Solution Provider
for Interconnection Technologies

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nextron®

30 Anniversary SINCE · 1986

High Speed Connectors
Solution

- QSFP+ / QSFP28G /QSFP-DD
- SFP / SFP+ / SFP28G / OSFP
- MINI SAS HD

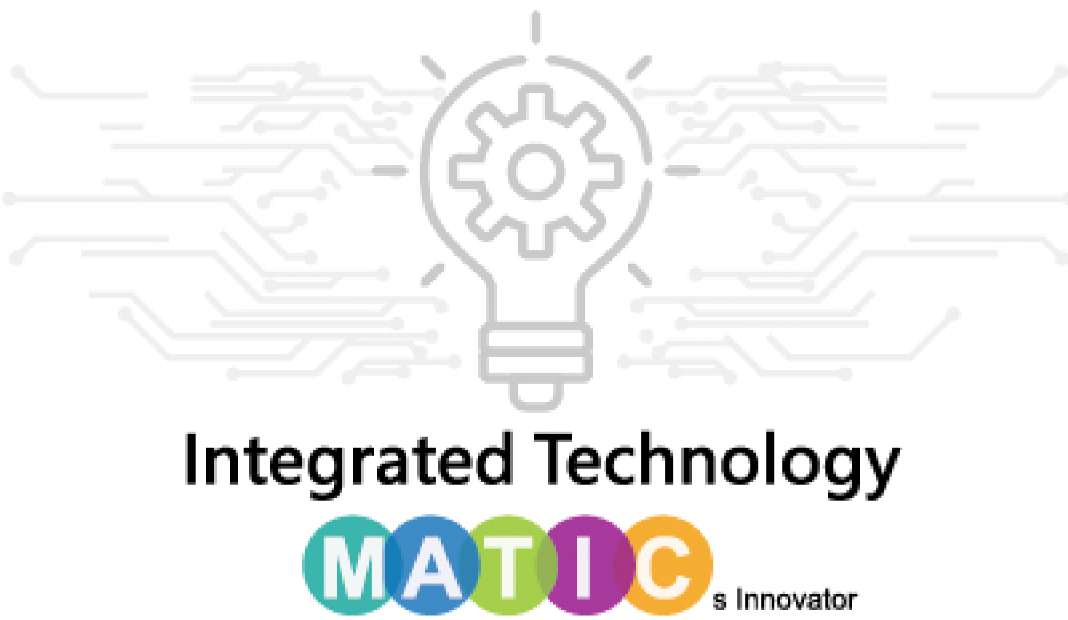
TL9000
ISO14001
OHSAS18001
ISO13485

Index

About Nextron

Company Profile

Nextron has its unique technologies in high speed, press-fit, thermal and locking mechanism with over 30 years experiences to provide interconnection solution for the customer who is in need of the telecom, datacom, medical, energy and embedded system.




Medical


Aerospace


Transport


Industry


Cloud / Communication

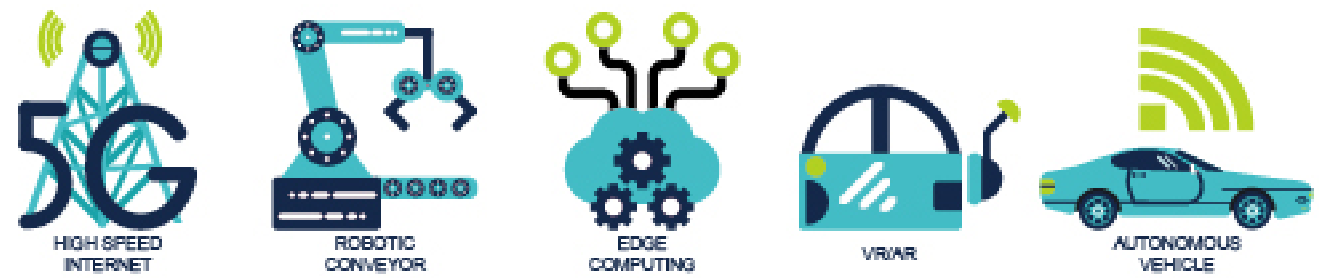
Utilize Nextron's unique integrated technology and customization service to create value added service in order to solve customer's pain.

About Nextron

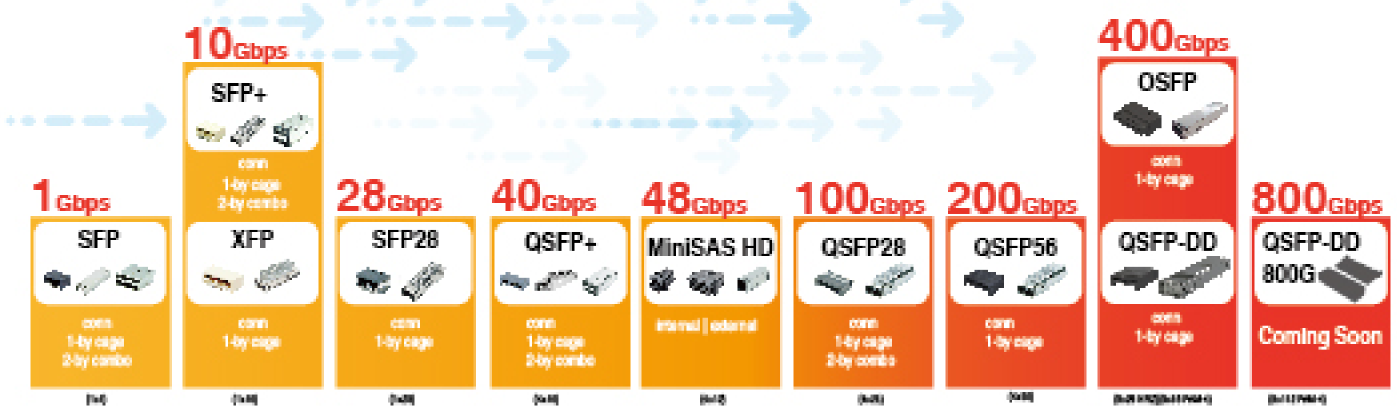
Application

The establishment of 5G has been driven by the growing number of devices requiring high speed data transmission/large bandwidth internet access/low-latency, including industries such as AIoT, edge-computing, broadband mobile service, VR/AR, and autonomous vehicle's V2X.

As an interconnection solution provider of 5G infrastructure, Nextron has years of high-speed, signal integrity, thermal, rugged and mechanical design expertise along with high-precision manufacturing capabilities, which together allow us to provide reliable solutions for our customers. Our broad portfolio of high-speed I/O connectors and cages are designed for AAU all the way to CN (Core Networks), covering from 1G to 400G with 800G in development. Physical issues related to ever-increasing high-speed communication, such as thermal performance and signal integrity, are what we have been investing to enhance in order to satisfy industry's future standard.



Nextron High Speed I/O Roadmap



High Speed I/O Table 06

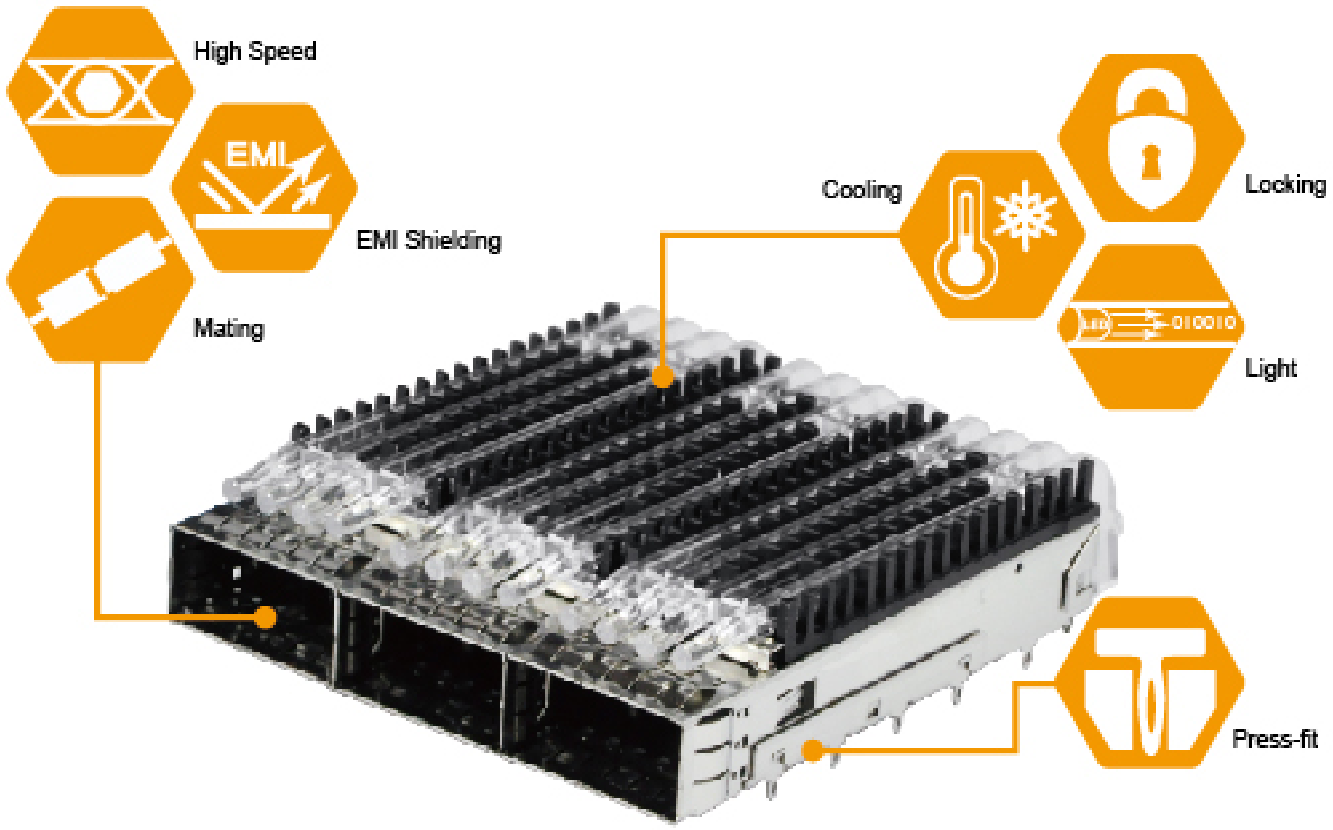
High Speed I/O Table

Name	SFP	XFP	SFP+	QSFP	QSFP+	MiniSAS	MiniSAS HD	SFP28
Standards	INF-8074i	INF-8077i	SFF-8081 SFF-8431 SFF-8432 SFF-8083 SFF-8084 SFF-8433	INF-8438i	SFF-8436 SFF-8635 SFF-8682 SFF-8683 SFF-8685	SFF-8470 SFF-8087 SFF-8088	SFF-8643 SFF-8644	SFF-8402 SFF-8431 SFF-8432 SFF-8084 SFF-8433
Signal Pair	1	1	1	4	4	4	4	1
Data Rate	· 1x1Gbps · 1x4Gbps	· 1x10Gbps	· 1x8Gbps-FC · 1x10Gbps-Ethernet	· 4x1Gbps-Ethernet · 4x4Gbps-FC	· 4x10Gbps-Ethernet · 4x14Gbps-Infiniband · 4x16Gbps-FC	· 4x6Gbps	· 4x12Gbps	· 1x28Gbps
Data Protocol	· Ethernet · FC	· Ethernet · FC · Sonet	· Ethernet · FC	· Ethernet · Infiniband · FC	· Ethernet · Infiniband · FC	SAS 2.0	SAS 3.0	· Ethernet · Infiniband · FC
Port Density Per 1RU	56	-	56	36	36	-	-	56
Connector Pin No.	20	30	20	38	38	36	36	20
PCB Mounting	Solder Press-fit	Press-fit	Solder Press-fit	Press-fit	Press-fit	Solder	Press-fit	Solder Press-fit

Name	SFP-DD	DSFP	CFP	CFP2	CFP4	QSFP28	CFP8	QSFP-DD	OSFP
Standards	SFP-DD MSA	DSFP-MSA	CFP MSA	CFP MSA	CFP MSA	SFF-8661 SFF-8662 SFF-8663 SFF-8665 SFF-8672	CFP MSA	QSFP-DD MSA	OSFP MSA
Signal Pair	2	2	4 10	4 10	4	4	16	8	8
Data Rate	· 2X28Gbps-NRZ · 2X56Gbps-PAM4	· 2X28Gbps-NRZ · 2X56Gbps-PAM4	· 4x25Gbps · 10x10Gbps	· 4x25Gbps · 10x10Gbps	· 4x10bps · 4x25Gbps	· 4x25Gbps	· 16x25Gbps-NRZ · 8x50Gbps-PAM4	· 8x25Gbps-NRZ · 8x50Gbps-PAM4	· 8x25Gbps-NRZ · 8x50Gbps-PAM4
Data Protocol	· Ethernet · Infiniband · FC	· Ethernet · Infiniband · FC	· Ethernet · Infiniband · FC	· Ethernet · Infiniband · FC	· Ethernet · Infiniband · FC	· Ethernet · Infiniband · FC	· Ethernet · Infiniband · FC	· Ethernet · Infiniband · FC	· Ethernet · Infiniband · FC
Port Density Per 1RU	56	56	4	8	32	36	-	36	32
Connector Pin No.	40	22	148	104	56	38	124	76	60
PCB Mounting	Press-fit	Press-fit	Screw	Press-fit	Press-fit	Press-fit	Press-fit	Press-fit	Press-fit

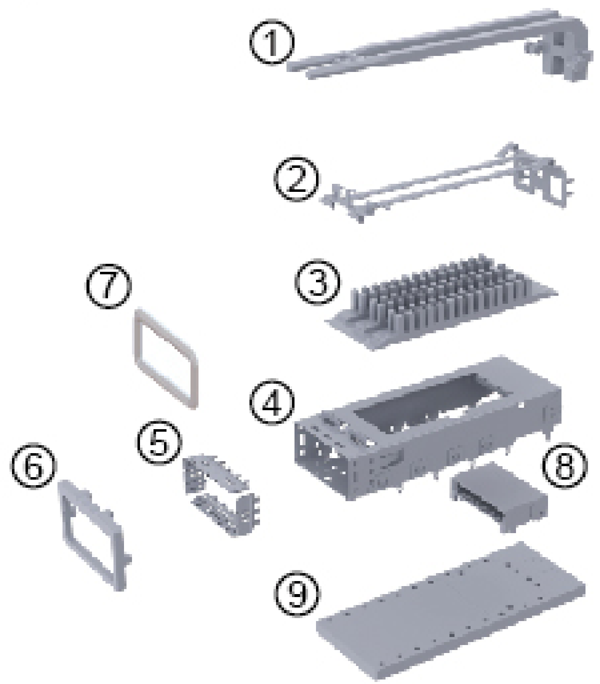
Customized Solutions

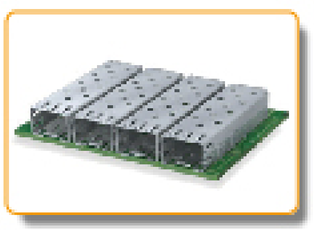
Configuration

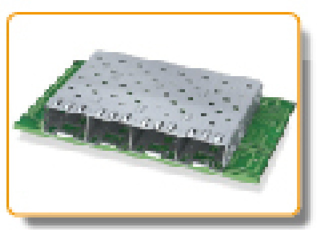


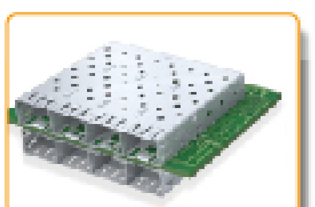
Components

1. Light Pipe
2. Clip
3. Heat Sink
4. Cages
5. EMI Springs (thru bezel)
6. Zinc Frame (behind bezel)
7. Conductive Gasket (EMI gasket)
8. Connector
9. PCB




Single Port Cages


1-by Ganged Cages


Belly-to-Belly Cages

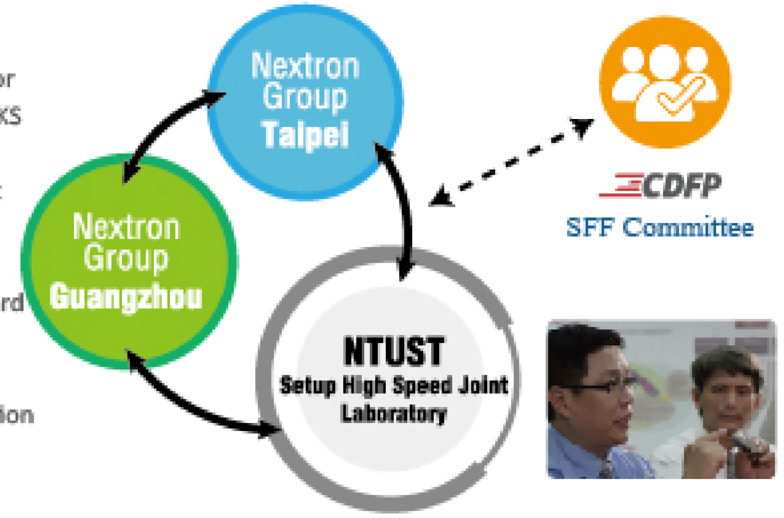

2-by Stacked Cages

Technology

Design Team

Nextron creates unique solutions tailored for each customer's needs through SOLIDWORKS design tools and interconnection design experience. We focus on improving product quality and reaching higher standards.

Nextron participates in international standard associations such as SFF & CDFP and works with academic institutions (High Speed Connector Joint Lab) to obtain next generation specifications and technology trends.



Core Technology

High Speed	EMI Shielding	Cooling	Press-fit
Simulation	Locking	Waterproof	Lightweight
Anti-vibration	Non-magnetic	strong	Surface treatment
Stamping	CNC	Power	Automation

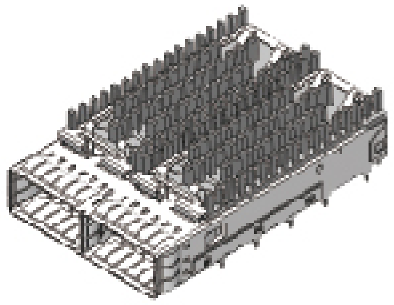
High Speed Solutions

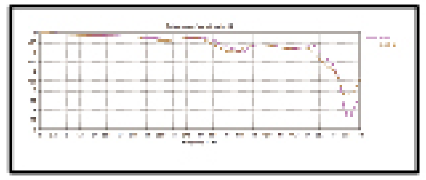
High Speed Signal

Designing & Sample Making

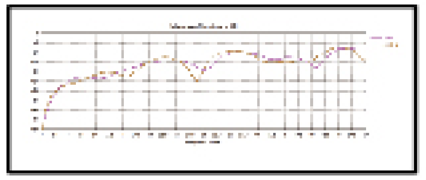
Customized connector design according to the requirements of clients.

- Low losses, low returns, low interferences, and steady impedances could meet the needs of various applications.
- Equipment and capability for signal integrity analysis and simulation.
- Equipment and capability for flow, thermal, mechanical, and electrical simulations.

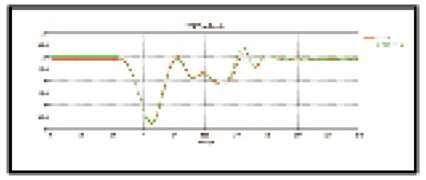




Attenuation (Insertion Loss) :



Return Loss :

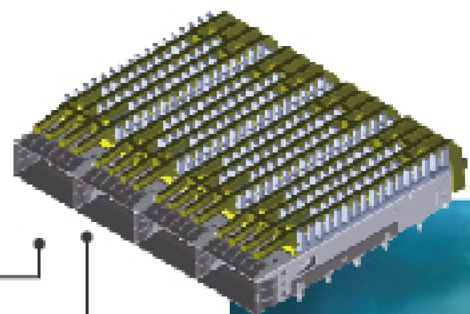


Impedance :

The steadier the insertion loss/ return loss/ impedance, the better the signal quality.

EMI

Design of cage: prevent inside and outside EMIs.

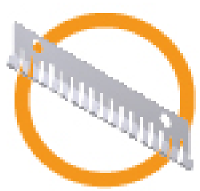


EMI Absorber

EMI absorber, prevent inside signals from flowing out.

EMI shielding

EMI shielding, prevent outside EMI.



EMI Tester Lab

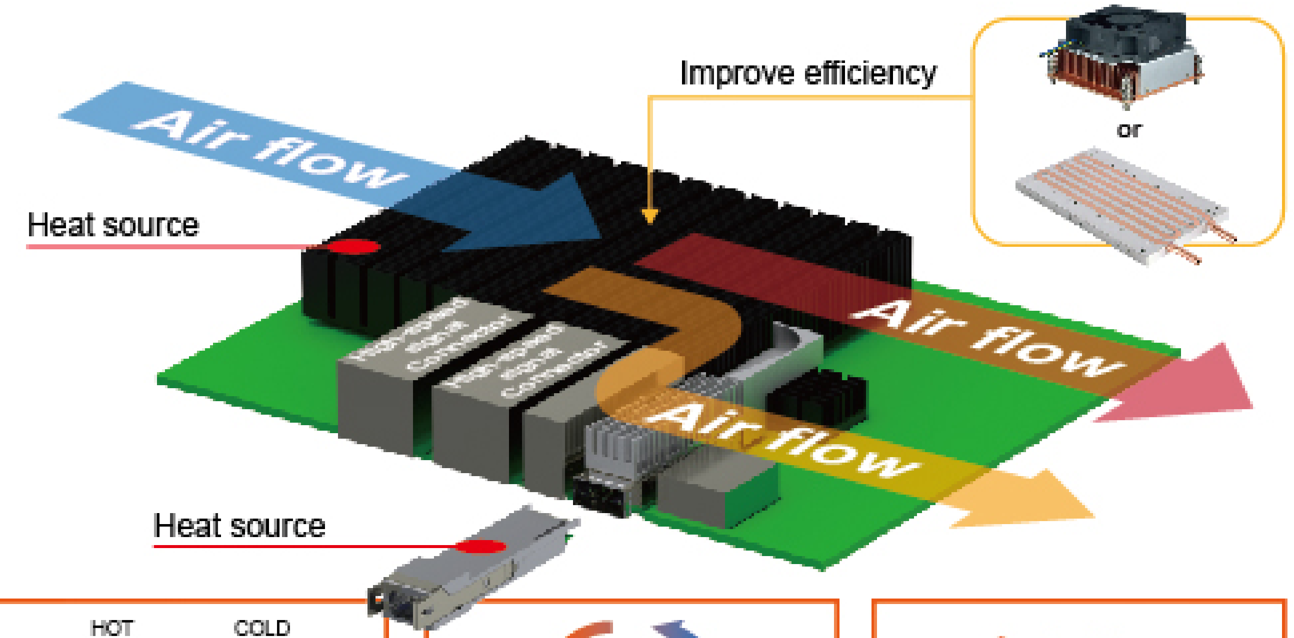
- National standard lab provide more than just simulation. To verify new EMI design and material solution, Nextron execute field test for best results.

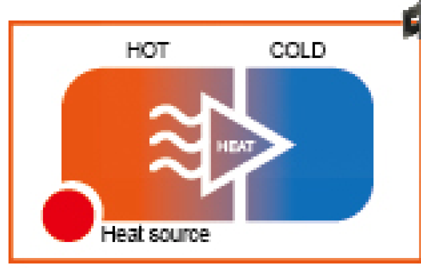
Cooing Solutions

Heat Dissipation

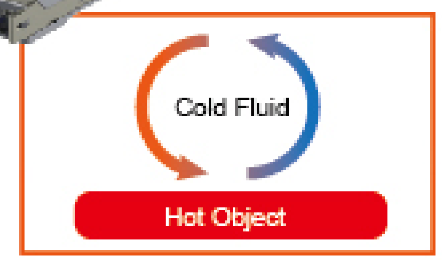
Flexibly apply conductive, convective, and radiate solutions according to the working environment of customer's products.

Achieve effective heat dissipation with the help of heatsink clip's normal force, the shape of heatsink, heat pipes, and other materials with good thermal performance.

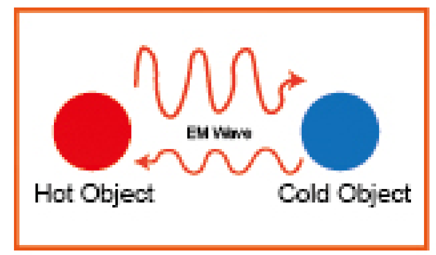




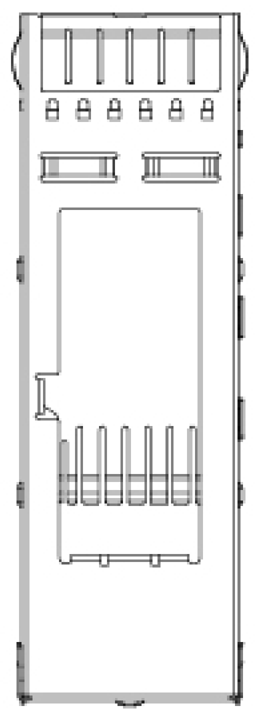
Conduction



Convection



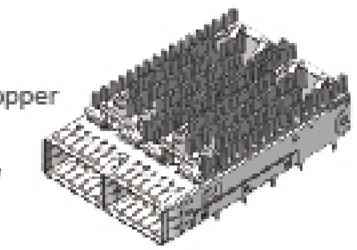
Radiation



Heat sink

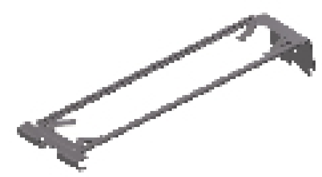
Fins in shape of rectangle, pin, or others made of copper or aluminum alloys.

The contact surface is specially finished to have low thermal resistance.



Clip

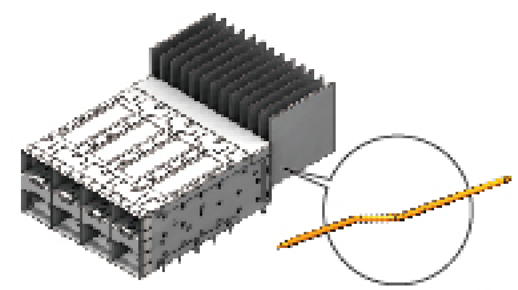
Proper normal force provides effective heat dissipation effect for heat sink.



Heat Pipe

Hollow and vacuum tube filled with working fluid like water can bring heat from top to tail extremely fast.

The shape of heat pipe can be circular or flat, and it can be bent to fit surrounding electrical components.

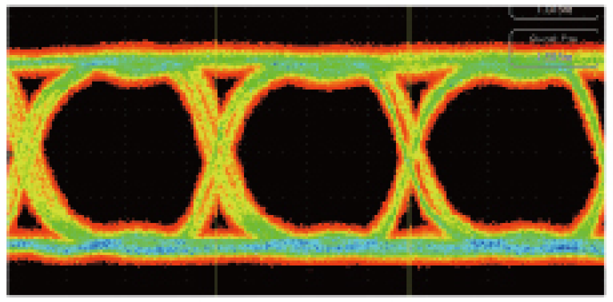


Simulation

Simulation

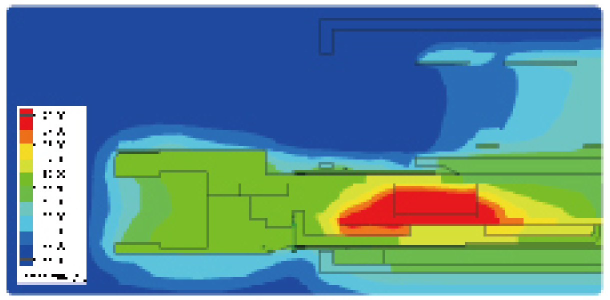
Nextron understands that most customers would like to customize design but concern about potential risks. We have widely adopted ANSYS as the primary tool in all Finite Element Analysis (FEA) and mechanical simulations since 2020.

From design stage, we strive to realize your design with no compromise. Experts in Nextron leverage multi-linear model and material database to optimize your requirements.



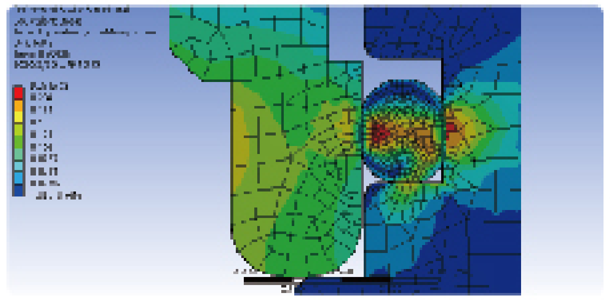
High Speed Measurement

- Nextron uses customized equipment / fixture to buildup in-house material database. Those material data significantly minimize the gap between real product performance and simulation result.



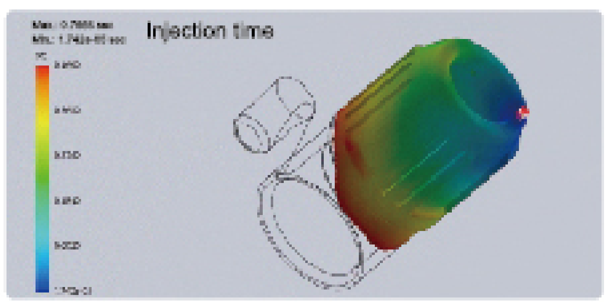
Thermal Analysis

- Leverage SOLIDWORKS Flow analysis tool and special designed test environment, Nextron can provide thermal analysis from component level to system level. Over 20 years' experience designers customize each product with multiple materials, airflow designs, and even active cooling solutions.



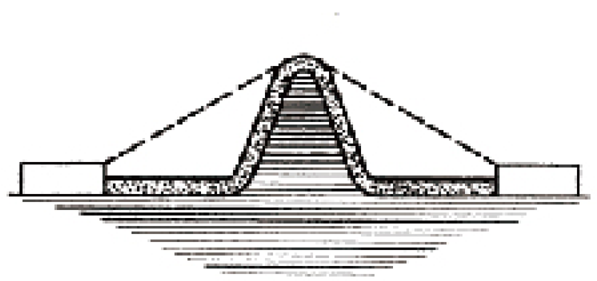
FEA & Mechanical Analysis

- Nextron products have been adopted in aerospace, automobile, and other harsh industrial environments. Except 30 years mechanical design experience, Nextron leverage FEA analysis, and full-range SOLIDWORKS and ANASYS tools to ensure each product meets tough mechanical requirements.



Mold Flow Analysis

- Unlike regular molding suppliers, Nextron has more experience to handle special materials such as PEEK, PSU, PPSU and others. No matter for releasing internal stress, or to meet tough spec, experienced mold flow analysis engineers and in-house mold manufacturing can deliver best total solutions.



Insulation

- There are always challenges to meet insulation requirements in limited space or reach higher current. Nextron has unique design portfolio to solve clearance, creepage & withstand voltage problems.

Press-fit Service

Press-fit Machine

With over 3 decades of experience in the press-fit field, Nextron's press-fit machine has been a professional choice worldwide. Nextron's LPM3 is one of the best-selling C type press-fit machine in the market. C types are cost-efficient and allows operators user-friendly placement of components and monitor of the press-fit process. Nextron's LPM3 press-fit machine can facilitates the setup process of pressure, distance and sequence.

LPM3 could accommodate PCB size up to 620mm x 320mm or 520mm x 360mm. The floating holding plate could be smoothly moved around to facilitate operation.

Features

- Real-time press error alert
- Intuitive operation and setting
- Prompt recipe parameter loading
- +-0.02mm press repeated precision
- 5 sectional press control
- +-0.04mm press precision
- Offline editing
- 80mm max. press distance
- Press speed control

More info link

Press-fit tool

Press-fit tools are used in press-fiting connectors with press-fit equipment. Ask the connector supplier for the press-fit setting details.

More info link

Optional

Scanner | Laser marker | Light | Light gate | 80x80cm table 150x90cm table

Quality

Testing Capability

National Standard

Industry Standard

Customer's Requirement

Complete equipped lab and ally with certified laboratory (ISO-17025) . Verify product specification through development stages based on national and industrial standard .

Electrical
- EMI Test
- Contact Retention
- Electrostatic Breakdown
- High-speed Signal

Material
- Durability
- Metal Bending Strength
- X-Ray
- Insertion Force

Environment
- Steam Aging
- Salt Spray
- Temperature Life
- Thermal Shock
- Heat Resistance

Measurement
- Side Force
- Solder Ability
- 3D Measurement
- Film Thickness Test

Mechanical
- Drop Test
- Spring Force
- Random Vibration

Certification

RMAP RoHS compliant

Nextron provides the most reliable products for our customers with a worldwide quality standard system.

SFP SERIES

SFP 1 Gbps Connector
827 Series

Features

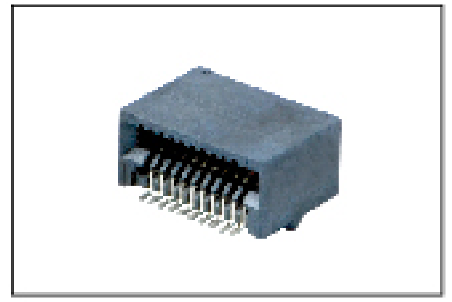
- Designs are Based on the Industry Standard SFP Multi-Source Agreement (MSA).
- The SFP Board Mount Connector is 20 Position and 0.8mm Pitch.
- High Speed Contact Design.

Technical Data

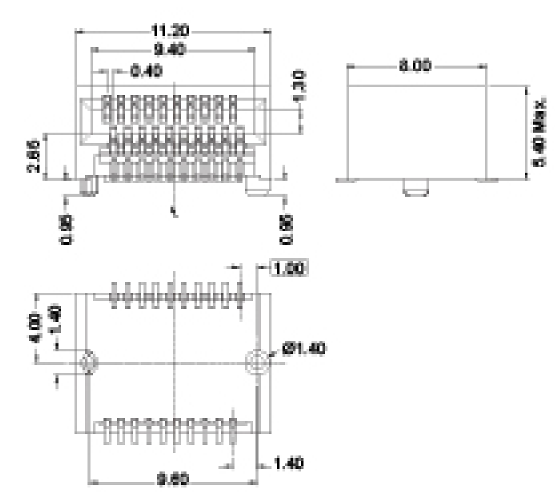
Material
- Insulator：High Temp Thermoplastic, UL 94V-0, black
- Contact：Copper Alloy with Au Plated

Electrical
- Current Rating：0.5 Amps Max
- Contact Resistance：30 mΩ Max
- Voltage Rating：30V AC / Contact Max.
- Insulator Resistance：1000 MΩ Min.

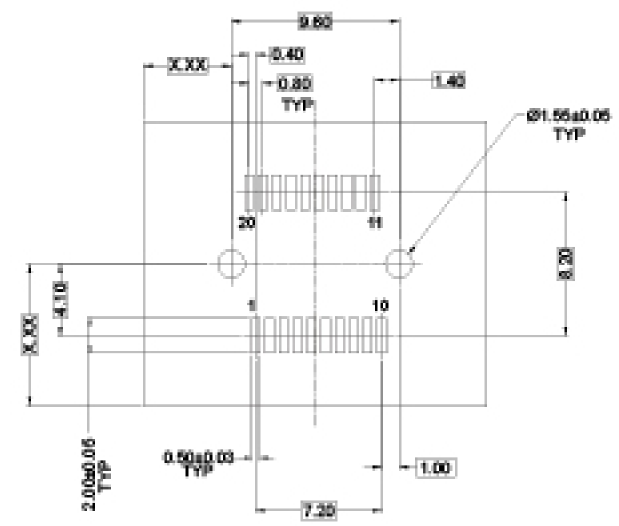
Mechanical
- Insertion Force：40N Max
- Extraction Force：11.5N Max
- Mechanical Operations：100 cycles
- Working Temperature：-55°C to +85°C



Product Spec.



PCB LAYOUT



Spec. Option

Plating	Packing
Au 15u"	Tape & Reel
Au 30u"	Tray

Unit：Millimeters. Dimensions for reference only.

SFP SERIES

SFP 1 Gbps 1-by Cages
828 Series

Features

- Compliant with MSA Standard.
- Press-fit Contact is Compliant with IEC 60352.
- Fix Strong Crocodile's Snap Style to Keep the Entrance Integrity Avoid Distortion in Shape.

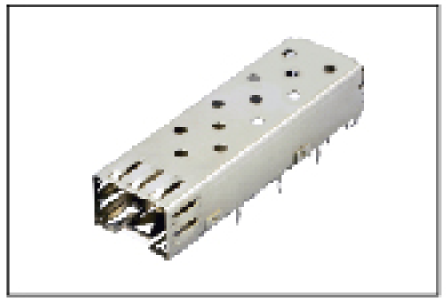
Technical Data

Material

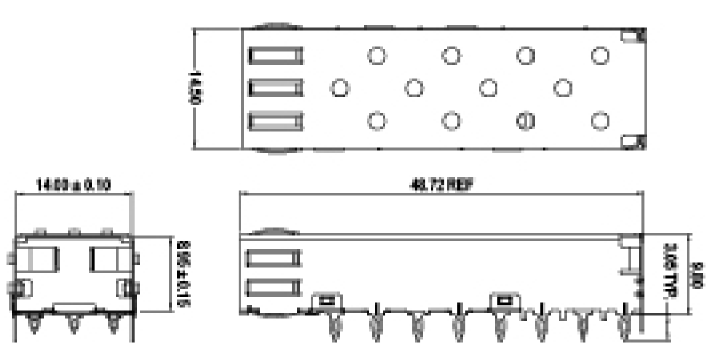
- Cage Assembly：Copper Alloy with Nickel Plating
- Light Pipe：PC,Clear.
- Heat Sink：Aluminum.
- Heat Sink Clip：Stainless Steel.

Mechanical

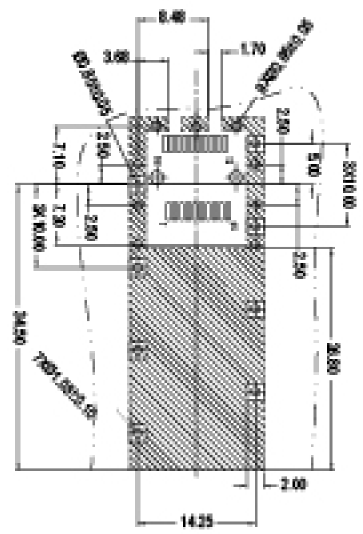
- Transceiver Insertion Force：40N Max.
- Transceiver Extraction Force：11.5N Max.
- Durability：100 Cycles.
- Working Temperature：-55°C to +85°C.



Product Spec.



PCB LAYOUT



* Light pipes are ordered separately & shipped unassembled to cage.

Spec. Option

Port Number	Tail Type	Layout	Light Pipe	Heat Sink		
1x1 port	Solder	Standard	Without Light Pipe	PCI (Only for 1x1)		
1x2 port	Press-fit	T Type (for 1x2, 1x4, 1x6 only)	With Light Pipe	SAN (Only for 1x1)		
1x4 port				Networking (Only for 1x1)		
1x6 port			* see remark			

Unit：Millimeters. Dimensions for reference only.

SFP SERIES

SFP 1 Gbps 2-by Cages
897 Series

Features

- Compliant with MSA Standard.
- Press-fit Contact is Compliant with IEC 60352.
- Patent Protected Multi-piece Composite Structure.

Technical Data

Material

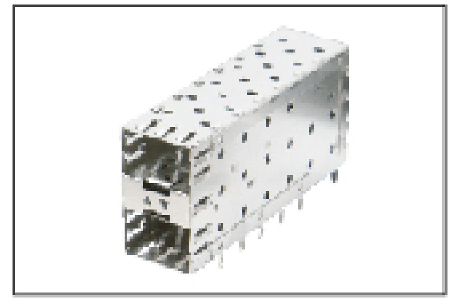
- Cage：Copper Alloy with Nickel Plated
- Housing：High Temperature Thermoplastic Glass Filled, UL94 V-0, Black.
- Kick-out Spring：Copper Alloy with Nickel Plated.
- Contact：Copper Alloy with Au Plated
- Light Pipe：PC,Clear

Electrical

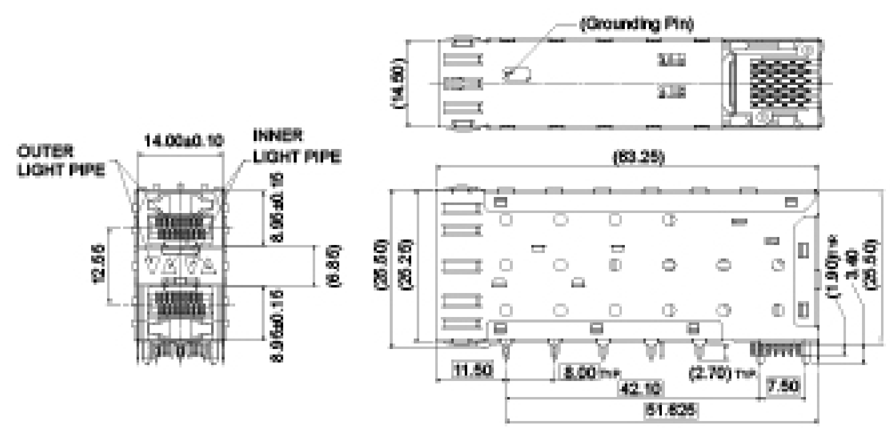
- Contact Resistance：70 mΩ Max.
- Insulation Resistance：1000 MΩ Min.
- Withstanding Voltage：300V AC.

Mechanical

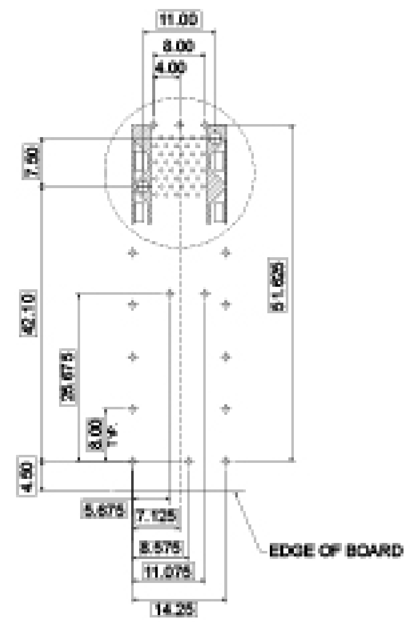
- Transceiver Insertion Force：40N Max.
- Transceiver Extraction Force：11.5N Max.
- Durability：100 Cycles.



Product Spec.



PCB LAYOUT



Spec. Option

Port Number	Layout	Light Pipe				
2x1 port	Standard	No Light Pipe				
2x2 port	No Grounding Pin	Inner & Outer Light Pipe				
2x3 port		Inner Light Pipe				
2x4 port		Outer Light Pipe				
2x5 port						
2x6 port						
2x8 port						

Unit：Millimeters. Dimensions for reference only.

SFP+ SERIES

SFP+ 10 Gbps Connector
832 Series

Features

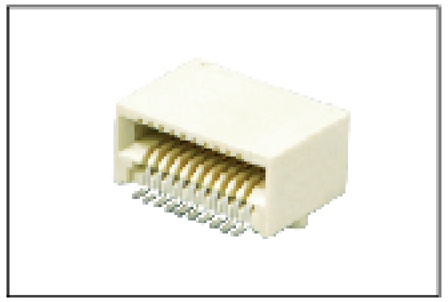
- Designs are Based on the Industry Standard SFF-8083.
- The SFP+ Board Mount Connector is 20 Position and 0.8mm Pitch.
- High Speed Contact Design.

Technical Data

Material
- Insulators：High Temp Thermoplastic, UL 94V-0, Natural.
- Contact：Copper Alloy With Au Plated.

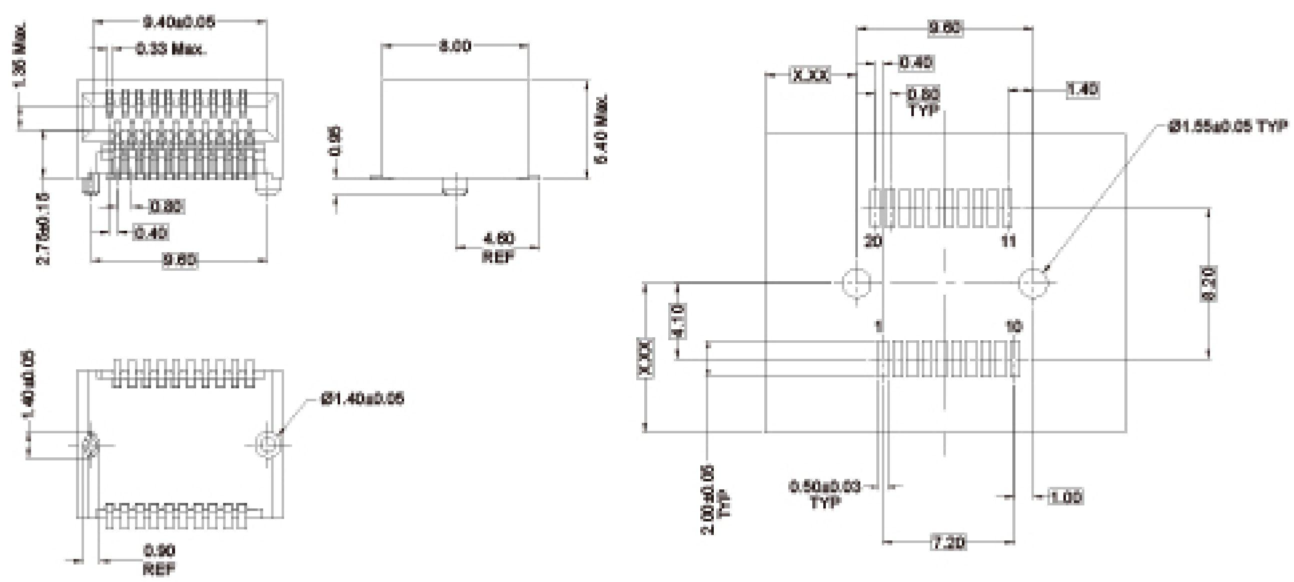
Electrical
- Current Rating：0.5 Amps Max.
- Contact Resistance：30mΩ Max.
- Voltage Rating：30V AC/ Contact.
- Insulator Resistance：1000 MΩ Min.

Mechanical
- Transceiver Insertion Force：30N MAX.
- Transceiver Extraction Force：20N MAX.
- Durability：100 Cycles.
- Working Temperature： -55°C TO +85°C.



Product Spec.

PCB LAYOUT



Spec. Option

Plating	Packing
Au 15u"	Tray
Au 30u"	Tape & Reel

Unit：Millimeters. Dimensions for reference only.

SFP+ SERIES

SFP+ 10 Gbps 1-by Cages With Longer EMI Springs
854 Series

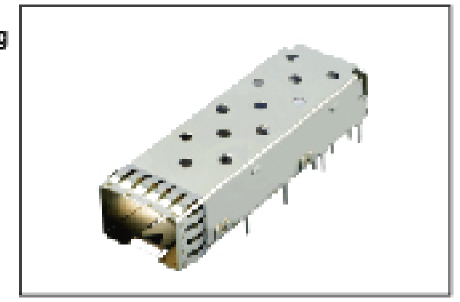
Features

- Compliant with SFF-8432.
- Press-fit Contact is Compliant with IEC 60352.

Technical Data

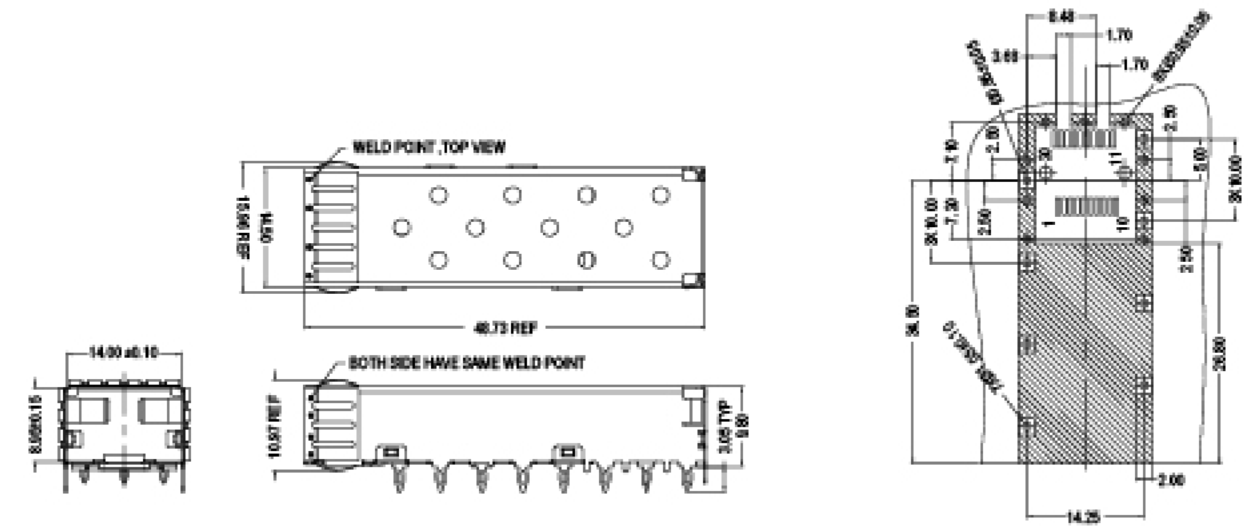
Material
- Cage Assembly：Copper Alloy with Nickel Plating
- Light Pipe：PC,Clear.
- Heat Sink：Aluminum.
- Heat Sink Clip：Stainless Steel.
- EMI Springs：Stainless Steel.

Mechanical
- Transceiver Insertion Force：40N Max.
- Transceiver Extraction Force：11.5N Max.
- Durability：100 Cycles.
- Working Temperature：-55°C TO +85°C.



Product Spec.

PCB LAYOUT



* Light pipes are ordered separately & shipped unassembled to cage.

Spec. Option

Port Number	Tail Type	Layout	Light Pipe	Spring Type
1x1 Port	Solder	Standard	Without Light Pipe	EMI Springs
1x2 Port	Press-fit	T Type (for 1x2 only)	With Light Pipe	EMI Springs for PCI-E 1 Degree (only for standard layout)
1x4 Port				EMI Springs with PCI Heat Sink (only for 1x1 & 1x2 port)
1x6 Port				EMI Springs with SAN Heat Sink (only for 1x1 & 1x2 port)
				EMI Springs with NET Heat Sink (only for 1x1 & 1x2 port)

Unit：Millimeters. Dimensions for reference only.

SFP+ SERIES

SFP+ 10Gbps 2-by Cages Longer EMI Springs & Larger L/P Cutout
899 Series

Features

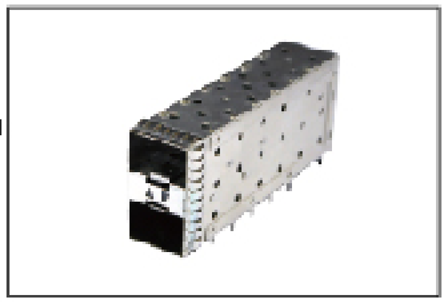
- Compliant with MSA standard.
- Press-fit contact is compliant with IEC60352.
- Patent protected multi-piece composite structure.

Technical Data

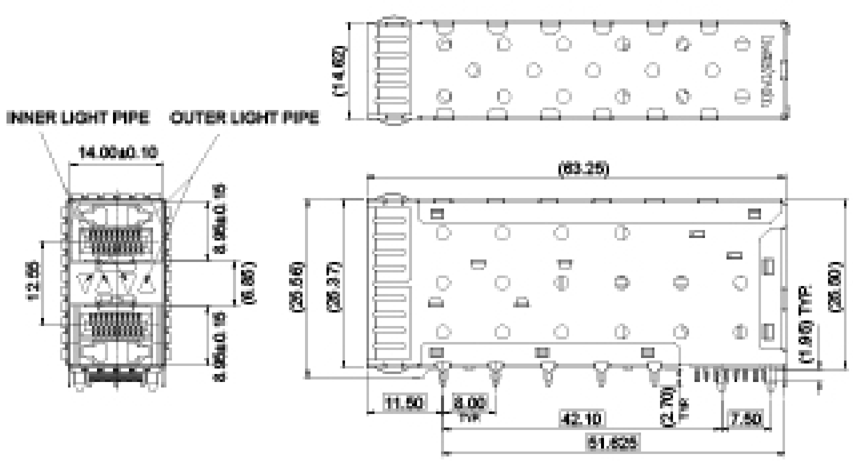
Material
- Cage : Copper Alloy with Nickel Plated
- Housing : High Temperature Thermoplastic Glass Filled, UL94 V-0, Black
- Kick-out Spring : Copper Alloy with Nickel Plated
- Contact : Copper Alloy with Au Plated
- Light Pipe : PC, Clear
- EMI Springs : Stainless

Electrical
- Contact Resistance : 70 mΩ Max.
- Insulation Resistance : 1000 MΩ Min.
- Withstanding Voltage : 300V AC

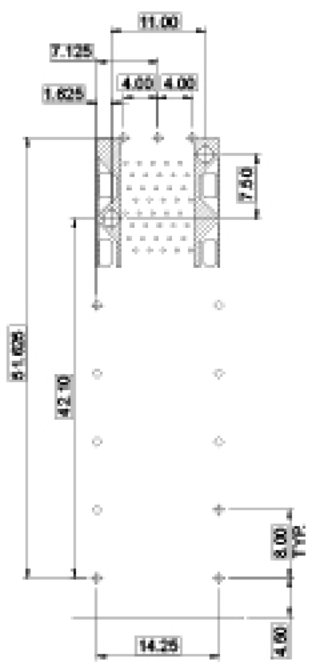
Mechanical
- Transceiver Insertion Force : 40N Max.
- Transceiver Extraction Force : 11.5N Max.
- Durability : 100 Cycles



Product Spec.



PCB LAYOUT



Spec. Option

Port Number	Light Pipe
2x1 Port	No Light Pipe
2x2 Port	Inner & Outer Light Pipe
2x3 Port	Inner Light Pipe
2x4 Port	Outer Light Pipe
2x5 Port	
2x6 Port	
2x8 Port	

Unit : Millimeters. Dimensions for reference only.

SFP28G SERIES

SFP 28Gbps Connector
850 Series

Features

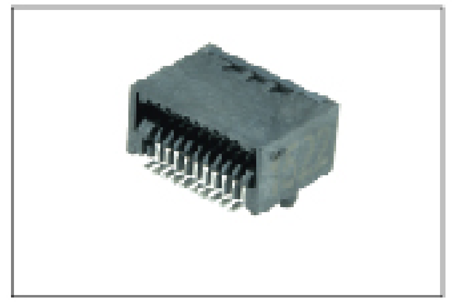
- Designs are based on the industry standard SFF-8071.
- The SFP28G board mount connector is 20 position and 0.8mm pitch.
- High speed contact design.

Technical Data

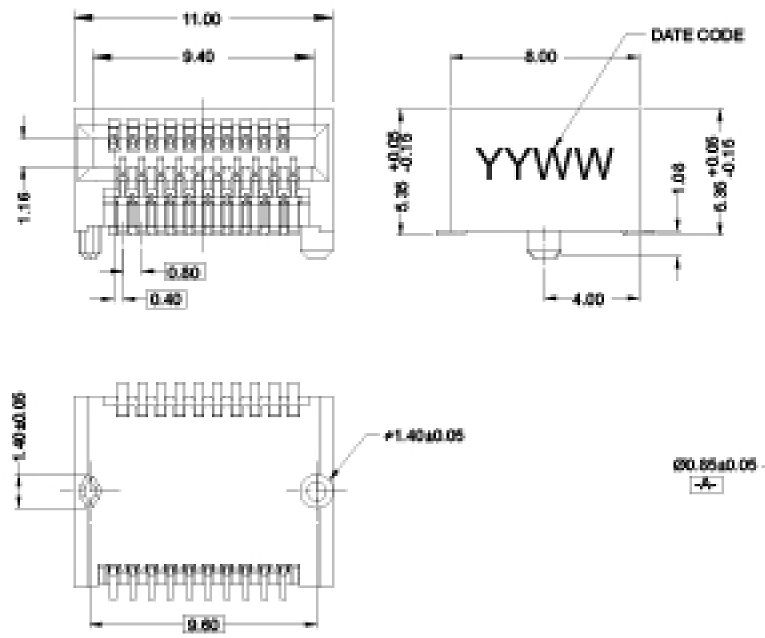
Material
- Insulators : High temp Thermoplastic, UL 94V-0, Black
- Contact : Copper Alloy With Au plated

Electrical
- Current Rating : 0.5 Amps Max
- Contact Resistance : 30mΩ Max
- Voltage Rating : 30V AC/Contact
- Insulator Resistance : 1000 MΩ Min

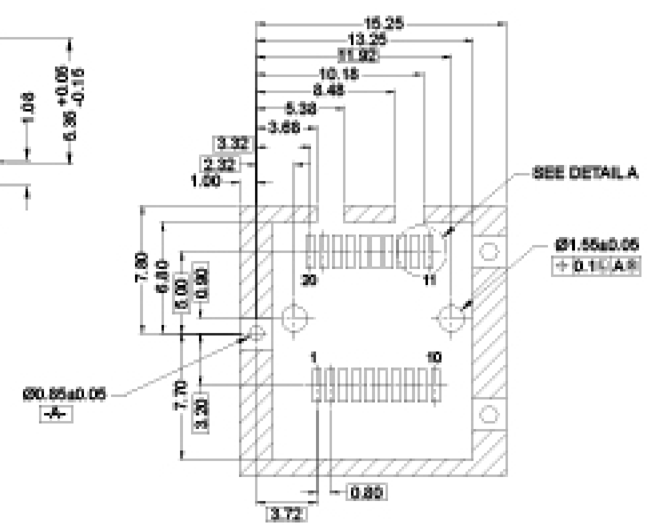
Mechanical
- Transceiver Insertion Force : 30N MAX.
- Transceiver Extraction Force : 20N MAX.
- Durability : 100 Cycles
- Working Temperature : -55°C TO +85°C



Product Spec.



PCB LAYOUT



Spec. Option

Plating	Packing
Au 15u"	Tape & Reel
Au 30u"	Tray

Unit : Millimeters. Dimensions for reference only.

SFP28G SERIES

SFP 28Gbps 1-by Cages
868 Series

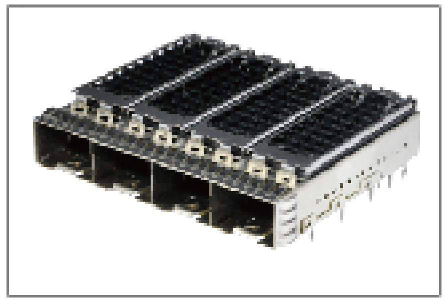
Features

- Compliant with SFF-8433.
- Press-fit contact is compliant with IEC60352.

Technical Data

Material

- Cage Assembly : Copper Alloy with Nickel Plating
- Light Pipe : PC,Clear
- EMI Springs : Stainless Steel
- Heat Sink : Aluminum.
- Heat Sink Clip : Stainless Steel.

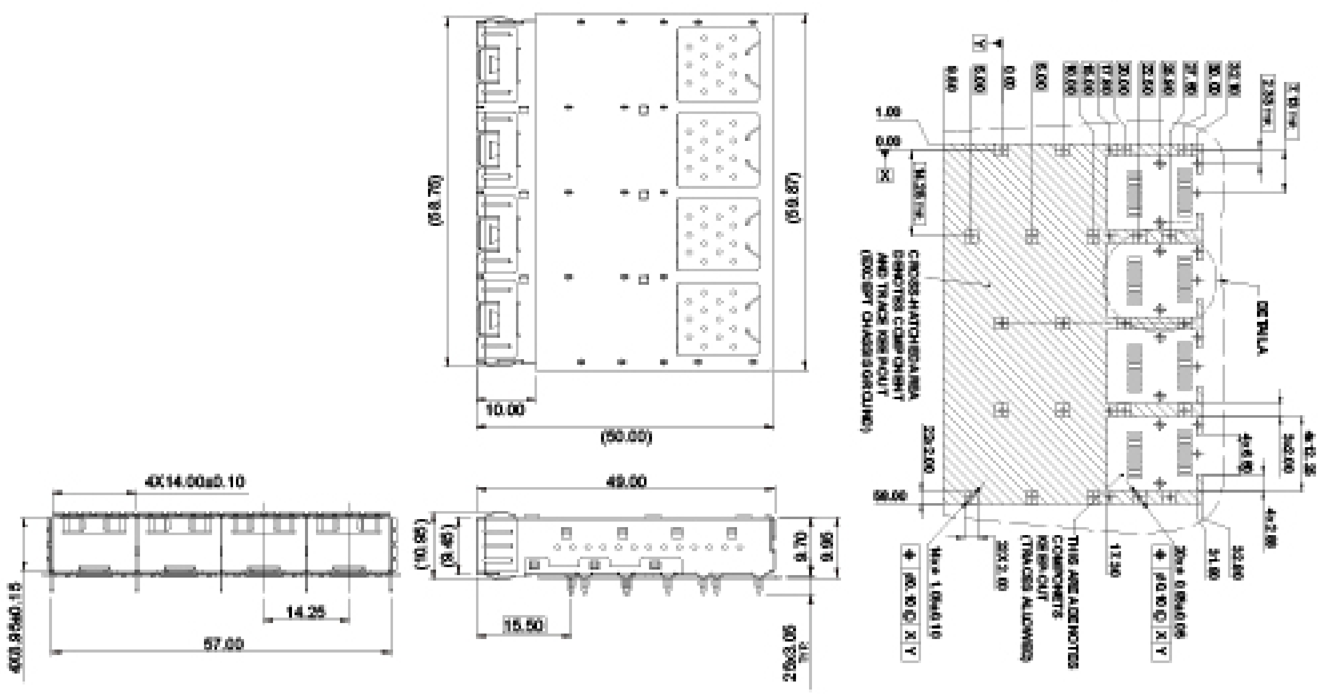


Mechanical

- Transceiver Insertion Force : 40N Max.
- Transceiver Extraction Force : 11.5N Max.
- Durability : 100 Cycles
- Working Temperature : -55°C TO +85°C

Product Spec.

PCB LAYOUT



Spec. Option

Port Number	Product Type	Tail Type	Air Vent Hole	Light Pipe	Heat Sink
1x2 Port	EMI Springs	Solder	Standard	Without Light Pipe	Without Heat Sink
1x3 Port	EMI Springs with Bottom Absorber	Press-fit	Without hole	With Light Pipe	PCI Heat Sink
1x4 Port					SAN Heat Sink
					NET Heat Sink
					Long Heat Sink
					Short Heat Sink

Unit : Millimeters. Dimensions for reference only.

QSFP+ SERIES

10Gbps/14Gbps Connector
835 Series

Features

- Designs are based on the industry standard SFF-8436.
- The QSFP+ board mount connector is 38 position and 0.8mm pitch.
- High Speed Contact Design.

Technical Data

Material

- Insulators: Polyester Thermoplastics Glass Fibre Filled,UL94V-0
- Contact: Copper Alloy with Au plated

Electrical

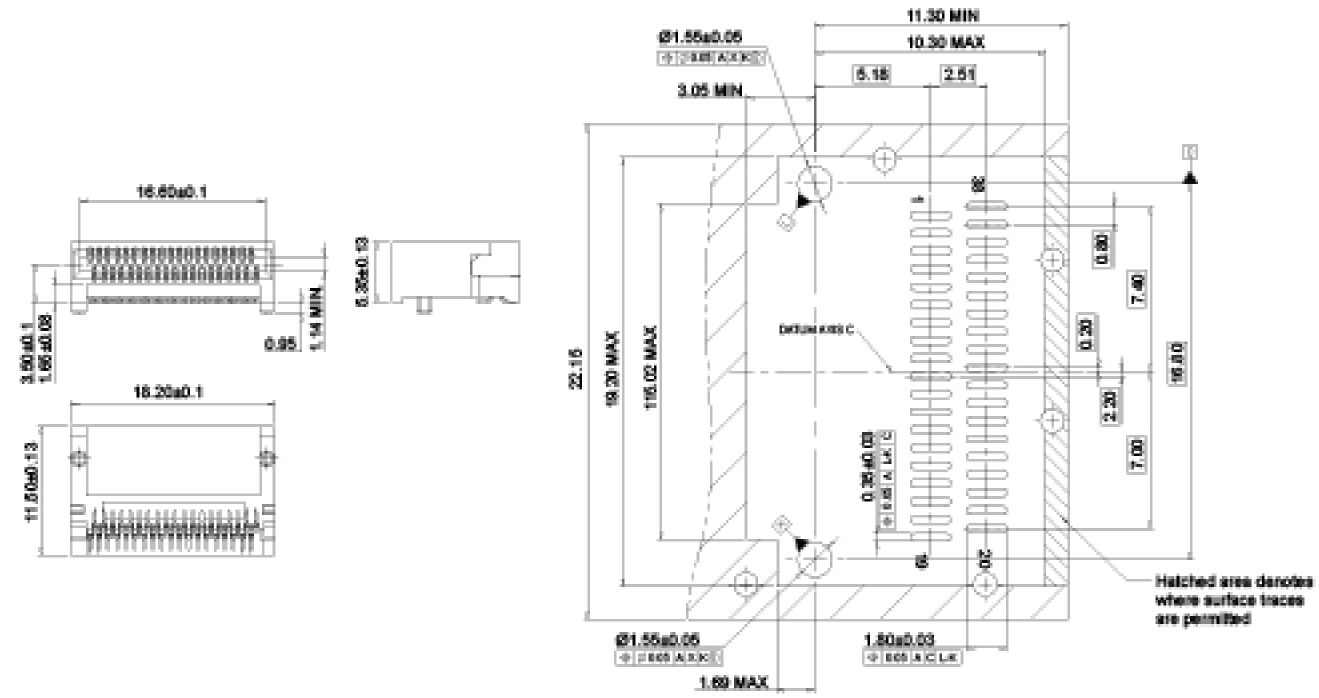
- Contact Resistance: △R10 milliohms Max. for signal contacts
- Insulation Resistance: 1000 MΩ Min.

Mechanical

- Transceiver Insertion Force: 40 N Max.
- Transceiver Extraction Force: 30 N Max.
- Durability: 100 Cycles Min.
- Operating Temperature Range: -20°C to +85°C

Product Spec.

PCB LAYOUT



Spec. Option

Plating	Packing
Au 15u"	Tape & Reel
Au 30u"	Tray

Unit : Millimeters. Dimensions for reference only.

QSFP+ SERIES

QSFP+ 10Gbps/14Gbps 1-by Cages Thru Bezel
834 Series

Features

- Compliant with SFF-8436.
- Light Pipe and Heat Sink Options Available.
- Press-fit Contact Compliant with IEC 60352.
- 360 EMI Shielded.

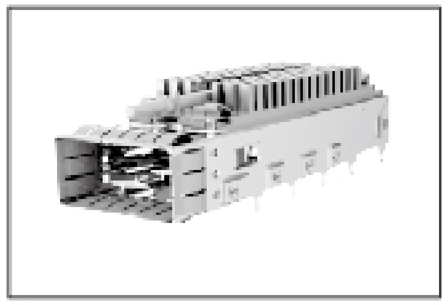
Technical Data

Material

- Body Cage: Stainless Steel.
- EMI Spring: Stainless Steel.
- Heat Sink: Aluminum.
- Heat Sink Clip: Stainless Steel.
- Light Pipe: Clear Polycarbonate

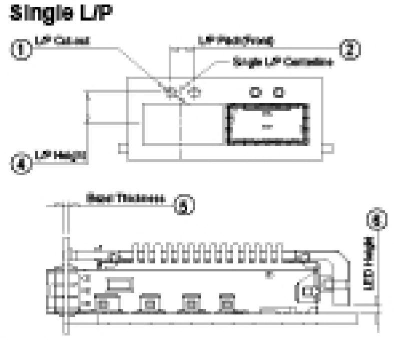
Mechanical

- Transceiver Insertion Force: 40 N Max.
- Transceiver Extraction Force: 30 N Max.
- Durability: 100 Cycles Min.
- Operating Temperature Range: -20°C to +85°C

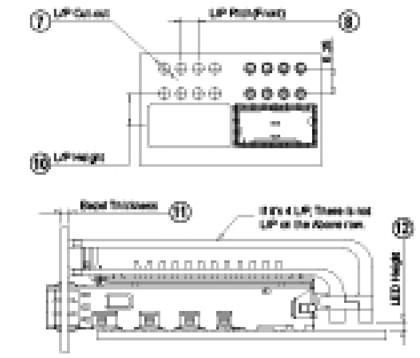


Product Spec.

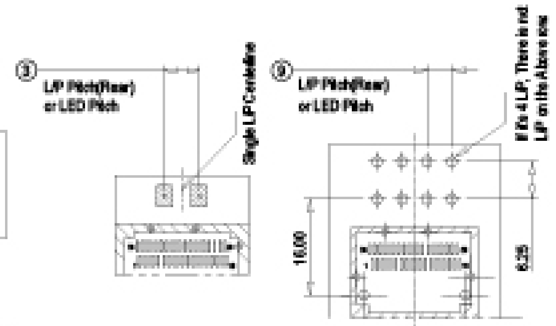
Single L/P



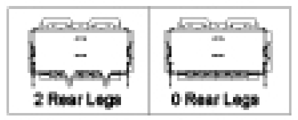
Double L/P



PCB LAYOUT



★ Rear Leg Optionals



★ Mating Bezel Table (mm)

L/P APPEARANCE	① L/P CUT-OUT	② L/P PITCH (FRONT)	③ L/P PITCH (REAR)	④ L/P HEIGHT	⑤ BEZEL THICKNESS	⑥ LED HEIGHT	REMARK
No Light Pipe							
Round for single	Ø 2.11	5.80	5.80	7.86	1.0~1.6	0.8~1.1	Applicable
	Ø 2.54	5.80	5.80	7.86	1.0~1.6	0.8~1.1	Applicable
Round for double	⑦ L/P CUT-OUT	⑧ L/P PITCH (FRONT)	⑨ L/P PITCH (REAR)	⑩ L/P HEIGHT	⑪ BEZEL THICKNESS	⑫ LED HEIGHT	REMARK
	Ø 2.67	4.13	4.13	7.815	1.6 REF.	0.8~1.1	Applicable

Spec. Option

Port Number
- 1x1 Port
- 1x2 Port
- 1x3 Port
- 1x4 Port
- 1x6 Port

Tail Type
- Press-fit
- Press-fit for PCI-E 1 Degree (only for 1x1 port)

Heat Sink
- No Heat Sink
- NET Heat Sink
- SAN Heat Sink
- PCI Heat Sink

Light Pipe
- No Light Pipe
- 1 Round Light Pipe
- 2 Round Light Pipes
- 4 Round Light Pipes (not for 1 Degree)
- 8 Round Light Pipes (not for 1 Degree)

★ Mating Bezel
- See Table Above

★ Rear Leg
- No Leg (for 1x1 only)
- 2 Legs

Unit : Millimeters. Dimensions for reference only.

QSFP+ SERIES

QSFP+ 10Gbps/14Gbps 1-by Cages Behind Bezel
834 Series

Features

- Compliant with SFF-8436.
- Light Pipe and Heat Sink Option Available.
- Press-fit Contact Compliant with IEC 60352.

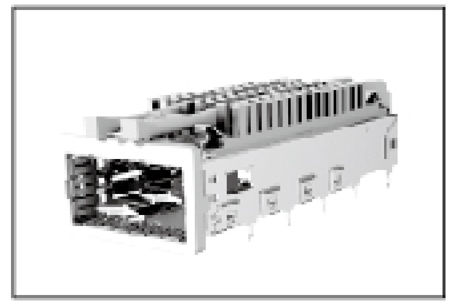
Technical Data

Material

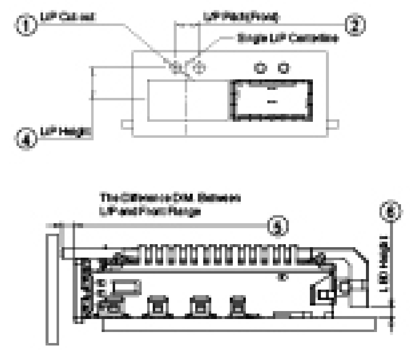
- Body Cage: Stainless Steel.
- EMI Spring: Stainless Steel.
- Front Flange: Zinc Alloy.
- Heat Sink: Aluminum.
- Heat Sink clip: Stanless Steel.
- Light Pipe: Clear Polycarbonate.

Mechanical

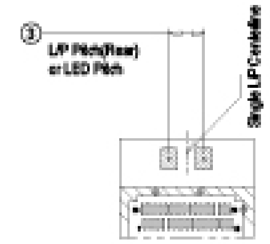
- Transceiver Insertion Force: 40 N Max.
- Transceiver Extraction Force: 30 N Max.
- Durability: 100 Cycles Min.
- Operating Temperature Range: -20°C to +85°C



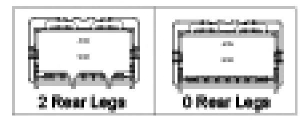
Product Spec.



PCB LAYOUT



★ Rear Legs Option



★ Mating Bezel Table (mm)

L/P APPEARANCE	① L/P CUT-OUT	② L/P PITCH (FRONT)	③ L/P PITCH (REAR)	④ L/P HEIGHT	⑤ The Difference Dill. Between L/P and front Flange	⑥ LED HEIGHT	REMARK
WITHOUT L/P							
Round	Ø 2.54	5.80	5.80	8.37	5.70	0.8~1.1	Applicable
	Ø 2.30	6.16	6.16	8.10	2.00	0.8~1.1	Applicable
	Ø 2.30	6.16	6.16	8.10	2.60	0.8~1.1	Applicable
	Ø 2.30	6.16	6.16	8.10	5.70	1.3~1.4	Applicable
Square	2.8*2.8	6.16	6.16	8.50	1.66	0.8~1.1	Applicable

Spec. Option

Port Number
- 1x1 Port
- 1x2 Port
- 1x3 Port
- 1x4 Port
- 1x6 Port

Heat Sink
- No Heat Sink
- NET Heat Sink
- SAN Heat Sink
- PCI Heat Sink

Light Pipe
- No Light Pipe
- 1 Round Light Pipe
- 2 Round Light Pipes
- 1 Square Light Pipe
- 2 Sugare Light Pipes

★ Mating Bezel
- See Table Above

★ Rear Leg
- No Legs (Only for 1x1)
- 1 Leg (for 1x2, 1x3, 1X4, 1X6)
- 2 Legs (Only for 1x1)

Unit : Millimeters. Dimensions for reference only.

QSFP+ SERIES

QSFP+ 10Gbps/14Gbps 1-by Cages EMI Gasket
834 Series

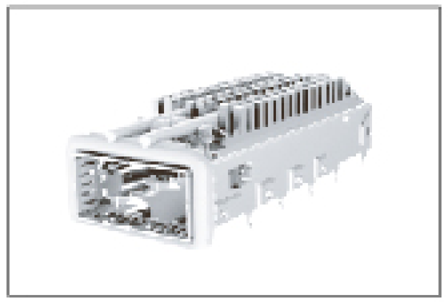
Features

- Compliant with SFF-8436.
- Lightpipe and Heatsink Option Available.
- Press-fit Contact Compliant with IEC60352
- 360° EMI Shielded

Technical Data

Material

- Body Cage: Stainless Steel
- EMI Spring: Stainless Steel
- Gasket Frame: Stainless Steel
- Heat Sink: Aluminum
- Heat Sink Clip: Stainless Steel
- Light Pipe: Clear Polycarbonate
- Elastomer Gasket: Carbon/ Nickel in Silicone

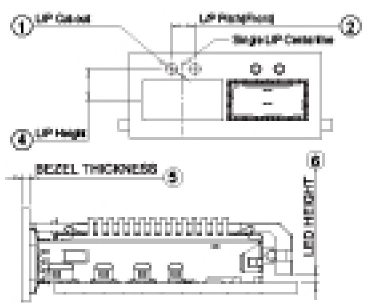


Mechanical

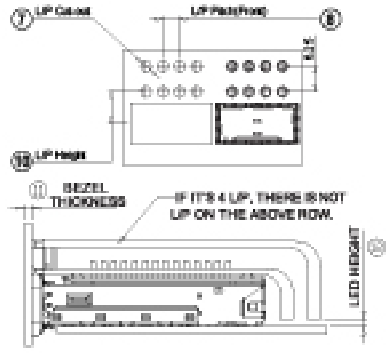
- Transceiver Insertion Force: 40 N Max.
- Transceiver Extraction Force: 30 N Max.
- Durability: 100 Cycles Min.
- Operating Temperature Range: -20°C to +85°C

Product Spec.

Single L/P

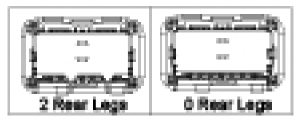


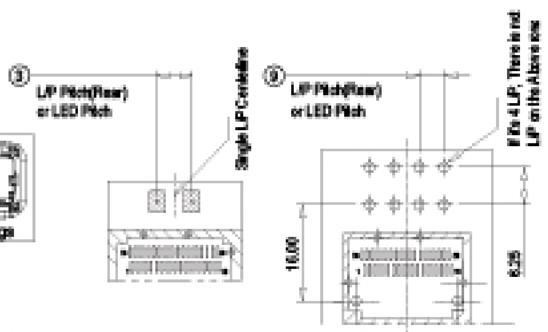
Double L/P



PCB LAYOUT

★ Rear Legs Option





★ Mating Bezel Table (mm)

L/P APPEARANCE	① L/P CUT-OUT	② L/P PITCH (FRONT)	③ L/P PITCH (REAR)	④ L/P HEIGHT	⑤ BEZEL THICKNESS	⑥ LED HEIGHT	REMARK
WITHOUT L/P							All Applicable
Round for single	∅2.11	5.80	5.80	7.86	1.0~1.6	0.8~1.1	1x1 Applicable
	∅2.67	5.80	5.80	7.75	1.0~1.6	0.8~1.1	1x2,1x3,1x4,1x6 Applicable
Round for double	⑦ L/P CUT-OUT	⑧ L/P PITCH (FRONT)	⑨ L/P PITCH (REAR)	⑩ L/P HEIGHT	⑪ BEZEL THICKNESS	⑫ LED HEIGHT	REMARK
	∅2.67	4.13	4.13	7.815	1.6 REF.	0.8~1.1	All Applicable

Spec. Option

Port Number	Heat Sink	Light Pipe	★ Mating Bezel	★ Rear Leg
1x1 Port	No Heat Sink	No Light Pipe	See Table Above	No Leg
1x2 Port	NET Heat Sink	1 Round Light Pipe		2 Legs
1x3 Port	SAN Heat Sink	2 Round Light Pipes		
1x4 Port	PCI Heat Sink	4 Round Light Pipes		
1x6 Port		8 Round Light Pipes		

Unit : Millimeters. Dimensions for reference only.

QSFP+ SERIES

QSFP+ 10Gbps/14Gbps 2-by Cages EMI Gasket
844 Series

Features

- Light Pipe Options Available.
- Press-fit Options Available.
- Press-fit Contact Compliant with IEC60352.
- 360° EMI Shielded.

Technical Data

Material

- Body Cage: Stainless Steel
- EMI Spring: Stainless Steel
- Gasket Frame: Stainless Steel
- Light Pipe: Clear Polycarbonate
- Elastomer Gasket: Carbon/ Nickel in Silicone
- Housing : High Temperature Thermoplastic Glass Filled, UL94 V-0, Black
- Contact : Copper Alloy with Au Plated

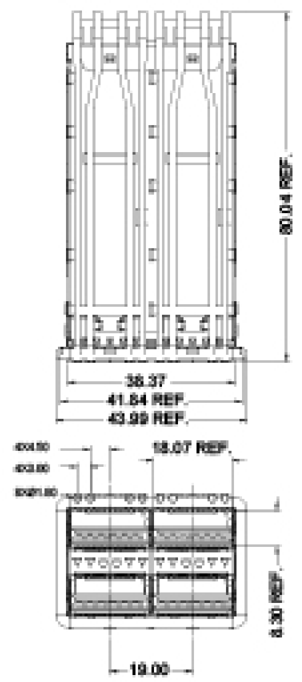
Electrical

- Voltage : 30V AC (RMS)/ DC Max
- Current : 0.5A Max
- Contact Resistance : ΔR 10 Milliohms Max. for Signal Contacts
- Insulation Resistance: 1000 MΩ Min.
- Withstanding Voltage: 300V AC

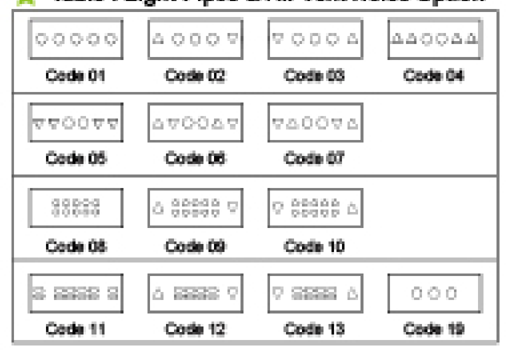
Mechanical

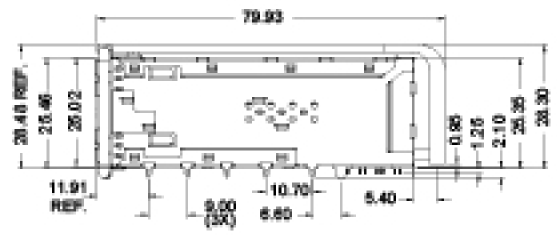
- Connector Mating Forces (Module Only) : 40N Max.
- Connector Un-mating Forces (Module Only) : 30N Max.
- Durability: 100 Cycles Min.
- Operating Temperature Range: -40°C to +85°C

Product Spec.



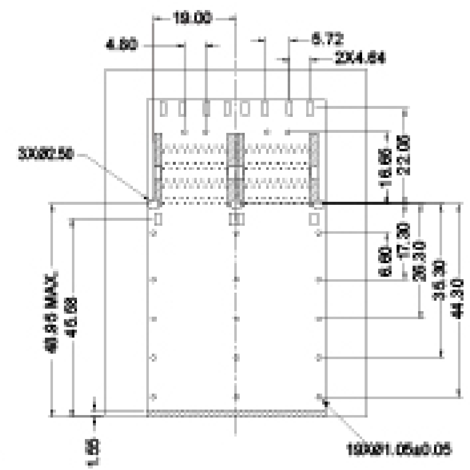
★ Table : Light Pipes & Air Vent Holes Option





for 2x2 EMI Gasket

PCB LAYOUT



Spec. Option

Port Number	★ Light Pipe & Air Vent Holes	Rear Leg
2x1 port	See Table Above	No Leg
2x2 port	Code 05 with Light Pipe on Top	2 Legs
2x3 port		

Unit : Millimeters. Dimensions for reference only.

QSFP+ SERIES

QSFP+ 10Gbps/14Gbps 2-by Cages Thru Bezel
844 Series

Features

- Light Pipe Options Available.
- Press-fit Only.
- Press-fit Contact Compliant with IEC 60352.

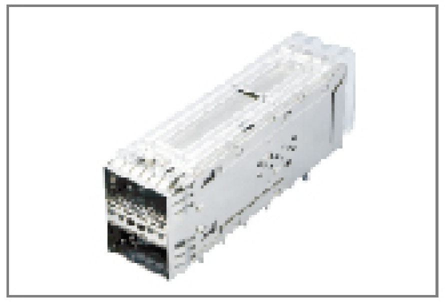
Technical Data

Material

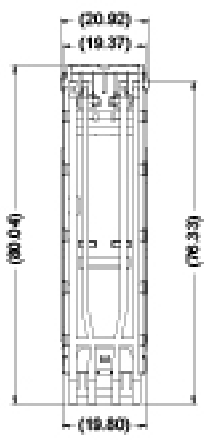
- Body Cage：Stainless Steel.
- EMI Spring：Stainless Steel.
- Light Pipe：Clear Polycarbonate.
- Housing：High Temperature Thermoplastic.
- Contact：Copper Alloy with Au Plated.

Mechanical

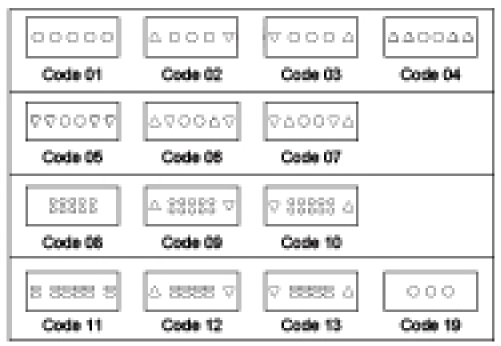
- Connector Mating Forces (Module Only)：40N Max.
- Connector Un-mating Forces (Module Only)：30N Max.
- Durability: 100 Cycles Min.
- Operating Temperature Range: -40°C to +85°C

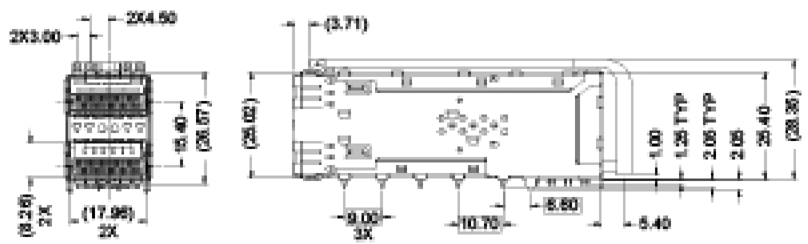


Product Spec.

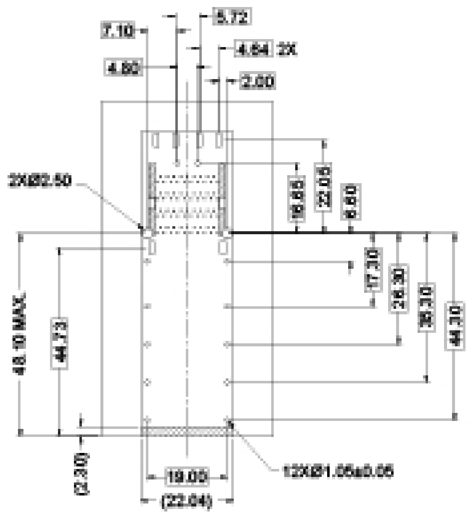


★ Table : Light Pipes & Air Vent Holes Option





PCB LAYOUT



Spec. Option

Port Number	★Light Pipe & Air Vent Holes
2x1 port	See Table Above
2x2 port	Code 05 with Light Pipe on Top
2x3 port	

Unit：Millimeters. Dimensions for reference only.

QSFP28/56G SERIES

QSFP28/56G Connector, Style A
Z-886 Series

Features

- Designs are based on the Industry Standard SFF-8662
- The QSFP board mount connector is 38 position and 0.8mm pitch.
- Supports 4-channel transmission and single-channel transmission 28G NRZ and 56G PAM-4 with maximum transmission rates up to 200Gbps

Technical Data

Material

- Insulators：High Temp Thermoplastic, UL 94V-0, Black
- Contact：Copper Alloy with Au Plated

Electrical

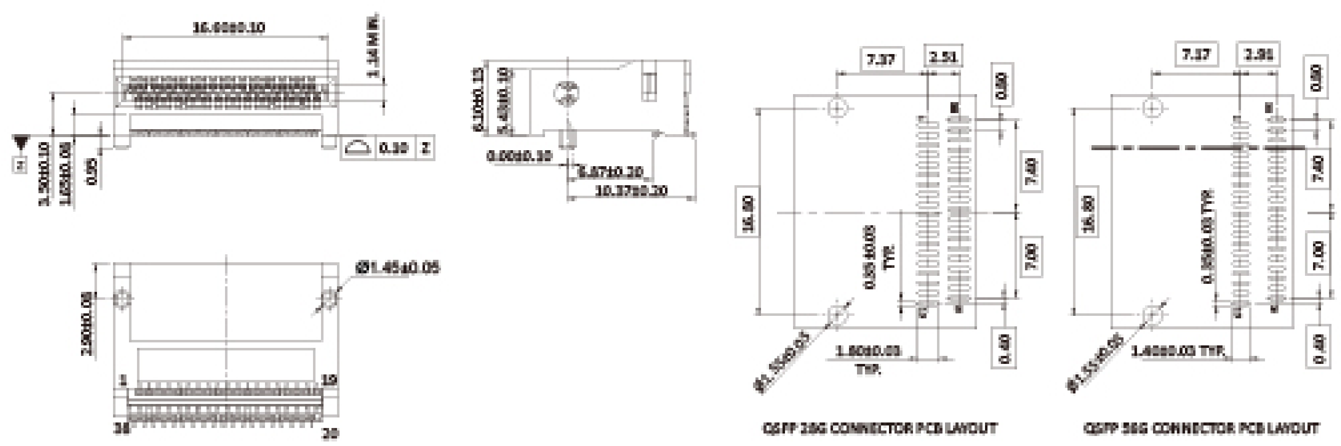
- Contact resistance: △R20 mΩ Max.
- Insulation Resistance: 1000 MΩ Min.
- Current Rating: 0.5 Amps Max. per contact.

Mechanical

- Transceiver Insertion Force:40N Max.
- Transceiver Extraction Force:30N Max.
- Durability：100 Cycles.
- Operating Temperature Range:-55°C to +85°C.

Product Spec.

PCB LAYOUT



Spec. Option

Plating
Au 15u"
Au 30u"

Unit：Millimeters. Dimensions for reference only.

QSFP28G SERIES

QSFP 28Gbps Connector Style B
867 Series

Features

- Designs are based on the industry standard SFF-8672.
- The QSFP28G board mount connector is 38 position and 0.8mm pitch.
- High Speed Contact Design.

Technical Data

Material

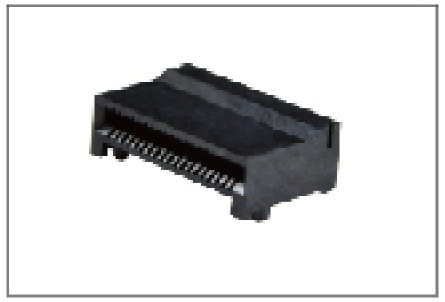
- Insulators: Polyester thermoplastics
  Glass fibre filled, UL94V-0
- Contact: Copper alloy with Au plated

Electrical

- Contact Resistance：△R 10 milliohms Max. for Signal Contacts
- Insulation Resistance: 1000 MΩ Min.
- Current Rating: 0.5 Amps Max. per contact.

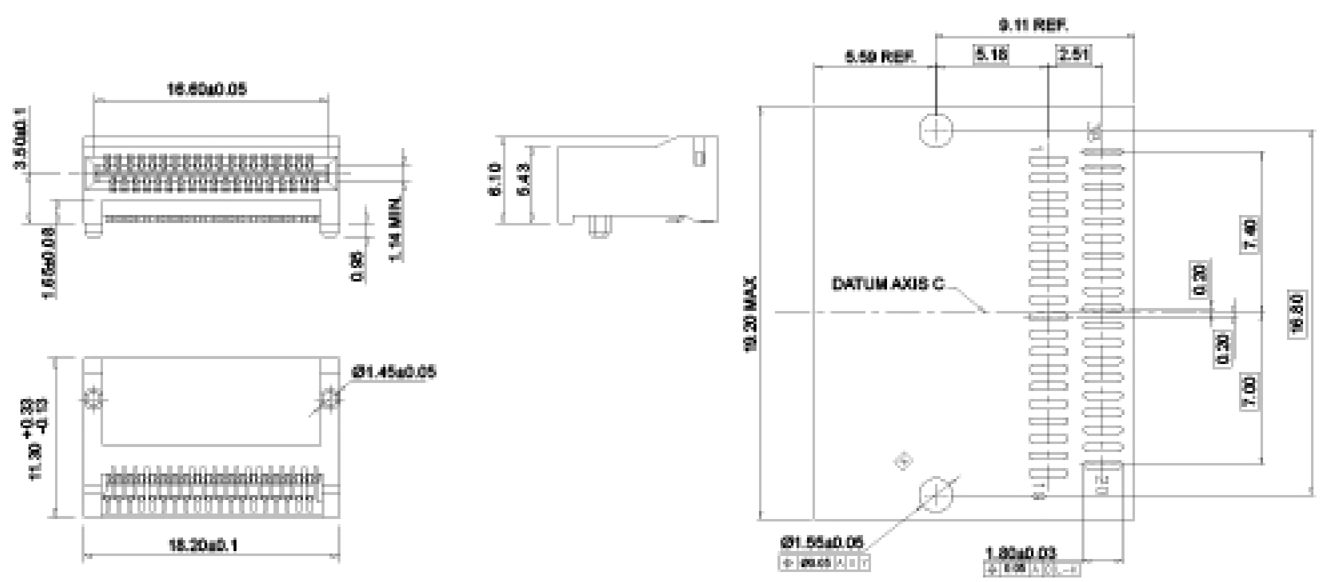
Mechanical

- Transceiver Insertion Forces：40N Max.
- Transceiver Extraction Forces：30N Max.
- Durability: 100 cycles Min.
- Operating Temperature Range: -20°C to +85°C



Product Spec.

PCB LAYOUT



Spec. Option

Plating	Packing
Au 15u"	Tape & Reel
Au 30u"	

Unit：Millimeters. Dimensions for reference only.

QSFP28G SERIES

QSFP 28Gbps 1-by Cages Style A Thru Bezel
848 Series

Features

- Compliant with SFF-8663.
- Lightpipe and heatsink options available.
- Press-fit contact compliant with IEC60352.
- 360° EMI shielded.

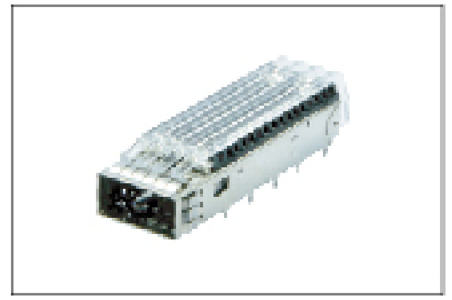
Technical Data

Material

- Body Cage: Stainless Steel
- EMI Spring: Stainless Steel
- Heat Sink: Aluminum
- Heat Sink clip: Stainless Steel
- Light pipe: Clear Polycarbonate

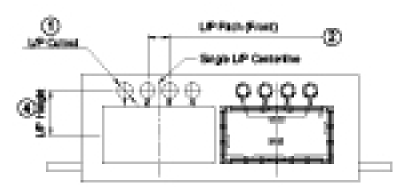
Mechanical

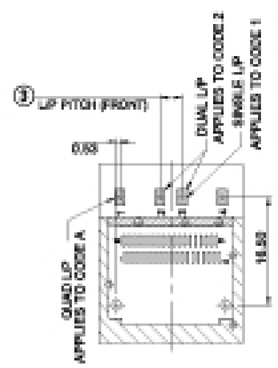
- Transceiver Insertion Forces：40N Max.
- Transceiver Extraction Forces：30N Max.
- Durability: 100 cycles Min.
- Operating Temperature Range: -20°C to +85°C



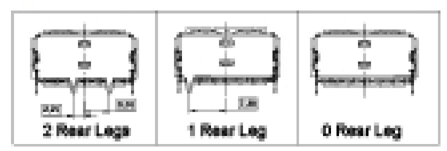
Product Spec.

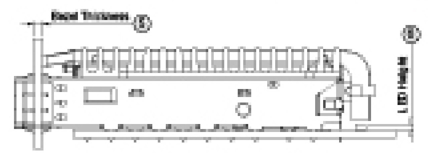
PCB LAYOUT





★ Rear Leg Optionals





★ Mating Bezel Table (mm)

LP APPEARANCE	① LP CUT-OUT	② LP PITCH (FRONT)	③ LP PITCH (REAR)	④ LP HEIGHT	⑤ BEZEL THICKNESS	⑥ LED HEIGHT	REMARK
WITHOUT LP							WITHOUT LP
ROUND	Ø2.67			7.86	1.60	0.8~1.1	APPLIES TO SINGLE LP
ROUND	Ø2.67	2.3~4.00	2.3~3.40	7.86	1.60	0.8~1.1	APPLIES TO DUAL LP
ROUND	Ø2.67	4.00 (Equal)	1.4~15.75 2.3~3.40	7.86	1.60	0.8~1.1	APPLIES TO QUAD LP

Spec. Option

Port Number	Heat Sink	Light Pipe	★ Mating Bezel	★ Rear Leg
1x1 Port	NET Heat Sink	No Light Pipe	See Table Above	No Leg
1x2 Port	SAN Heat Sink	1 Round Light Pipe		1 Leg
1x3 Port	PCI Heat Sink	2 Round Light Pipes		2 Legs (for 1x1 only)
1x4 Port	No Heat Sink. Open Top	4 Round Light Pipes		
1x6 Port	No Heat Sink. Close Top			

Unit：Millimeters. Dimensions for reference only.

QSFP28G SERIES

QSFP 28Gbps 1-by Cages Style A Behind Bezel 848 Series

Features

- Compliant with SFF-8663.
- Light Pipe and Heat Sink Options Available.
- Press-fit Contact Compliant with IEC 60352.

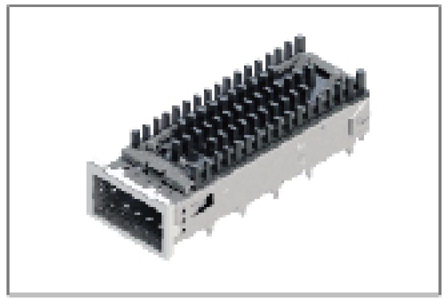
Technical Data

Material

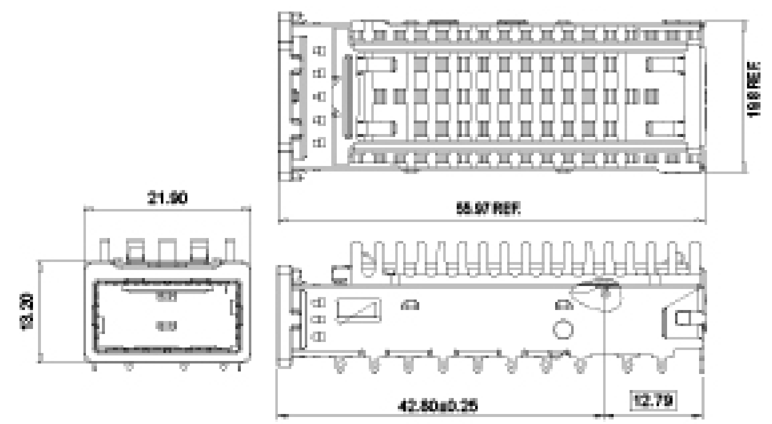
- Body Cage：Stainless Steel.
- EMI Spring：Stainless Steel.
- Front Flange：Zinc Alloy.
- Heat Sink：Aluminum.
- Heat Sink Clip：Stainless Steel.

Mechanical

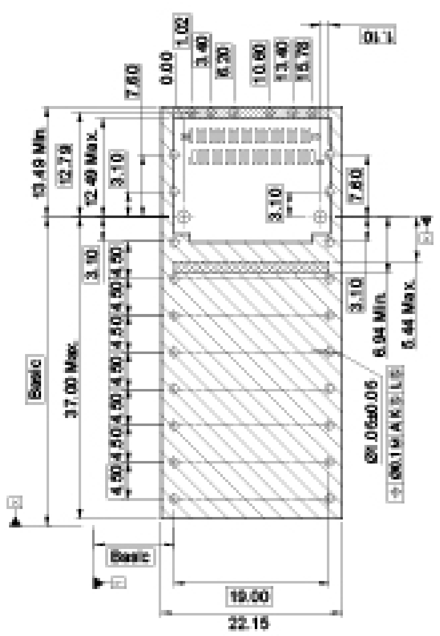
- Transceiver Insertion Force：40 N Max.
- Transceiver Extraction Force：30 N Max.
- Durability：100 Cycles Min.
- Operating Temperature Range：-20°C +85°C.



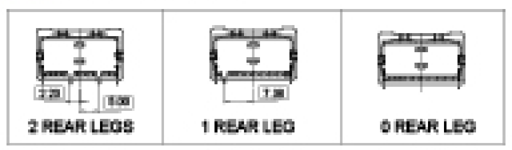
Product Spec.



PCB LAYOUT



★ Rear Leg Optionals



Spec. Option

Port Number	Heat Sink	★ Rear Leg				
1x1 Port	No Heat Sink, Open Top	No Leg				
1x2 Port	No Heat Sink, Close Top	1 Leg				
1x3 Port	NET Heat Sink	2 Legs (for 1x1 only)				
1x4 Port	SAN Heat Sink					
1x6 Port	PCI Heat Sink					

Unit：Millimeters. Dimensions for reference only.

QSFP28G SERIES

QSFP 28Gbps 1-by Cages Style A EMI Gasket 848 Series

Features

- Compliant with SFF-8663.
- Light Pipe and Heat Sink Options Available.
- Press-fit Contact Compliant with IEC 60352.
- 360° EMI Shielded.

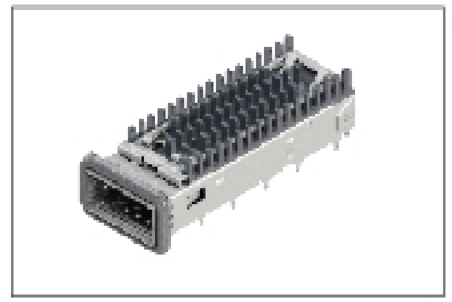
Technical Data

Material

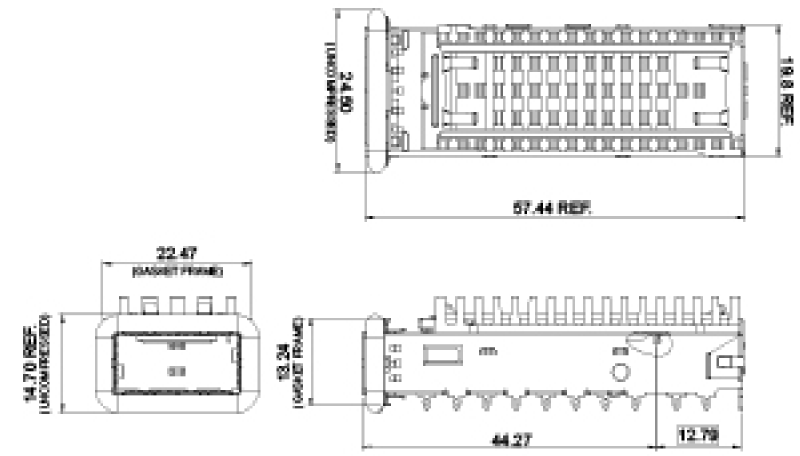
- Body Cage：Stainless Steel.
- EMI Spring：Stainless Steel.
- Front Flange：Zinc Alloy.
- Heat Sink：Aluminum.
- Heat Sink Clip：Stainless Steel.
- Elastomer Gasket：Carbon / Nickel in Silicone

Mechanical

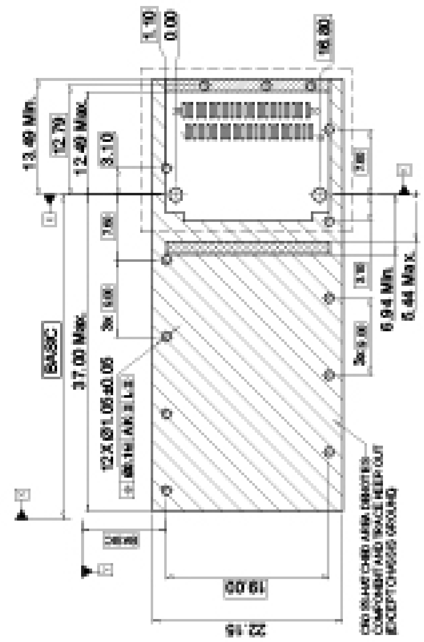
- Transceiver Insertion Force：40 N Max.
- Transceiver Extraction Force：30 N Max.
- Durability：100 Cycles Min.
- Operating Temperature Range：-20°C +85°C.



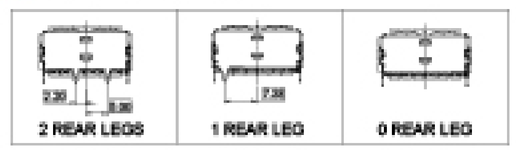
Product Spec.



PCB LAYOUT



★ Rear Leg Optionals



Spec. Option

Port Number	Heat Sink	★ Rear Leg				
1x1 Port	No Heat Sink, Open Top	No Leg				
1x2 Port	No Heat Sink, Close Top	1 Leg				
1x3 Port	NET Heat Sink	2 Legs (for 1x1 only)				
1x4 Port	SAN Heat Sink					
1x6 Port	PCI Heat Sink					

Unit：Millimeters. Dimensions for reference only.

QSFP28G SERIES

QSFP 28Gbps 2-by Cages Thru Bezel 861 Series

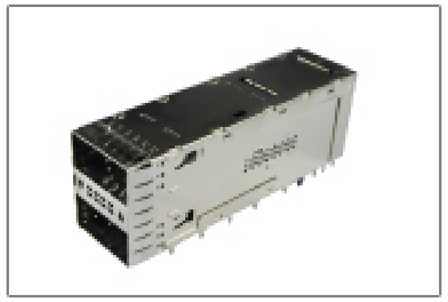
Features

- Light Pipe Options Available.
- Press-fit Options Available.
- Press-fit Aontact Compliant with IEC60352.
- 360° EMI Shielded.

Technical Data

Material

- Body Cage : Stainless Steel.
- EMI Spring : Stainless Steel.
- Light Pipe : Clear Polycarbonate.
- Housing : High Temperature Thermoplastic Glass Filled,UL94 V-0, Black.
- Contact : Copper Alloy with Au Plated.



Electrical

- Voltage : 30V AC (RMS)/ DC Max.
- Current : 0.5A Max.
- Withstanding Voltage: 300V AC.
- Insulation Resistance: 1000 MΩ Min.
- Contact Resistance : △R 10 Milliohms Max. for Signal Contacts.

Mechanical

- Connector Mating Forces (Module Only) : 40N Max.
- Connector Un-mating Forces (Module Only) : 30N Max.
- Durability: 100 Cycles Min.
- Operating Temperature Range: -40°C To +85°C

Product Spec.

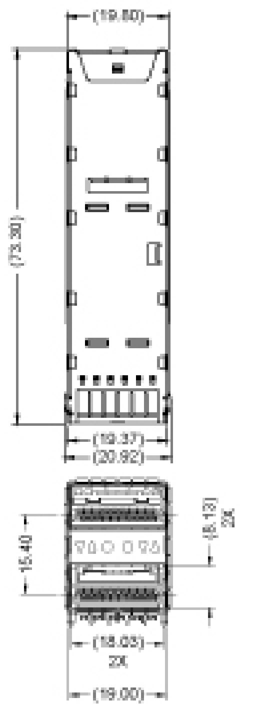
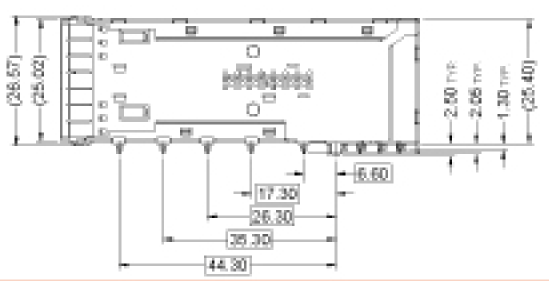
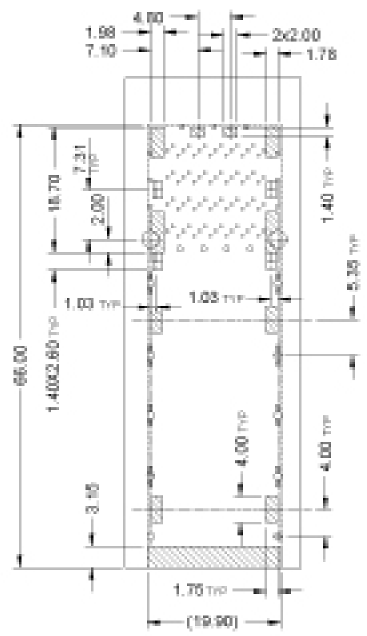


Table : Light Pipes & Air Vent Holes Option

Code 01	Code 02	Code 03	Code 04
Code 05	Code 06	Code 07	Code 08
Code 09	Code 10	Code 11	
Code 12	Code 13		



PCB LAYOUT



Spec. Option

Port Number	Light Pipes & Air Vent Holes					
2x1 port	See Table Above					
2x2 port						
2x3 port						

Unit : Millimeters. Dimensions for reference only.

QSFP28G SERIES

QSFP 28Gbps 2-by Cages EMI Gasket 861 Series

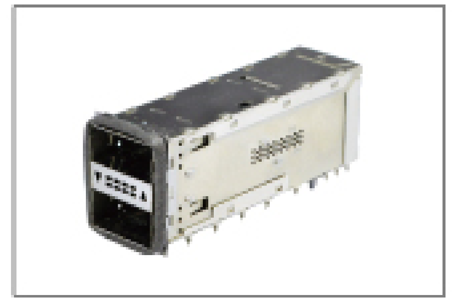
Features

- Light Pipe Options Available.
- Press-fit Options Available.
- Press-fit Contact Compliant with IEC60352.
- 360° EMI Shielded.

Technical Data

Material

- Body Cage : Stainless Steel.
- EMI Spring : Stainless Steel.
- Gasket Frame : Stainless Steel.
- Light Pipe : Clear Polycarbonate.
- Housing : High Temperature Thermoplastic Glass Filled,UL94 V-0, Black.
- Contact : Copper Alloy with Au Plated.
- EMI Gasket : Conductive Elastomer



Electrical

- Voltage : 30V AC (RMS)/ DC Max.
- Current : 0.5A Max.
- Withstanding Voltage: 300V AC.
- Insulation Resistance: 1000 MΩ Min.
- Contact Resistance : △R 10 Milliohms Max. for Signal Contacts.

Mechanical

- Connector Mating Forces (Module Only) : 40N Max.
- Connector Un-mating Forces (Module Only) : 30N Max.
- Durability: 100 Cycles Min.
- Operating Temperature Range: -40°C To +85°C

Product Spec.

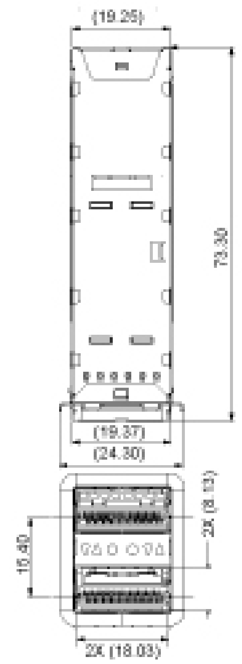
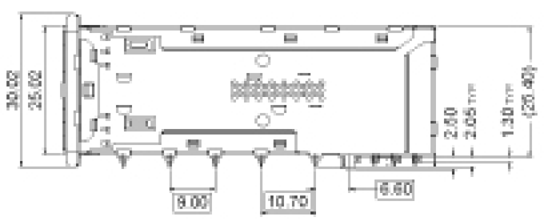
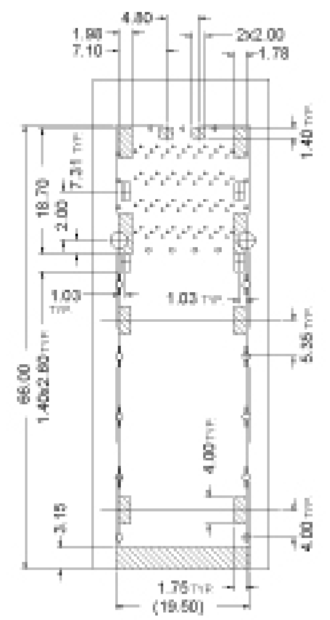


Table : Light Pipes & Air Vent Holes Option

Code 01	Code 02	Code 03	Code 04
Code 05	Code 06	Code 07	Code 08
Code 09	Code 10	Code 11	
Code 12	Code 13		



PCB LAYOUT



Spec. Option

Port Number	Light Pipes & Air Vent Holes					
2x1 port	See Table Above					
2x2 port						
2x3 port						

Unit : Millimeters. Dimensions for reference only.

MiniSAS HD SERIES

MiniSAS HD Internal Connector
H02 Series

Features

- The Connector Consists of Housing with Double 18-position Receptacle Ports and with Compliant Pin Contacts on 0.75mm Centerline Spacing.
- Each Port has a Card Entry Slot that Accepts an Integrated Circuit Card Housed in the Mating Plug.
- The Connector has a Single Port with Two Card Slot Openings and is Configured as 1X1,1X2 and 1X4 Assemblies.
- The Connector Compliant Contacts Pin are Press-fit Mounted into a PC Board with Plated Finished Through Holes.

Technical Data

Material

- Insulators：High Temperature Thermoplastics, UL94V-0.
- Contact：Copper Alloy.
- Plating：Gold Over Nickel for Contact Area, Tin Over Nickel for Tail.

Electrical

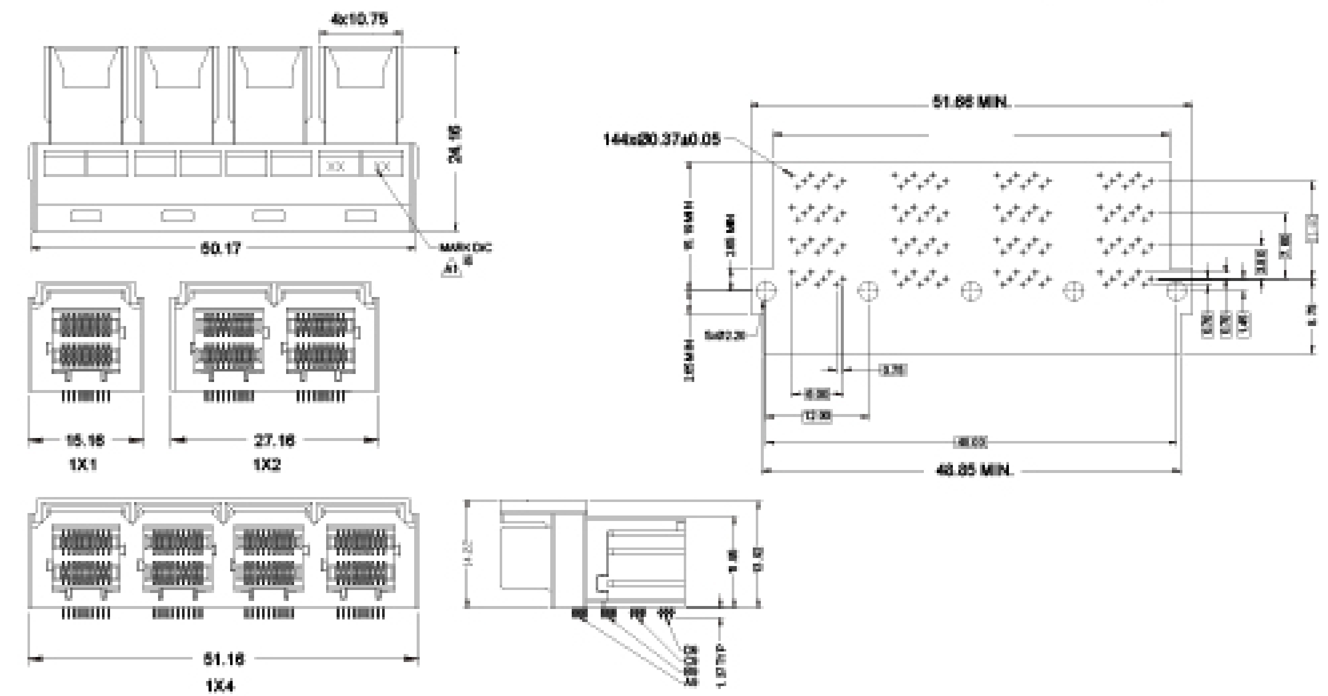
- Current Rating：0.5A Max. Per Pin.
- Voltage Rating：30V DC Max. Per Pin.
- Contact Resistance：50mΩ MAX. Per Pin.

Mechanical

- Transceiver Insertion Force：60 N Max.
- Transceiver Extraction Force：30 N Max.
- Durability：250 Cycles Min.
- Operating Temperature Range：-55°C To +80°C

Product Spec.

PCB LAYOUT



Spec. Option

Port Number
1x1 Port
1x2 Port
1x4 Port

Unit：Millimeters. Dimensions for reference only.

MiniSAS HD SERIES

MiniSAS HD External Connector
H02 Series

Features

- The connector consists of housing with double 18-position receptacle ports and with compliant pin contacts on 0.75mm centerline spacing.
- Each port has a card entry slot that accepts an integrated circuit card housed in the mating plug.
- The connector has a single port with two card slot openings and is configured as 1X1,1X2 and 1X4 assemblies.
- The connector compliant contacts pin are press-fit mounted into a PC board with plated finished through holes.

Technical Data

Material

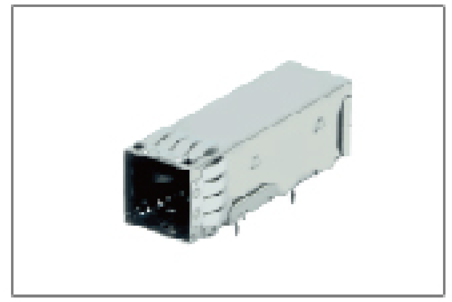
- Insulators：High Temperature Thermoplastics, UL94V-0.
- Contact：Copper Alloy.
- Shell：Stainless.
- Plating：Gold Over Nickel for Contact Area, Tin Over Nickel for Tail.

Electrical

- Current Rating：0.5A Max. Per Pin.
- Voltage Rating：30V DC Max. Per Pin.
- Contact Resistance：50mΩ MAX. Per Pin.

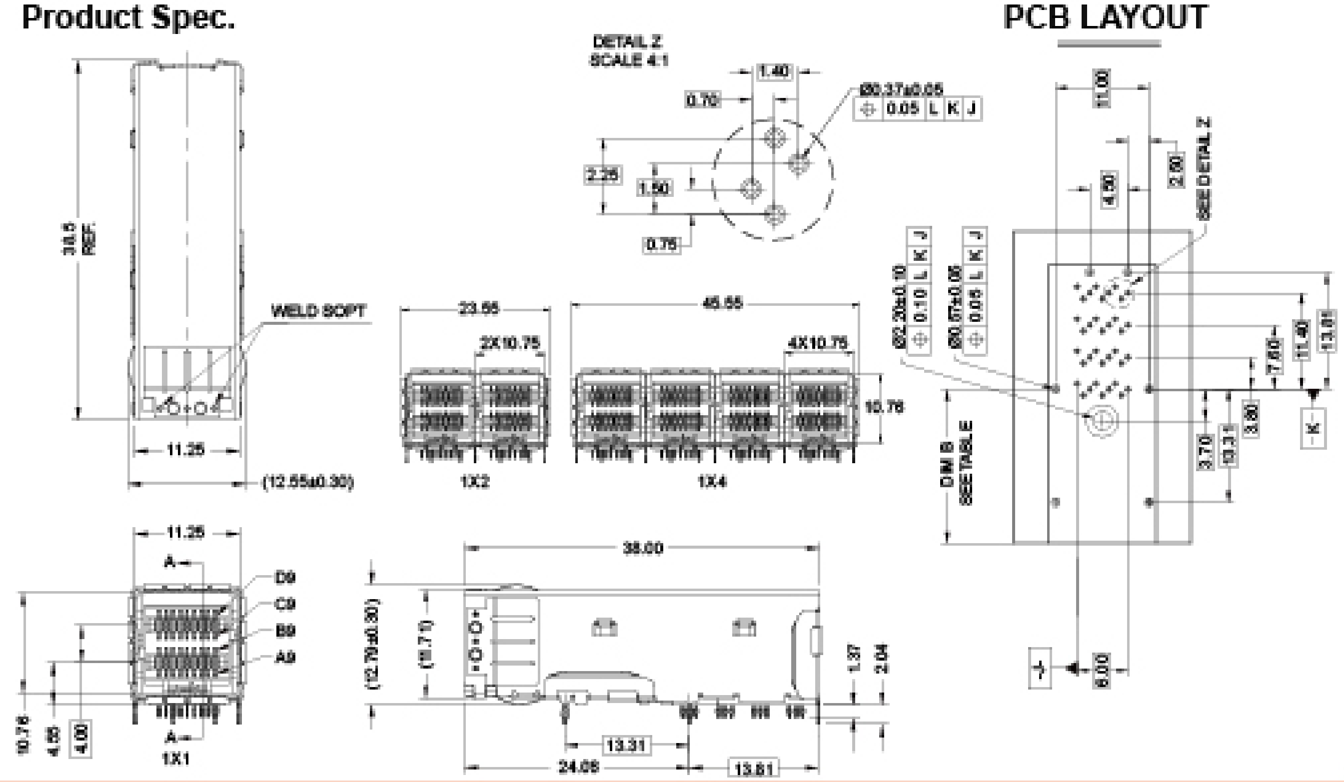
Mechanical

- Transceiver Insertion Force：60 N Max.
- Transceiver Extraction Force：30 N Max.
- Durability：250 Cycles Min.
- Operating Temperature Range：-55°C To +80°C.



Product Spec.

PCB LAYOUT



Spec. Option

Light Pipe	Port Number
with Light Pipe	1x1 Port
without Light Pipe	1x2 Port
	1x4 Port

Unit：Millimeters. Dimensions for reference only.

OSFP SERIES

OSFP 28 Gbps NRZ & 56 Gbps PAM-4 Connector 0.6 Pitch 8A8 Series

Features

- The OSFP Board Mount Connector Is 60 Position and 0.6mm Pitch.
- High Speed Contact Design.
- High Temp and IR Reflow Compatible Versions are Available.

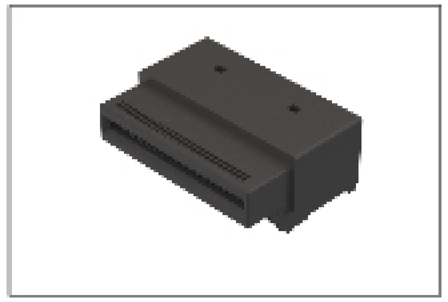
Technical Data

Material

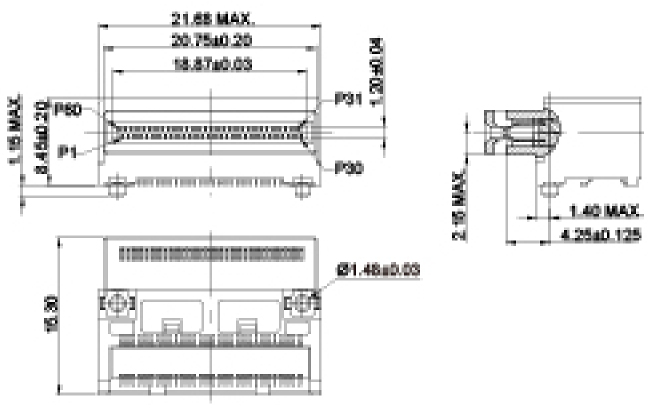
- Housing & I/M : High Temperature Thermoplastic Glass Filled , UL94 V-0 , Black.
- Contact : Copper Alloy with Au Plated.

Electrical

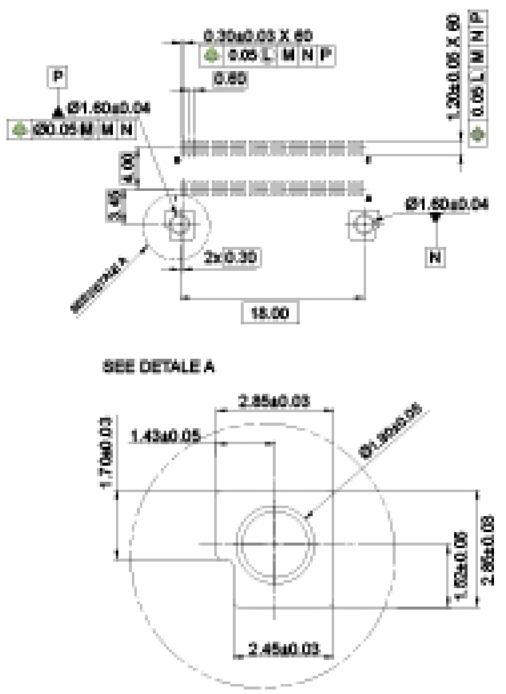
- Contact Resistance : △R20m Ω Max.
- Insulation Resistance : 1000M Ω Min.



Product Spec.



PCB LAYOUT



Spec. Option

Plating	Packing	Solder Tab
Mating-15u' Au & G/F Solder Area.	Tape & Reel	With Solder Tab
Mating-30u' Au & G/F Solder Area.		Without Solder Tab

Unit : Millimeters. Dimensions for reference only.

OSFP SERIES

OSFP 28Gbps NRZ & 56Gbps PAM-4 1-by Cages 8A2 Series

Features

- Compliant with OSFP MSA Standard.
- Press-fit Contact Is Compliant with IEC60352.
- 360° EMI Shielded.
- 1x1 、1x2 、1x4 Cages Available.

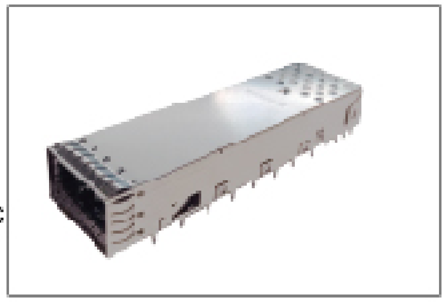
Technical Data

Material

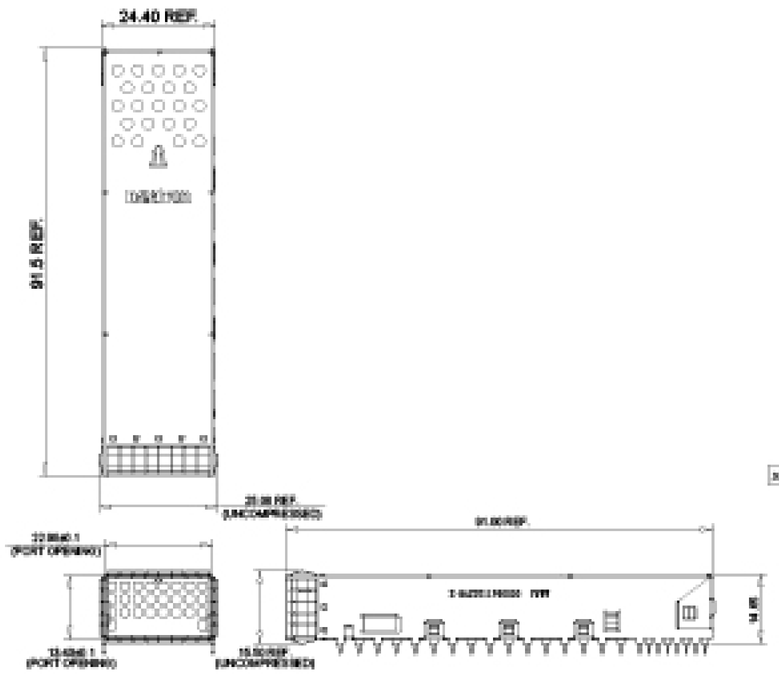
- Cage : Stainless Steel.
- EMI Spring: Stainless Steel.

Mechanical

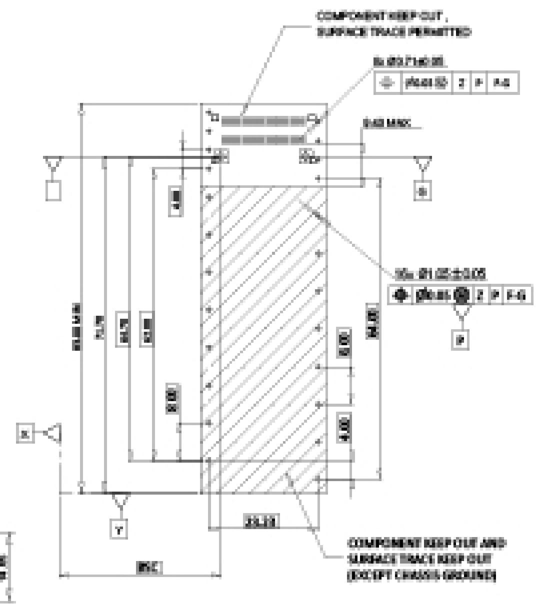
- Transceiver Insertion Force : 40 N Max.
- Transceiver Extraction Force : 30 N Max.
- Durability : 100 Cycles Min.
- Operating Temperature Range : -55°C To +85°C



Product Spec.



PCB LAYOUT



Spec. Option

Port Number	Date Code & PART NO.
1x1 Port	With
1x2 Port	Without
1x4 Port	

Unit : Millimeters. Dimensions for reference only.

QSFP-DD SERIES

QSFP DD 28 Gbps & 56 Gbps PAM4 Connector
0.8Pitch, 76 POS 8A1 Series

Features

- Doubles the density over QSFP with eight differential pairs capable of 50 Gbps PAM4 each to achieve 400 Gbps.
- Faceplate density equal to current 1xN QSFP28.
- Connector is traditional SMT with 4 rows.

Technical Data

Material

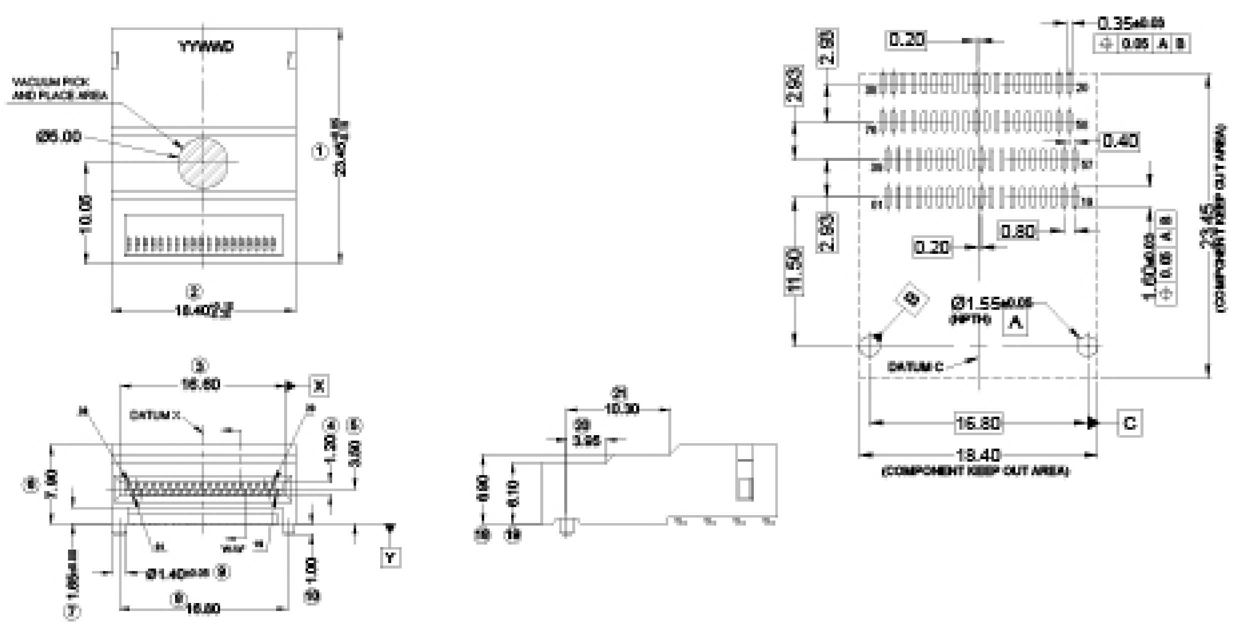
- Housing : High Temperature Thermoplastic,UL94 V-0, Black.
- Insertmold : High Temperature Thermoplastic,UL94 V-0, Black.
- Contact : Copper Alloy with Au Plated.

Electrical

- Contact Resistance : △R20 mΩ Max.
- Insulation Resistance : 1000 MΩ Min.

Product Spec.

PCB LAYOUT



Spec. Option

Pin Number	Plating	Package
76 Pin	Mating-15u" Au & G/F Solder Area.	Tape & Reel W/Pitch 32mm
	Mating-30u" Au & G/F Solder Area.	

Unit : Millimeters. Dimensions for reference only.

QSFP-DD SERIES

QSFP DD 28Gbps NRZ & 56Gbps PAM-4 1-by Cages
885 Series

Features

- Designs are based on the industry standard QSFP DD Multi-Source Agreement (MSA).
- Press-fit only.
- Press-fit contact compliant with IEC60352.
- 360° EMI shielded.
- 1x1, x4 cages available.
- Multiple heatsink and lightpipe options available.
- 1, 2 and 4 lightpipe configurations.

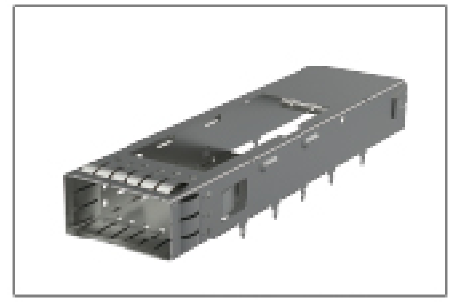
Technical Data

Material

- Body Cage : Stainless Steel.
- EMI Spring : Stainless Steel.
- Heat sink clip : Stainless Steel.
- Heat sink : Aluminum.

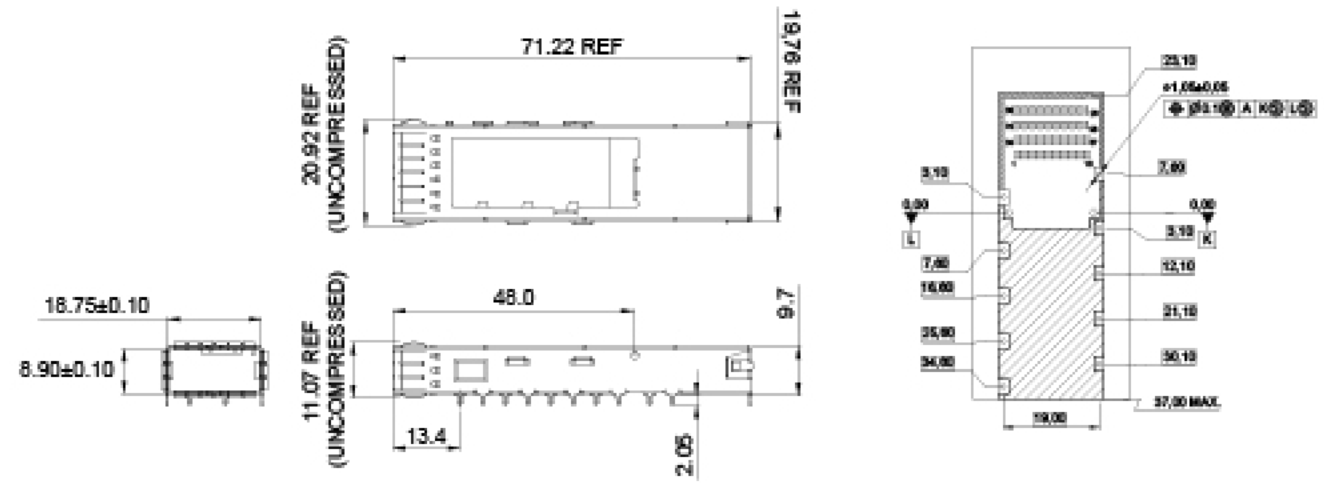
Mechanical

- Transceiver Insertion Force : 90N Max. (Using QSFP-DD module)
- Transceiver Extraction Force : 50N Max. (Using QSFP-DD module)
- Durability : 100 Cycles Min.
- Operating Temperature Range : -55°C To +85°C

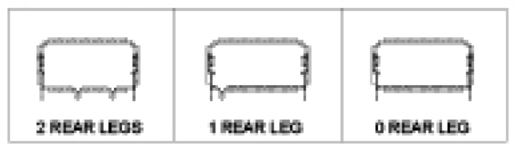


Product Spec.

PCB LAYOUT



★ Rear Leg Optionals



Spec. Option

PRODUCT TYPE	Port Number	Heatsink	★ Rear Leg
T= Thru Bezel (Spring finger)	1x1 Port	No Heat Sink, Open Top	2 Legs
	1x4 Port	No Heat Sink, Closed Top	1 Leg
		NET Heat Sink	No Leg
		SAN Heat Sink	
		PCI Heat Sink	

Unit : Millimeters. Dimensions for reference only.

Accessories

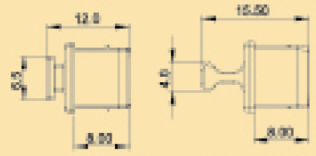
Dust Covers
EMI Covers

SFP / SFP+ / SFP28G
Dust Cover

Z - S891000*0B22

① Handle Type

Code	Description
1	Long Type (15.5mm)
2	Short Type (12.0mm)

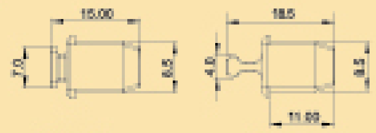


XFP / QSFP+ / QSFP28G
Dust Cover

Z - S892000*0B22

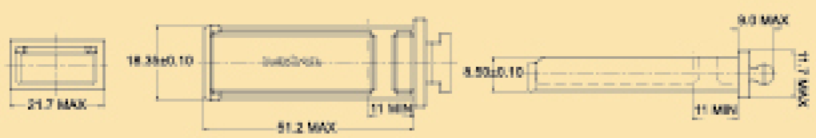
① Handle Type

Code	Description
1	Long Type (18.5mm)
2	Short Type (15.0mm)



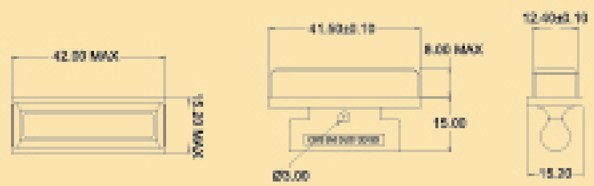
XFP
EMI Cover

Z - 830B000100000



CFP2
EMI Cover

Z - 840B000020000



CFP2
Connector EMI Cover

Z - 8560**1000000

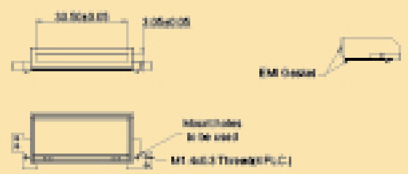
① ②

① Material

Code	Description
1	Zinc Alloy

② Plating

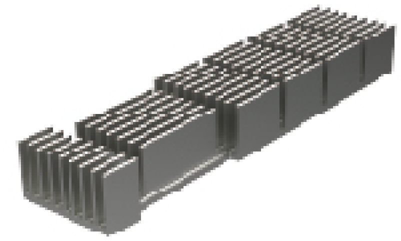
Code	Description
1	Nickel Plating



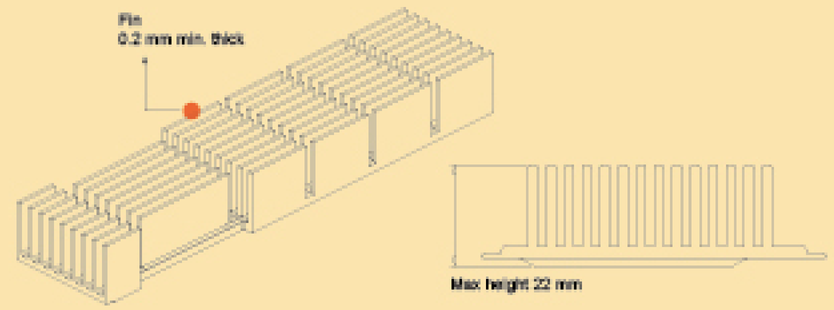
Accessories

Customized Heat sink
Customized CLIP
Customized Lightpipe

All accessories are customizable

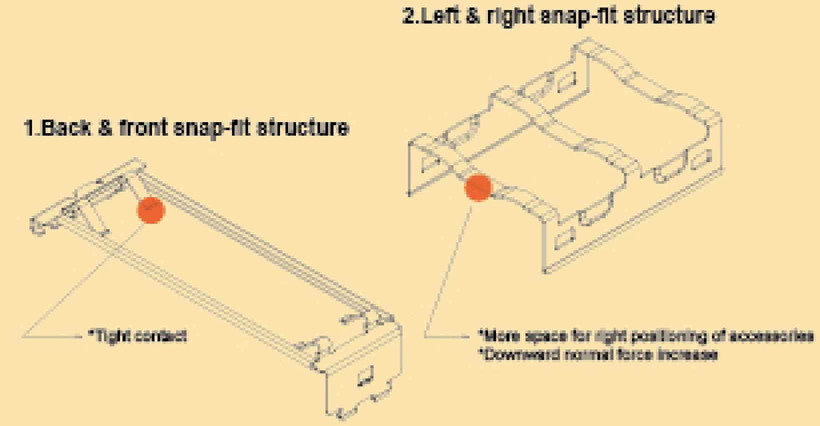


Cage Accesories
Heat sink



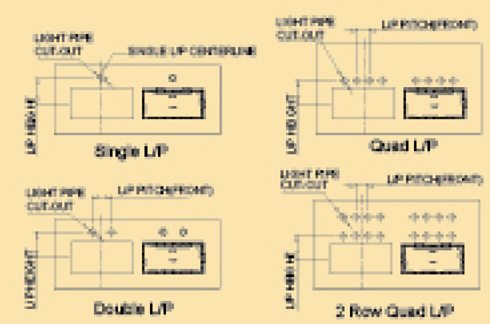
Heat sink type	Surface treatment
Standard-Extrusion	Standard
Zipper Fin	Graphene Coating
	Anodizing
	Chemical Nickel

Cage Accesories
CLIP



Cage Accesories
Lightpipe

Light Pipes & Air Vent Holes Option



Plating	Light Pipes Qty
Standard	1~8
Plating