan VSC851	LED_PWM	6 9	7 0		
	RTX9DN	7	7 2	GND	Ground
Patti Data pair C&D Gamed to RJ45 dn trough a	RTX9DP	7	7 4		
magnetics.Leave unconnected	RTX9CN	7 5	7 6	RTX98N	
	RTX9CP	7 7	7 8	RTX9BP	Pon 9 Data par A& B Connect to RJ4 5 pin through
IRO1 IN	NINT_PHY1	7 9	8	RTX9AN	a magnetics.Leave unconnecte d
Device reset, active low nut t o EPSM. Leave no comect if not used	NSYSRESET	8	8 2	RTX9AP	
Ground	GND	8	8	GND	Ground
Pat 9 Data pair D	RTX9D 2X N	85	88	RTX98 2X N	Port 9 Data par B

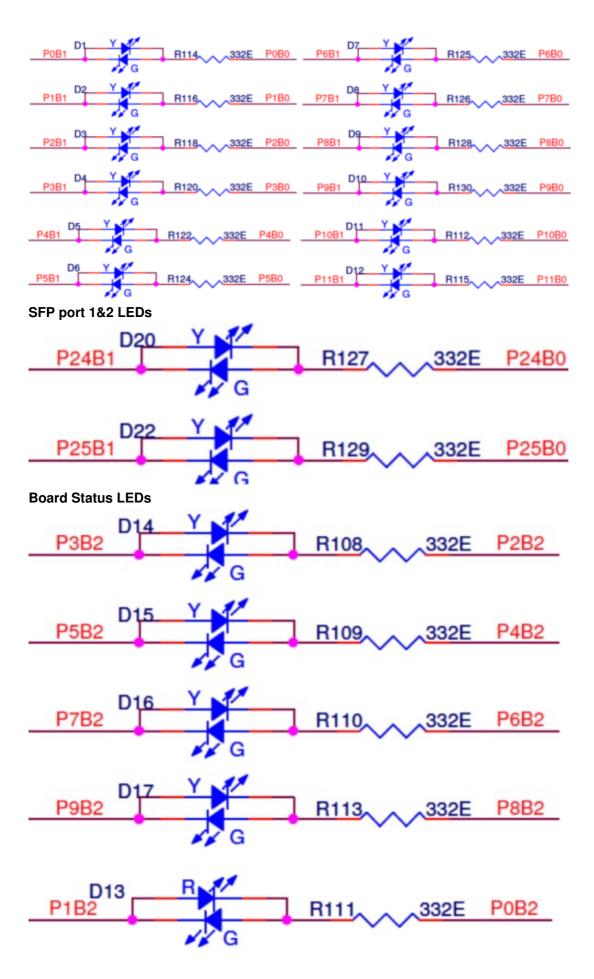
Connect to RJ45 pin through amagnetics.	RTX9D_2X_P	87	88	RTX9B_2X_P	Connect to RJ45 pin through amagnetics.
Ground	GND	89	90	GND	Ground
Port 9 Data pair C Connect t	RTX9C_2X_N	91	92	RTX9A_2X_N	Port 9 Data pair A Connect to
o RJ45 pin through amagnetics.	RTX9C_2X_P	93	94	RTX9A_2X_P	RJ45 pin through amagnetics.
Ground	GND	95	96	GND	Ground
Port 10 Data pair D Connect	RTX10DN	97	98	RTX10BN	Port 10 Data pair B Connect t
to RJ45 pin through amagnetics.	RTX10DP	99	10 0	RTX10BP	o RJ45 pin through amagnetics.
Ground	GND	10 1	10 2	GND	Ground
Port 10 Data pair C Connect	RTX10CN	10 3	10 4	RTX10AN	Port 10 Data pair A Connect to RJ45 pin through amagnetics.
to RJ45 pin through amagnetics.	RTX10CP	10 5	10 6	RTX10AP	
Ground	GND	10 7	10 8	GND	
Port 11 Data pair D Connect to RJ45 pin through	RTX11DN	10 9	11 0	RTX11BN	Port 11 Data pair B Connect to RJ45 pin through
amagnetics.	RTX11DP	11 1	11 2	RTX11BP	amagnetics.
Ground	GND	11 3	11 4	GND	Ground
Port 11 Data pair C Connect to RJ45 pin through amagnetics.	RTX11CN	11 5	11 6	RTX11AN	Port 11 Data pair A Connect t
	RTX11CP	11 7	11 8	RTX11AP	o RJ45 pin through amagnetics.
Ground	GND	11 9	12 0	GND	Ground

LED LOGIC

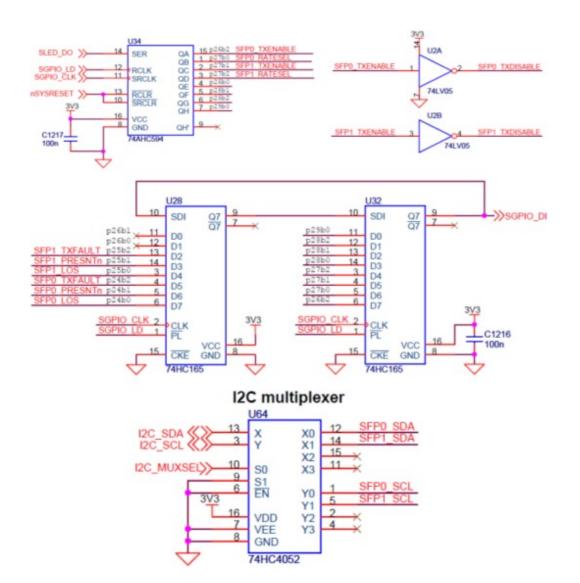
This below section shows the implementation of LED logic on the carrier board. This logic can be implemented inside a CPLD

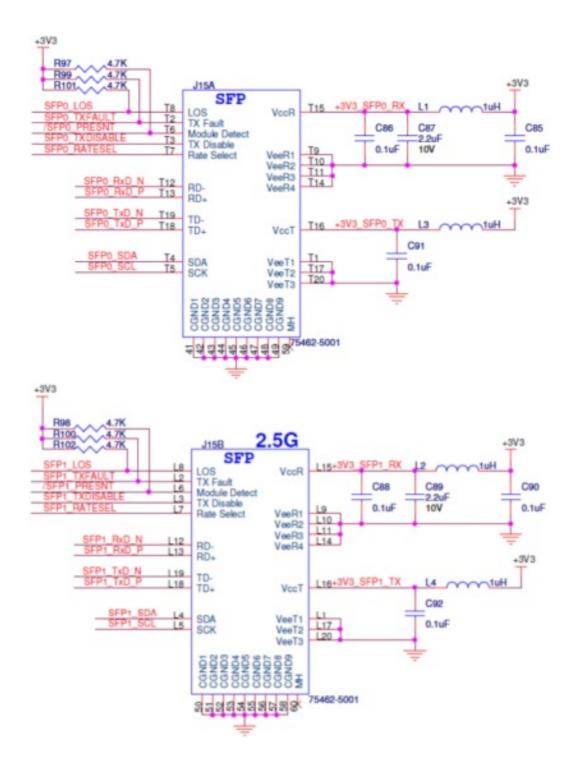


Ethernet port 1-12 LEDs



SFP LOGIC



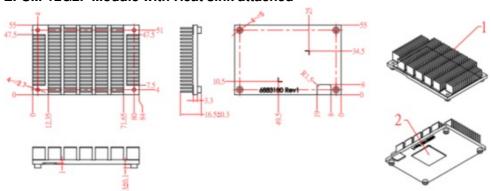


HEAT SINK ACCESSORY

The EPSM-12G2F card comes standard with an aluminum heat sink in the same shape as the board and mounts to the top of the board via the four corner COM express mini board mounting holes. The heat sink contains built in riser blocks that bring the metal close to the surface of all the heat generating components. Thermal pads fill in the gap between the metal and the component top surfaces.



EPSM-12G2F Module with Heat sink attached



Mechanical Dimension of the Heatsink

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Documents / Resources



<u>DIAMOND SYSTEMS EPSM-12G2F Epsilon Ethernet Switch Module</u> [pdf] User Guide EPSM-12G2F Epsilon Ethernet Switch Module, EPSM-12G2F, Epsilon Ethernet Switch Module, Ethernet Switch Module, Module

References

• User Manual

Manuals+, Privacy Policy