

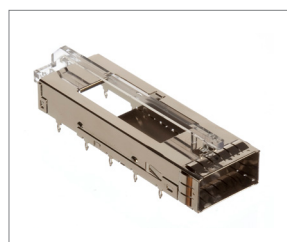
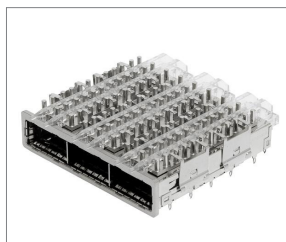
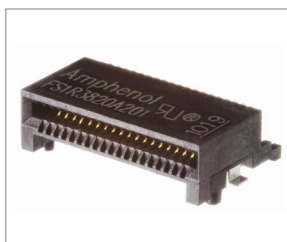
# ExpressPort® QSFP+

## Product Description

The ExpressPort® QSFP+ interconnect system is comprised of a 38 position 0.8mm pitch SMT connector, and a press-fit cage. With four channels of data in one pluggable, the system interface is capable of transferring data up to 28 Gbps/Channel, and replacing up to 4 standard SFP+ receptacles. These features result in greater port density and overall cost savings over traditional SFP+ products. Supporting standards include, Gigabit Ethernet, InfiniBand, and SON-ET/SDH with different data rate options. ExpressPort® QSFP+ includes cages in single, ganged and stacked configurations with multiple heat sink options supporting various thermal requirements and port status with light pipes options.

Applications		SFF Supported Standards
Data Servers	SAN, NIC cards	<b>ExpressPort QSFP+</b>
Router/Switches	HBA'S	Connector SFF-8682
Hubs		Cage SFF-8683

Product Specifications - ExpressPort® QSFP+			
CONNECTOR		CAGE	
<b>Materials Specifications</b>			
<b>Housing</b>	Black color, Glass reinforced, Lead Free Solder Reflow Process Compatible Thermo Plastic	<b>PCB Thickness</b>	1.44 mm MIN for single mounted. (1xN)
<b>Contacts Base Material</b>	Phosphor Bronze	<b>Belly to Belly</b>	2.85 mm MIN for 1xN. 1.57 mm MIN for 2xN.
<b>Contact Normal Force</b>	50 grams min.		
<b>Plating Solder Tails</b>	Matte tin		
<b>Plating Mating Area</b>	Gold		
<b>Resonance Dampening Feature</b>	Conductive Polymer		
<b>Operating &amp; Storage Temperature</b>	-40° to +85° C		
<b>Electrical Specifications</b>			
<b>Operating Voltage</b>	30 VDC per contact		
<b>Operating Current</b>	0.5 A per contact		
<b>Differential Impedance</b>	100 Ω +/-10 Ω		
<b>Mechanical Specifications</b>			
<b>Mating Force</b>	40 N Maximum	<b>Unmating Force</b>	30 N Maximum
<b>Durability</b>	250 mating cycles	<b>Insertion Force to PCB</b>	780 N for 1 port 1000 N for 2 Ports 1700 N for 4 Ports 2400 N for 6 Ports
<b>Options</b>			
<b>Packaging</b>	Tape and Reel	<b>Packaging</b>	Tray
<b>EMI Options</b>	Gasket, Spring Fingers		
<b>Cage Mounting</b>	Behind Bezel, Thru Bezel, Hybrid		
<b>Configurations</b>	1XN (N=1,2,3,4,6) 2XN (N=1,2,3)		
<b>Environmental Specifications</b>			
<b>RoHS</b>	Yes		
<b>Halogen Free</b>	Yes		
<b>Flammability Rating</b>	UL 94V-0		



# Ordering Information

## ExpressPort® QSFP+ (Connector)

<b>FS1</b>	<b>SERIES DESIGNATION</b>	FS1	<b>SPECIAL - QSFP+ (12 Gbps &amp; UP)</b>	XX
<b>R38</b>	<b>STYLE</b>	R38 - 38 Position (QSFP 10G, ExpressPort® QSFP+ 12G+ & 16G)	<b>00</b> - No Resonance Dampening, No Hold Down Tabs <b>01</b> - No Resonance Dampening, Hold Down Tabs	
<b>X</b>	<b>PLATING</b>	<b>2</b> - 30 μ" (0.76 μm) Gold Plating on Mating Area; Matte Tin Plating on Termination <b>3</b> - 15 μ" (0.38 μm) Gold Plating on Mating Area; Matte Tin Plating on Termination	<b>SPECIAL - QSFP+ (16 Gbps)</b> <b>10</b> - Resonance Dampening, No Hold Down Tabs <b>11</b> - Resonance Dampening, Hold Down Tabs	
<b>0</b>	<b>OPTION 1</b>	<b>0</b> - Standard	<b>OPTION 2</b> <b>00</b> - QSFP Connector <b>A2</b> - QSFP+ Connector	XX

## ExpressPort® Stacked QSFP+

<b>U90</b>	<b>SERIES DESIGNATION</b>	U90	<b>CONNECTOR FOOTPRINT</b>	0
<b>B</b>	<b>STYLE</b>	B - Standard	<b>0</b> - Standard	
<b>X</b>	<b>NUMBER OF PORTS IN ROW</b>	<b>1</b> - 2X1 <b>2</b> - 2X2 <b>3</b> - 2X3	<b>VENT HOLES</b> <b>0</b> - Large Vent Holes & EMI Cover <b>2</b> - Small Vent Holes & EMI Cover <b>4</b> - Rectangular Vent Holes & EMI Cover	X
<b>0</b>	<b>HEAT SINK OPTION (No Light Pipe Available)</b>	<b>0</b> - No Heat Sink Option	<b>EMI GASKET OPTION</b> <b>1</b> - Chomerics 1273 Conductive Elastomer <b>2</b> - Chomerics S6305 Conductive Elastomer	X
<b>5</b>	<b>APPLICATION</b>	5 - Options Available - Consult Factory	<b>PACKAGING</b> <b>1</b> - Tray	1
<b>4</b>	<b>CAGE &amp; CONNECTOR CONTACT PLATING</b>	<b>4</b> - 30 μ" (0.76 μm) Gold Over 50 μ" (1.27 μm) to 150 μ" (3.81 μm) of Nickel; 15 μ" (0.38 μm) to 60 μ" (1.52 μm) of Matte Tin Over 50 μ" (1.27 μm) to 150 μ" (3.81 μm) of Nickel on Press-Fit Tail Area; Nickel Plating for Cage	<b>LIGHT PIPE OPTION</b> <b>6</b> - Light Pipes (Triangular Outlet); Left Arrow Pointing Bottom Outlet & Right Arrow Pointing Top Port <b>7</b> - Without Light Pipes <b>8</b> - With Light Pipes; Left Arrow Pointing Top Port & Right Arrow Pointing Bottom Port	X
			<b>DUST COVER OPTION</b> <b>0</b> - Without Dust Cover <b>D</b> - With Dust Cover	X

## ExpressPort® QSFP+ Cages

<b>U90</b>	<b>SERIES DESIGNATION</b>	U90	<b>PACKAGING</b>	X
<b>X</b>	<b>STYLE</b>	<b>A</b> - One Row Cage 0", Through the Bezel (No Light Pipe) <b>C</b> - One Row Cage 1", Through the Bezel (1X1 Only No Light Pipe) <b>D</b> - One Row Cage 0", Hybrid with Elastomeric Gasket <b>G</b> - One Row Cage 0", Behind the Bezel <b>H</b> - One Row Cage 0", Through the Bezel with Optional Light Pipe <b>K</b> - One Row Cage 0", Through the Bezel with No Heat Sink Opening <b>L</b> - One Row Cage 0", No Pins on Back Wall <b>P</b> - One Row Cage 0", Behind the Bezel with Low Profile Heat Sink and Clip <b>R</b> - One Row Cage 0", Through the Bezel with Low Profile Heat Sink <b>T</b> - One Row Cage 0", Through the Bezel with Low Profile Heat Sink and Clip with Optional Light Pipe <b>W</b> - One Row Cage 1", Through the Bezel with No Rear Pin (1X1 Only No Light Pipe)	<b>1</b> - Tray (Shipped Unassembled for Single Port) <b>T</b> - Tape & Reel (1X1 Only) <b>A</b> - Tray Heat Sink & Clip or Light Pipe Shipped Assembled	
<b>X</b>	<b>NUMBER OF PORTS IN ROW</b>	<b>1</b> - 1X1 <b>2</b> - 1X2 <b>3</b> - 1X3 <b>4</b> - 1X4 <b>6</b> - 1X6	<b>LIGHT PIPE OPTION</b> <b>0</b> - Without Light Pipe <b>1</b> - Round 1.4mm Outlet Light Pipe <b>3</b> - Square 2.6x2.6mm Outlet Light Pipe, No EMI Gasket	X
<b>X</b>	<b>HEAT SINK OPTION</b>	<b>1</b> - No Heat Sink or Clip Shipped <b>2</b> - Fin Style(Black Anodized) Heat Sink & Clip (H = 6.5 mm) <b>3</b> - Fin Style(Black Anodized) Heat Sink & Clip (H = 4.2 mm) <b>4</b> - Fin Style(Black Anodized) Heat Sink & Clip (H = 13.5 mm) <b>5</b> - Pin Style(Nickel Plated) Heat Sink & Clip (H = 6.5 mm) <b>6</b> - Pin Style(Nickel Plated) Heat Sink & Clip (H = 4.2 mm) <b>7</b> - Pin Style(Nickel Plated) Heat Sink & Clip (H = 13.5 mm)	<b>DUST COVER OPTION</b> <b>0</b> - Without Dust Cover <b>D</b> - With Dust Cover (Shipped Loose)	X
			<b>PLATING</b> <b>1</b> - Nickel	1
			<b>APPLICATION</b> <b>1</b> - Press-Fit Pins (2.5mm Long)	1
			<b>HEAT SINK OPTION</b> <b>D</b> - Pin-Fin Style(Black Anodized) Heat Sink & Clip (H = 6.5 mm) <b>E</b> - Pin-Fin Style(Black Anodized) Heat Sink & Clip (H = 4.2 mm) <b>F</b> - Pin-Fin Style(Black Anodized) Heat Sink & Clip (H = 13.5 mm) <b>N</b> - Pin-Fin Style(Nickel Plated) Heat Sink & Clip (H = 6.5 mm) <b>P</b> - Pin-Fin Style(Nickel Plated) Heat Sink & Clip (H = 4.2 mm) <b>R</b> - Pin-Fin Style(Nickel Plated) Heat Sink & Clip (H = 13.5 mm)	X



### Order Information:

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For more information consult factory or visit [amphenol-highspeed.com](http://amphenol-highspeed.com)

Product Applications; List represents common uses for the product but is not limited to these uses.

All specifications are subject to change without notice.

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