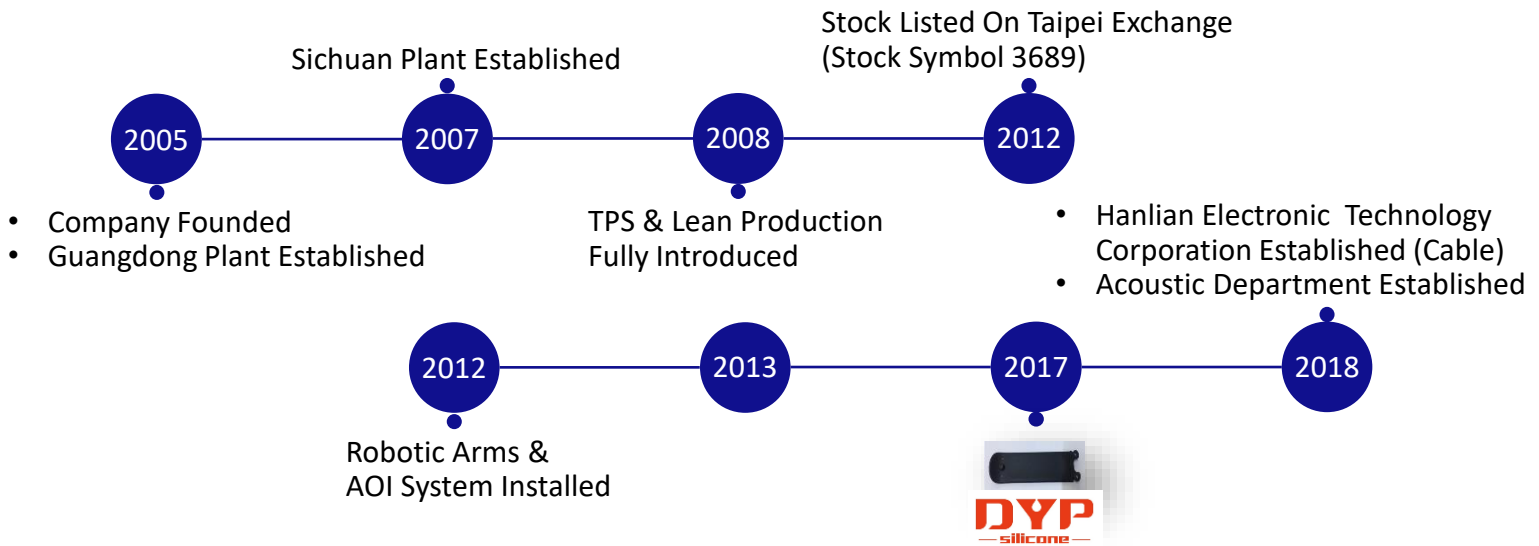


SFF Series Connector Introduction

湧德電子 股份有限公司
UDE Corp.

Lightbulb Milestone



Lightbulb Management System

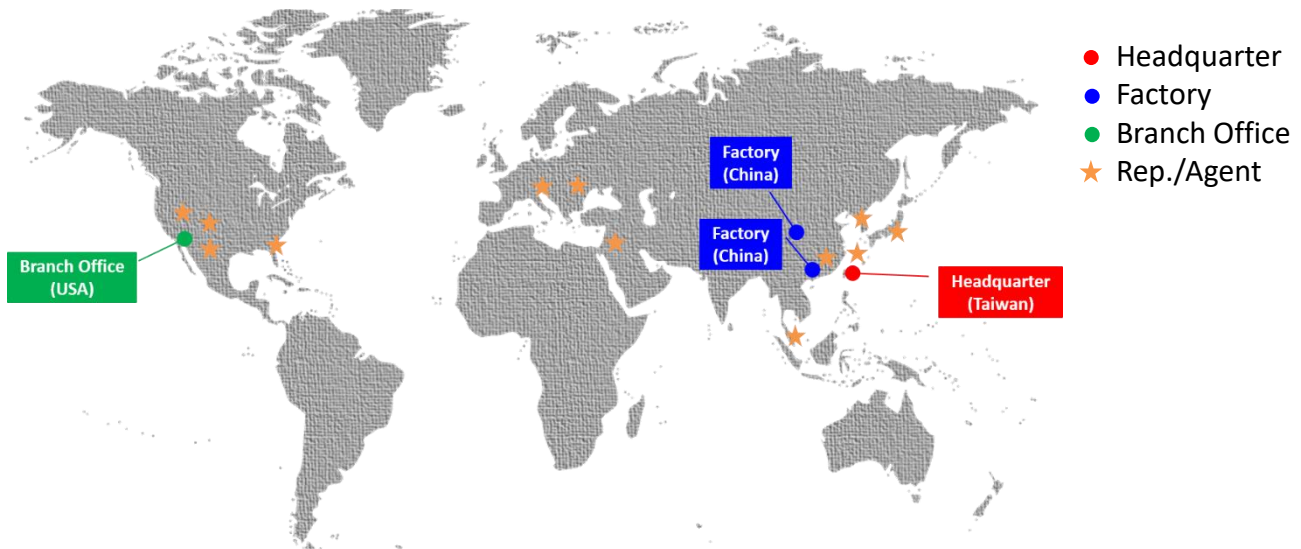
Quality Certificate

Company/Location	Standard	Certificate No.	Valid Date	Certify Body
Guangdong Plant	IATF 16949:2016	12 111 49852 TMS	2021-02-22	TÜV
	ISO 9001:2015	12 100 49852 TMS	2021-02-22	TÜV
	IECQ QC 080000:2012	IECQ-H SGSCN 09.0148	2019-09-27	SGS
Zhongjiang Plant	ISO 9001:2015	CN09/31408	2020-10-06	SGS
	IECQ QC 080000:2012	IECQ-H SGSCN 09.0148	2019-09-27	SGS

Environmental, Safety & Health Policy

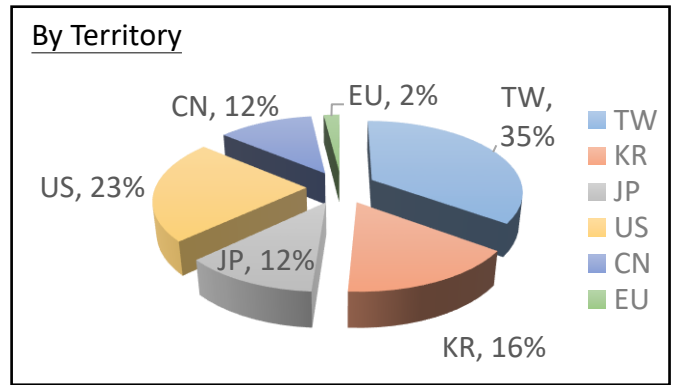
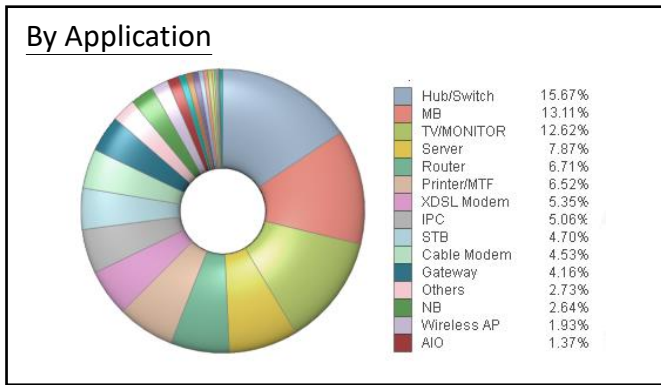
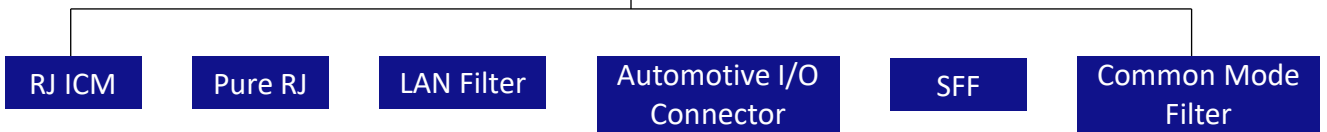
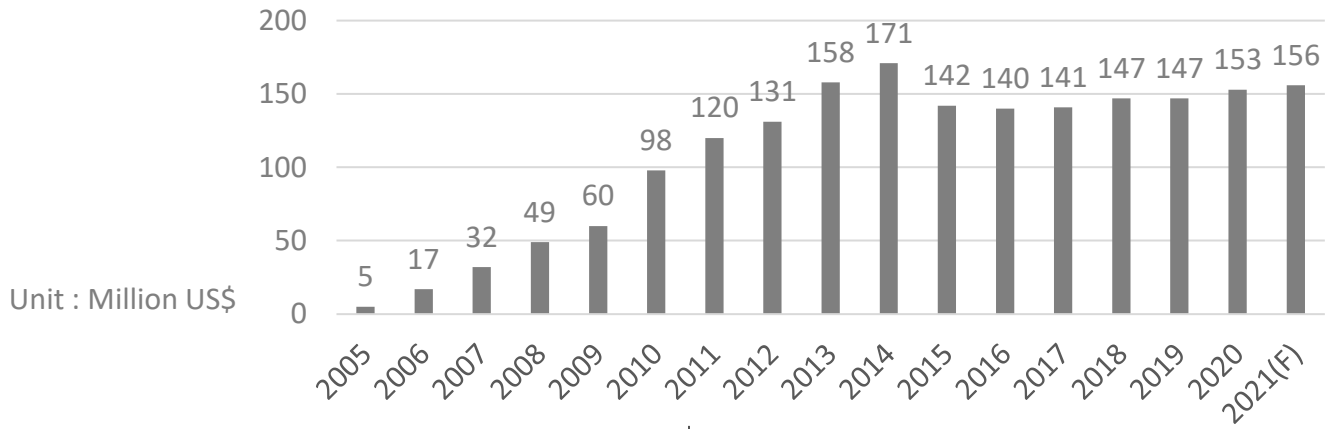
Company/Location	Standard	Certificate No.	Valid Date	Certify Body
Guangdong Plant	ISO 14001:2015	CN09/31405.00	2020-06-26	SGS
	ISO 14064-1:2006	N/A	Permanent	TÜV
	OHSAS 18001:2017	CN18/30592.01	2021-03-12	SGS
Zhongjiang Plant	ISO 14001:2015	CN09/31405.02	2020-06-26	SGS
	ISO 14064-1:2006	N/A	Permanent	TÜV
	OHSAS 18001:2007	CN18/30592.03	2021-03-12	SGS

Lightbulb Worldwide Sales Network





Sales Revenue



Customers & Partners

Products: MB / AIO PC, Networking, Set-Top Box, Server, Blue-ray Player / Internet TV / Game Consoles, Printer

Customers & Partners: ASUS, Accton (智邦科技), CISCO, IBM, LG, Canon, DELL, ARRIS, ECHOSTAR, inspur (浪潮), Panasonic (ideas for life), EPSON (EXCEED YOUR VISION), GIGABYTE, hp invent, HUMAX (EASY DIGITAL™), Inventec, SONY, LEXMARK™, lenovo, Juniper NETWORKS, PACE, Quanta Computer, SAMSUNG, RICOH, MSI, ZTE (中兴), technicolor, wistron

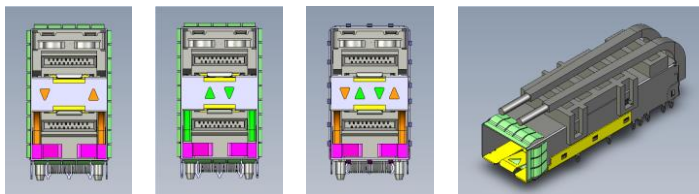
UDE SFF Product Roadmap

Speed ◆ Red prints mean not ready for mass production!

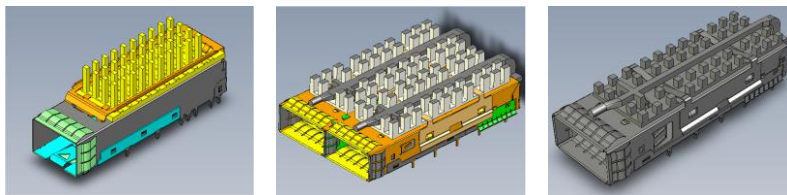


Type		SFP (1G)	SFP+ (10G)	SFP28 (25G/ 50G)	QSFP+ (40G)	QSFP28 (100G/ 200G)	QSFP-DD (400G)	SFP-DD (100G)	DSFP (100G)	QSFP-DD (800G)	QSFP112 (400G)
1XN	Single Connector	Ready	Ready	Ready	Ready	Ready	Ready	Design done	Design done	Design done (2021/Q4)	38-3838-52 Designing
	Cage	1X1/1X2/ 1X4	1X1/1X2/ 1X4	1X1/1X2/ 1X4	1X1/1X2	1X1/1X2	1X1/1X2	-	-	1X1/1X2	Designing
2XN	Cage + Conn.	2X1/2X2/ 2X4/2X6	2X1/2X2/ 2X4/ 2X6/2X8	2X1/2X2/ 2X4/2X6	2X1/2X2	2X1/2X2/ 2X3	-	-	-	-	-

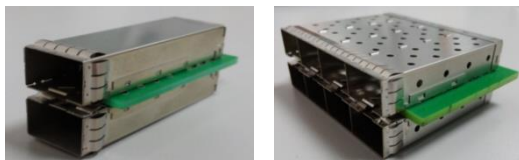
Light pipes



Heatsink



Belly to belly



Production and Experimental Equipment

Mechanical

- ✓ Vibration
- ✓ Force analysis
- ✓ Durability

Electrical

- ✓ Contact resistance
- ✓ Insulation resistance
- ✓ High voltage
- ✓ High frequency

Environmental

- ✓ Thermal shock
- ✓ Salt spray
- ✓ Temperature and humidity
- ✓ Steam aging

Process

- ✓ Simulation
- ✓ SMT simulation
- ✓ Solder ability



Thermal Shock Tester



Salt Spray Tester



Low Rate Accurate Cutting Machine



X-Ray Fluorescence System



Steam Aging Tester



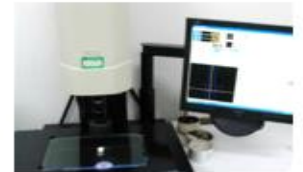
Low Frequency Vibration Tester



X-Ray Spectrometer



X-Ray Fluorescence System (SC)



2.5D Accurate Image Measure Tester



Programmable Temperature and Humidity Chamber



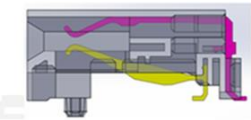
X-Ray



Grinding and Polishing Machine

Automatic Machine

Product 3D

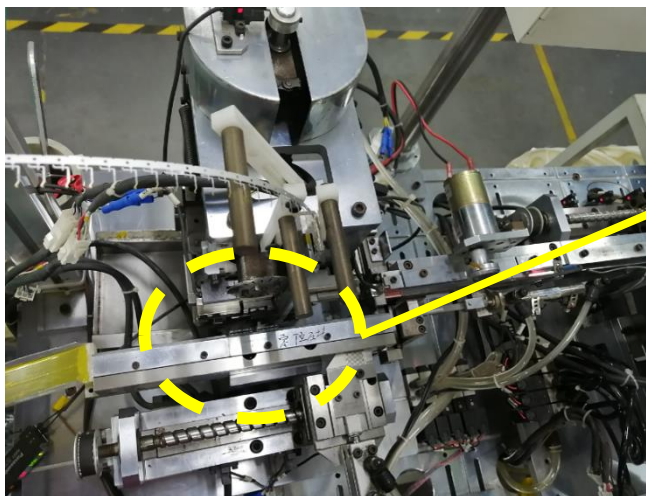
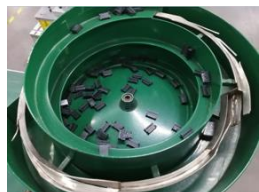


Assembly (terminal and plastic)

Terminal input



Plastic input



Normal working speed: 4 pins/s

SFP Series (SFP Connector, 1Gpbs per lane)

Material

Terminal: Ph. Bronze, Thickness=0.20mm
 (under plating: 50μ" min. Nickel overall)
 Plastic: LCP, Black <UL94V-0>

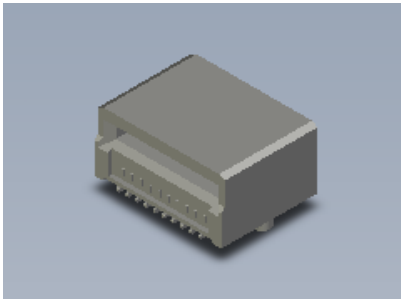
Mechanical

Insertion Force: 40N Max.
 Extraction Force: 12.5N Max.
 Durability: 100 cycles Min.
 Operating Temperature: -40°C to +85°C
 Storage Temperature: -20°C to +85°C

Electrical

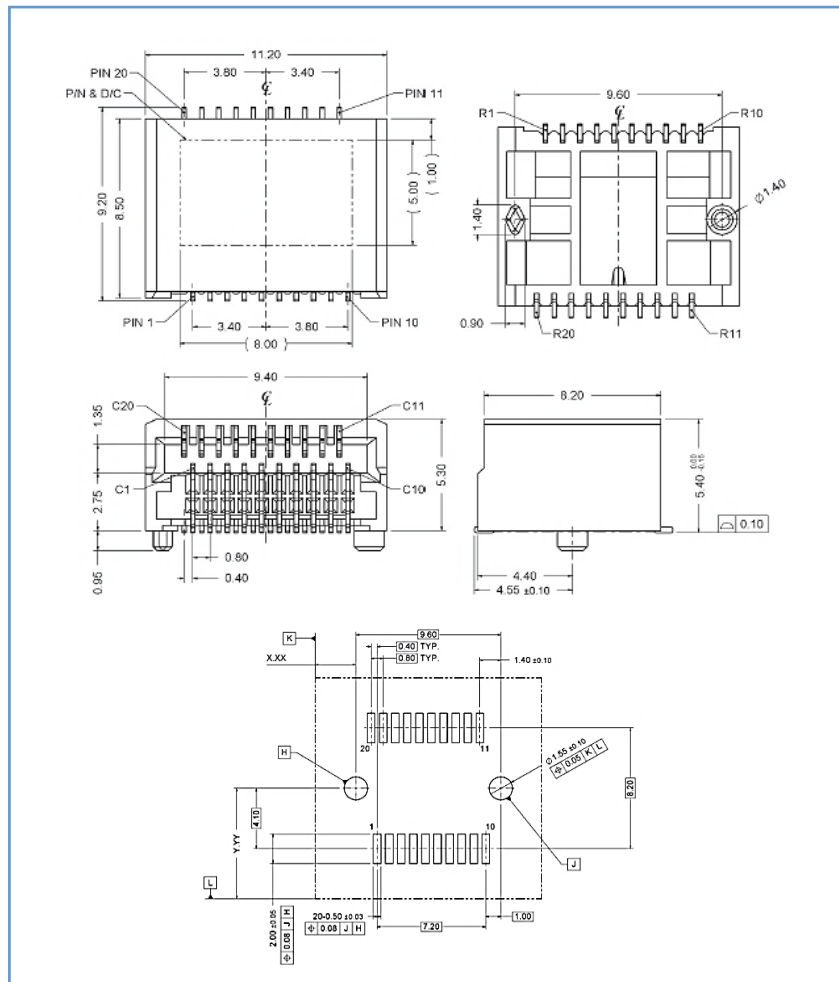
Contact Current Rating: 0.5A (per contact)
 Insulation Resistance: 1000MΩ Min.
 Dielectric Withstanding Voltage: 300VDC@1min

Product 3D



Part Number: SA00-XX-XXXX

- Contact Area plating options: ① 15u" ② 30u"



SFP Series (SFP Stacked Cage Assembly, 1Gpbs per lane)

Material

Shell: Copper Alloy, Thickness=0.25mm
 Inner Spring: SUS304, Thickness=0.20mm
 Terminal: Copper Alloy, Thickness=0.20mm
 (under plating: 50 μ " min. Nickel overall)
 Connector Housing: LCP, Black <UL94V-0>
 Light Pipe: PC, Transparent <UL94V-0>
 Light Pipe Cover: PBT, Black <UL94V-0>

Mechanical

Insertion Force: 40N Max.
 Extraction Force: 12.5N Max.
 Durability: 100 cycles Min.
 Operating Temperature: -40°C to +85°C
 Storage Temperature: -55°C to +105°C
 Cage Retention: 90N Min.

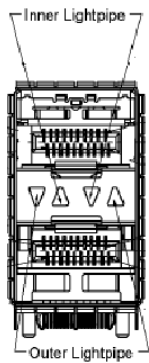
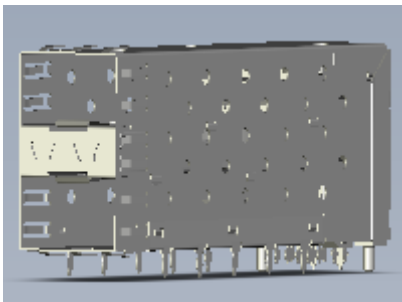
Electrical

Contact Current Rating: 0.5A (per contact)
 Insulation Resistance: 1000M Ω Min.
 Dielectric Withstanding Voltage: 300VDC@1min

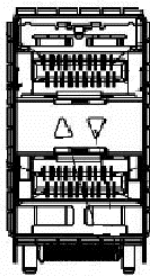
Part Number: SAX0-XX-XXXX

- Cage options: ① 2X1 ② 2X2 ③ 2X4 ④ 2X6
- Contact Area plating options: ① 15u" ② 30u"
- Light Pipe options: ① 4 light pipes ② 2 inner light pipes ③ 2 outer light pipes ④ no light pipe
- Other customized options are also provided.

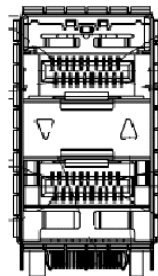
Product 3D



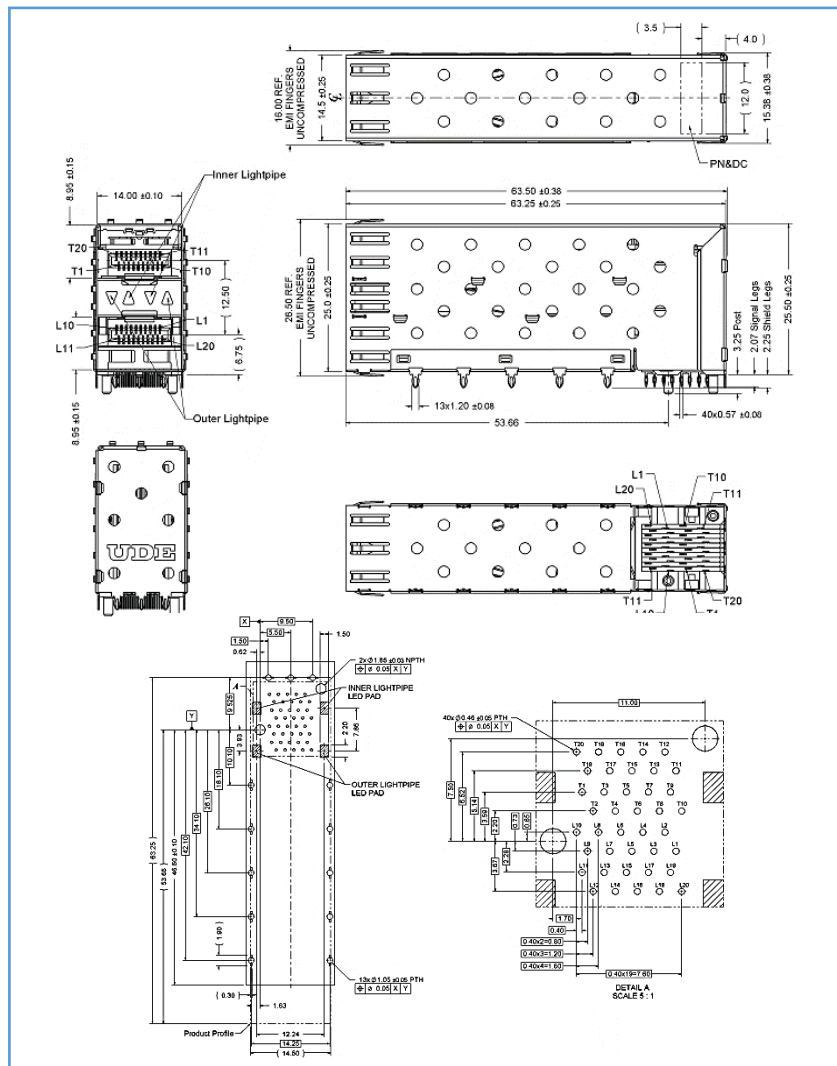
4 light pipes



2 inner light pipes



2 outer light pipes



SFP+ Series (SFP+ Connector, 10Gpbs per lane)

Material

Terminal: Ph. Bronze, Thickness=0.20mm
(under plating: 50 μ " min. Nickel overall)
Plastic: LCP, Black <UL94V-0>

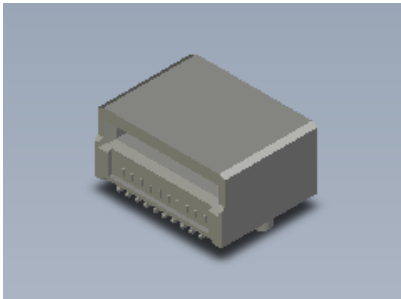
Mechanical

Insertion Force: 40N Max.
Extraction Force: 12.5N Max.
Durability: 100 cycles Min.
Operating Temperature: -40°C to +85°C
Storage Temperature: -20°C to +85°C

Electrical

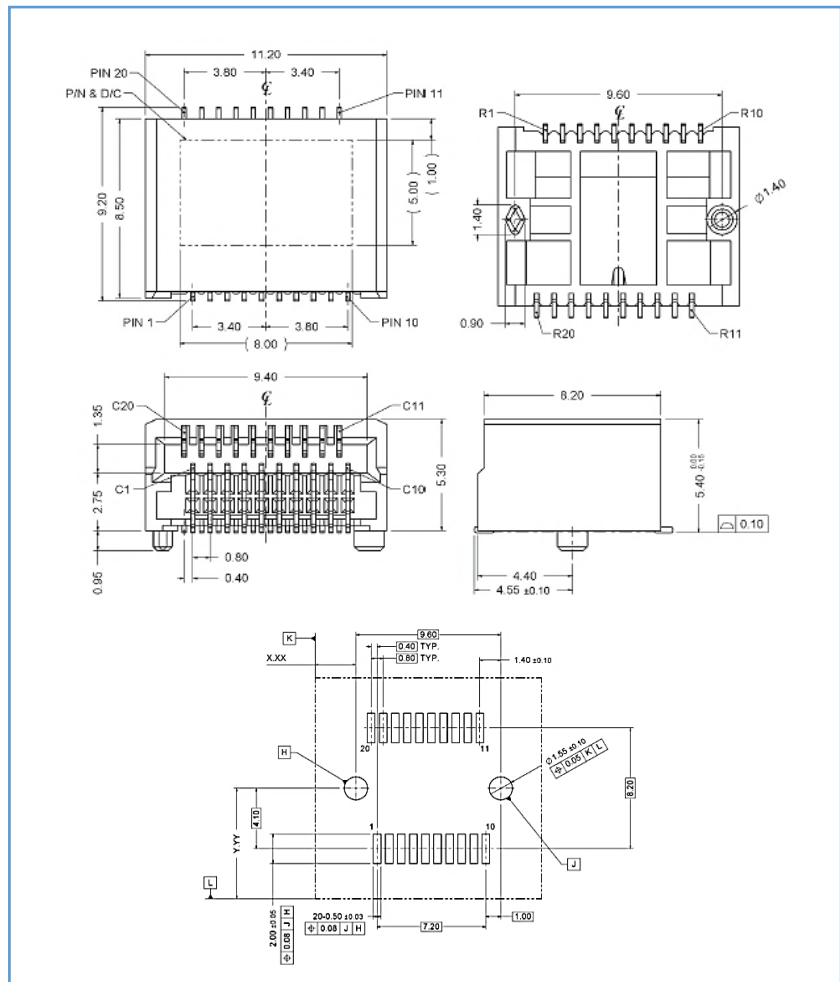
Contact Current Rating: 0.5A (per contact)
Insulation Resistance: 1000M Ω Min.
Dielectric Withstanding Voltage: 300VDC@1min

Product 3D



Part Number: SS00-XX-XXXX

- Contact Area plating options: ① 15u" ② 30u"



SFP+ Series (SFP+ 1-by Cages, 10Gpbs per lane)

Material

Top Shell: Copper Alloy, Thickness=0.25mm

Bottom Shell: Copper Alloy, Thickness=0.25mm

EMI Spring Finger: Ph. Bronze, Thickness=0.08mm
(plating: 30μ" min. Nickel)

Mechanical

Insertion Force: 18N Max. (with cage & module)

Extraction Force: 12.5N Max. (with cage & module)

Durability: 100 cycles Min.

Operating Temperature: -40°C to +85°C

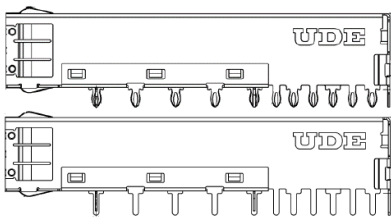
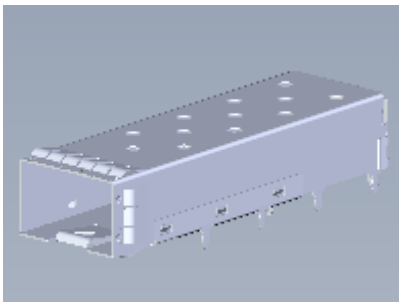
Storage Temperature: -55°C to +105°C

Cage Retention: 90N Min.

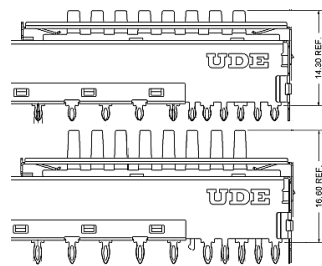
Part Number: SSX0-XX-XXXX

- Cage options: ① 1X1 ② 1X2 ③ 1X4
- Tail options: ① Press-fit ② Solder
- Light Pipe options: ① 2 light pipes ② no light pipe
- Heatsink options: ① 14.3mm ② 16.6mm ③ 23.6mm
- Other customized options are also provided.

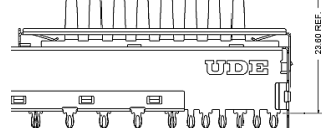
Product 3D



Press-fit



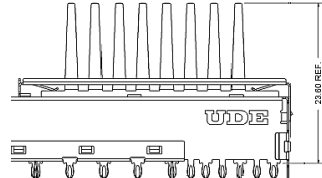
Solder



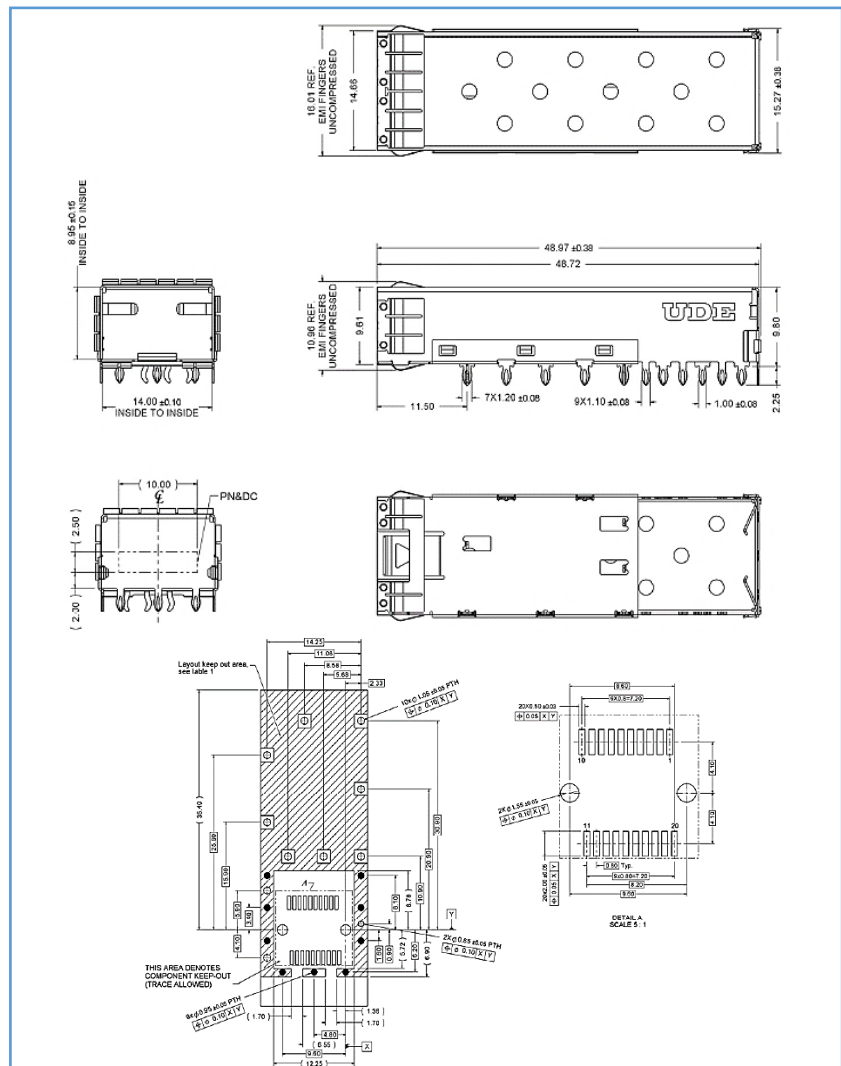
heatsink 14.3mm



heatsink 16.6mm



heatsink 23.6mm



SFP+ Series (SFP+ Stacked Cage Assembly, 10Gpbs per lane)

Material

Shell: Copper Alloy, Thickness=0.25mm
 Inner Spring: SUS304, Thickness=0.20mm
 EMI Spring Finger: Ph. Bronze, Thickness=0.08mm
 (plating: 30μ" min. Nickel)
 Terminal: Copper Alloy, Thickness=0.20mm
 (under plating: 50μ" min. Nickel overall)
 Connector Housing: LCP, Black <UL94V-0>
 Light Pipe: PC, Transparent <UL94V-0>
 Light Pipe Cover: PBT, Black <UL94V-0>

Mechanical

Insertion Force: 40N Max.
 Extraction Force: 12.5N Max.
 Durability: 100 cycles Min.
 Operating Temperature: -40°C to +85°C
 Storage Temperature: -55°C to +105°C
 Cage Retention: 90N Min.

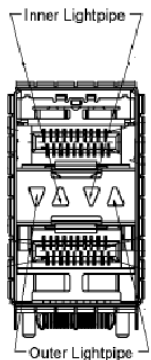
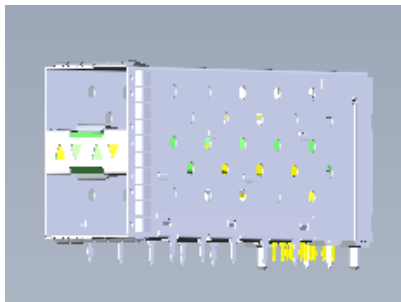
Electrical

Contact Current Rating: 0.5A (per contact)
 Insulation Resistance: 1000MΩ Min.
 Dielectric Withstanding Voltage: 300VDC@1min

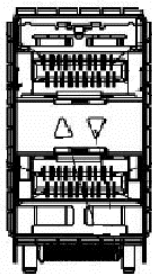
Part Number: SSX0-XX-XXXX

- Cage options: ① 2X1 ② 2X2 ③ 2X4 ④ 2X6 ⑤ 2X8
- Contact Area plating options: ① 15u" ② 30u"
- Light Pipe options: ① 4 light pipes ② 2 inner light pipes ③ 2 outer light pipes ④ no light pipe

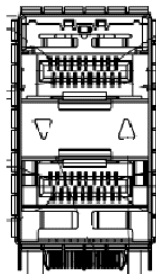
Product 3D



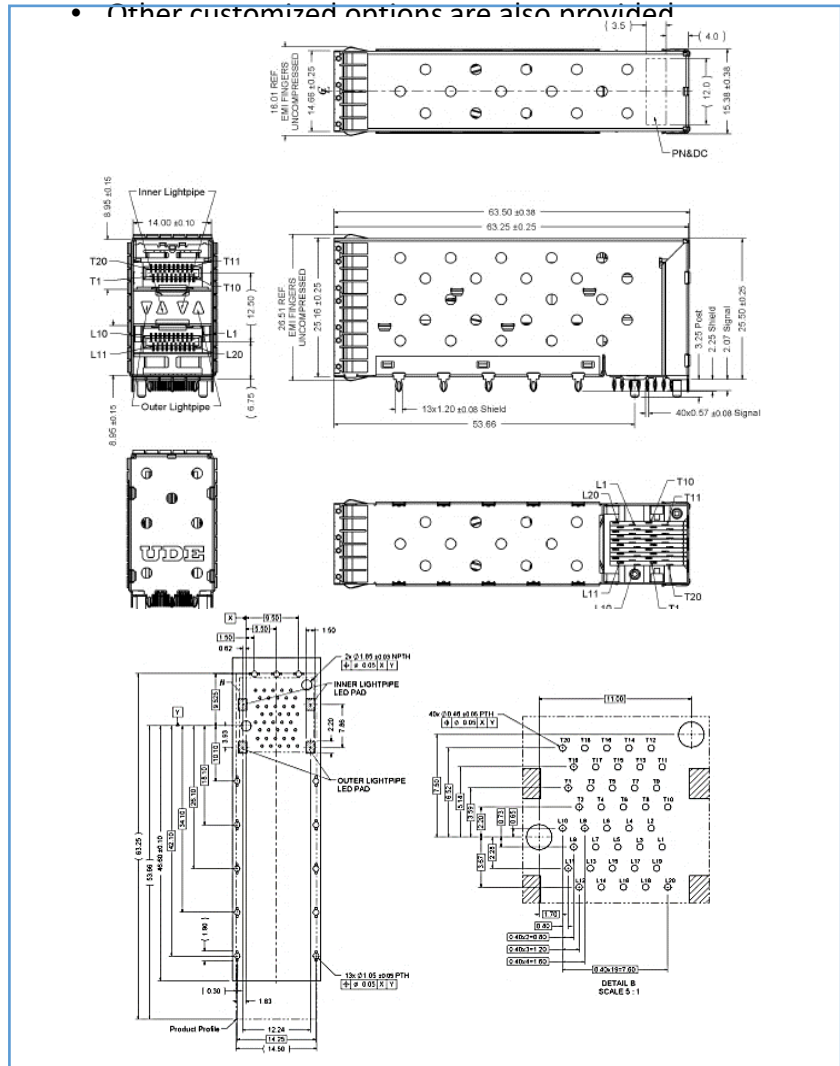
4 light pipes



2 inner light pipes



2 outer light pipes



SFP28 Series (SFP28 Connector, 25Gpbs per lane)

Material

Terminal: Ph. Bronze, Thickness=0.20mm

(under plating: 50 μ " min. Nickel overall)

Plastic: LCP, Black <UL94V-0>

Mechanical

Insertion Force: 40N Max.

Extraction Force: 12.5N Max.

Durability: 100 cycles Min.

Operating Temperature: -40°C to +85°C

Storage Temperature: -20°C to +85°C

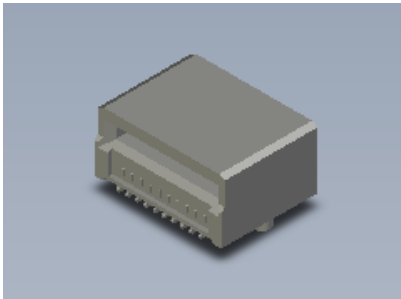
Electrical

Contact Current Rating: 0.5A (per contact)

Insulation Resistance: 1000M Ω Min.

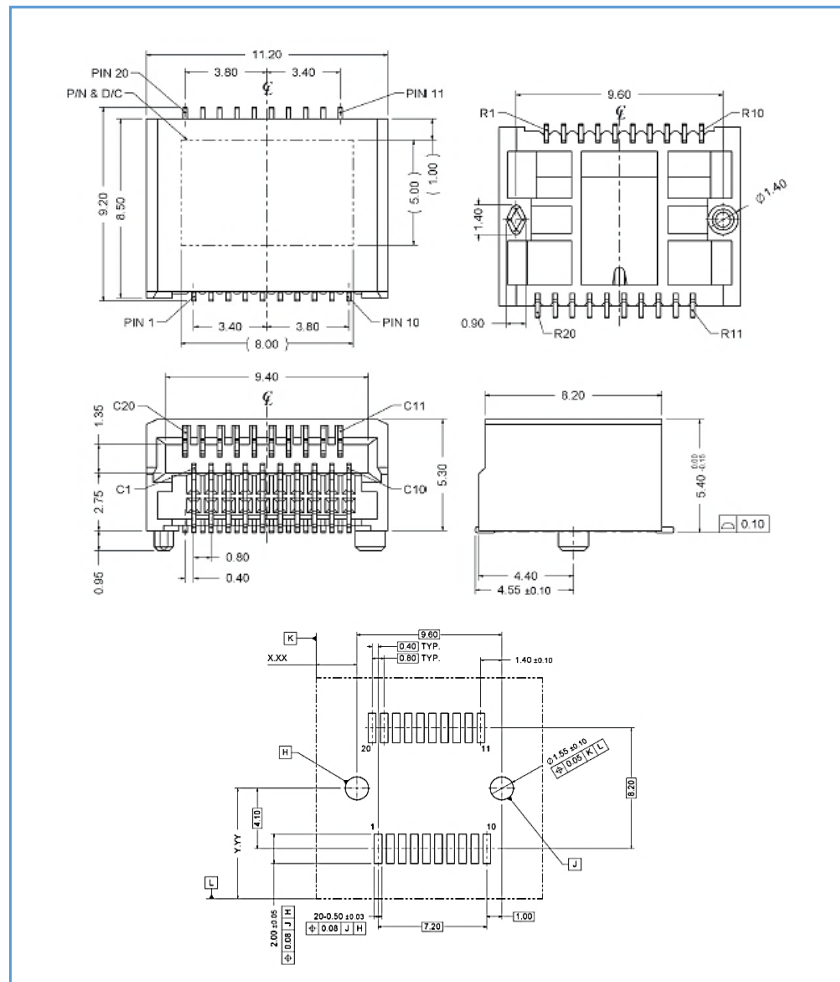
Dielectric Withstanding Voltage: 300VDC@1min

Product 3D



Part Number: SB00-XX-XXXX

- Contact Area plating options: ① 15u" ② 30u"



SFP28 Series (SFP28 1-by Cages, 25Gpbs per lane)

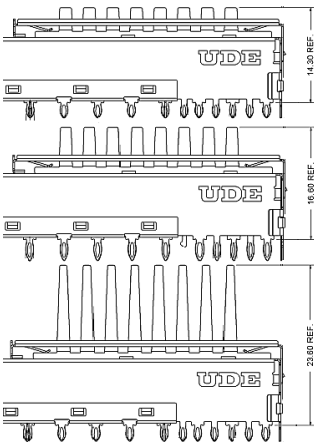
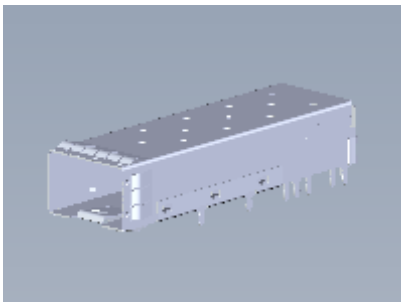
Material

Top Shell: Copper Alloy, Thickness=0.25mm
 Bottom Shell: Copper Alloy, Thickness=0.25mm
 EMI Spring Finger: Ph. Bronze, Thickness=0.08mm
 (plating: 30μ" min. Nickel)

Mechanical

Insertion Force: 18N Max. (with cage & module)
 Extraction Force: 12.5N Max. (with cage & module)
 Durability: 100 cycles Min.
 Operating Temperature: -40°C to +85°C
 Storage Temperature: -55°C to +105°C
 Cage Retention: 90N Min.

Product 3D



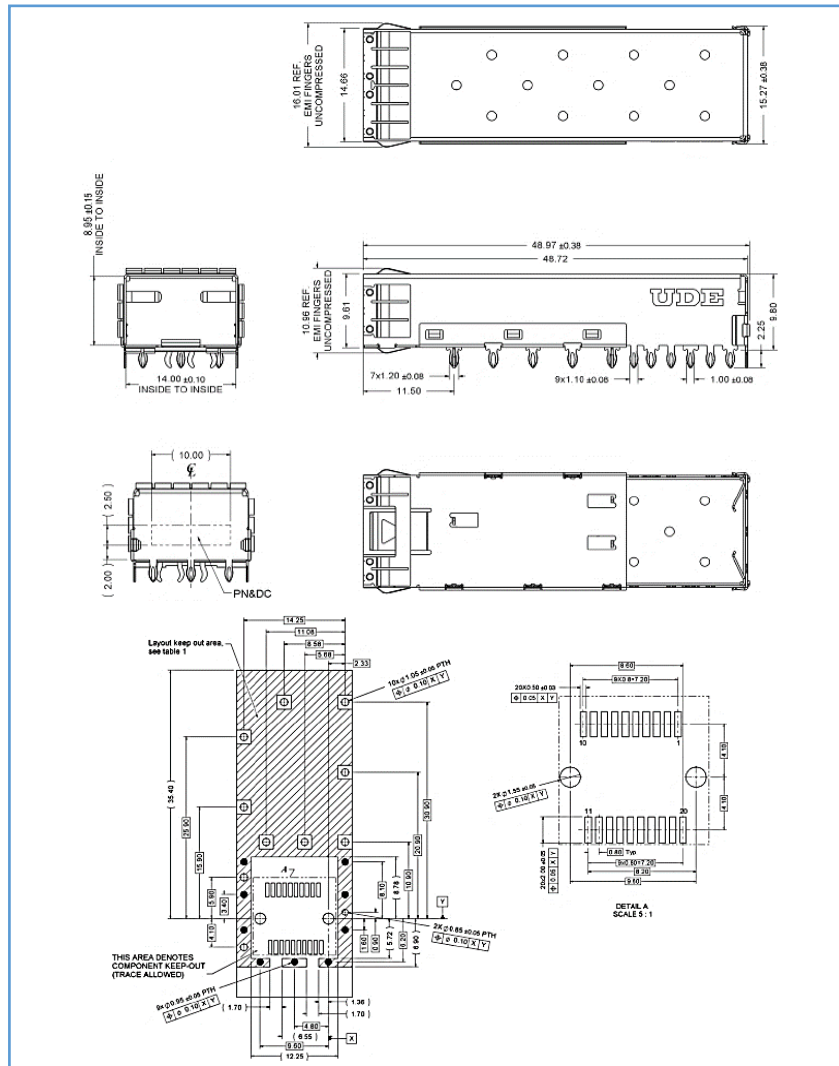
heatsink 14.3mm

heatsink 16.6mm

heatsink 23.6mm

Part Number: SBX0-XX-XXXX

- Cage options: ① 1X1 ② 1X2 ③ 1X4
- Light Pipe options: ① 2 light pipes ② no light pipe
- Heatsink options: ① 14.3mm ② 16.6mm ③ 23.6mm
- Other customized options are also provided.



SFP28 Series (SFP28 Stacked Cage Assembly, 25Gpbs per lane)

Material

Shell: Copper Alloy, Thickness=0.25mm
 Inner Spring: SUS304, Thickness=0.20mm
 EMI Spring Finger: Ph. Bronze, Thickness=0.08mm
 (plating: 30 μ " min. Nickel)
 Terminal: Copper Alloy, Thickness=0.20mm
 (under plating: 50 μ " min. Nickel overall)
 Connector Housing: LCP, Black <UL94V-0>
 Light Pipe: PC, Transparent <UL94V-0>
 Light Pipe Cover: PBT, Black <UL94V-0>

Mechanical

Insertion Force: 40N Max.
 Extraction Force: 12.5N Max.
 Durability: 100 cycles Min.
 Operating Temperature: -40°C to +85°C
 Storage Temperature: -55°C to +105°C
 Cage Retention: 90N Min.

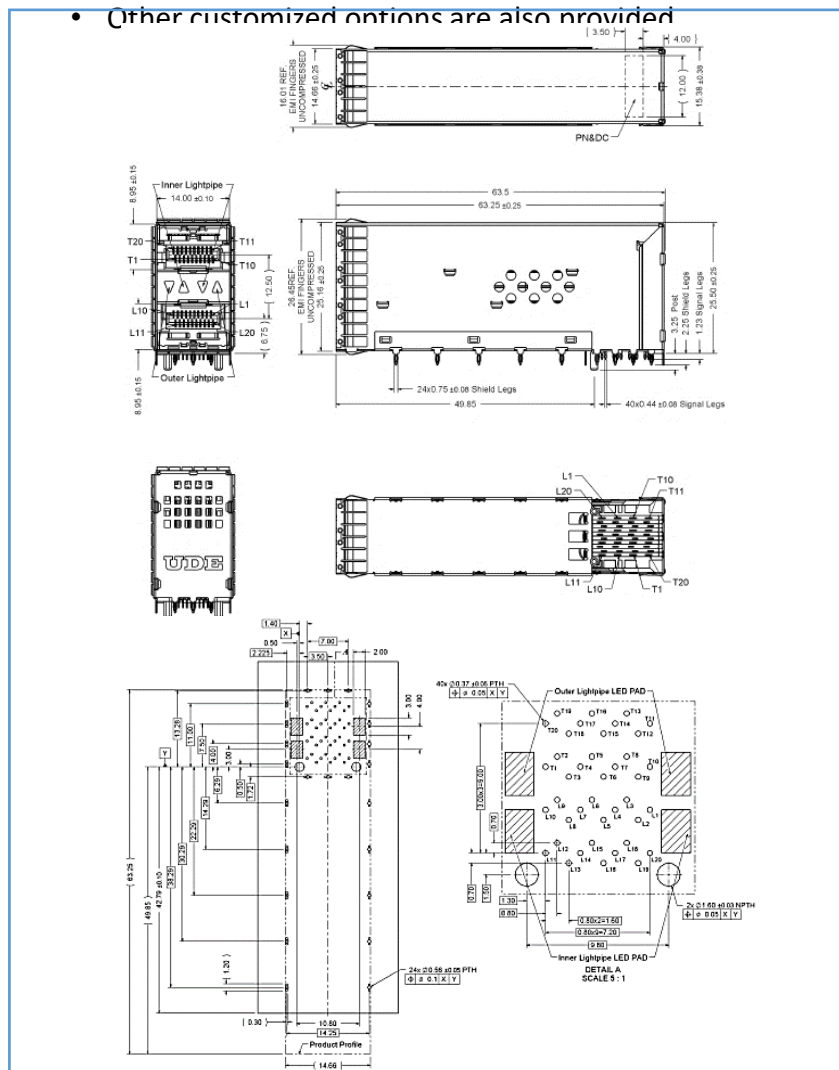
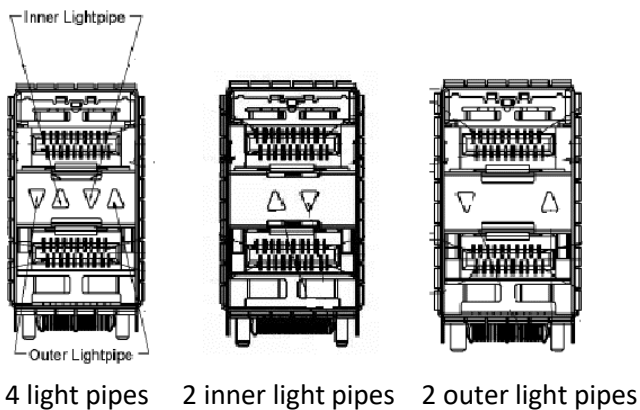
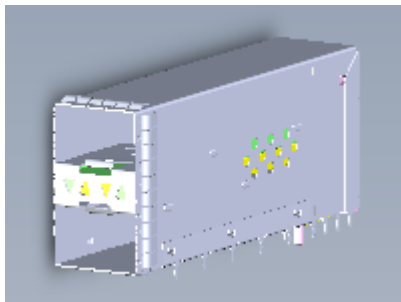
Electrical

Contact Current Rating: 0.5A (per contact)
 Insulation Resistance: 100M Ω Min.
 Dielectric Withstanding Voltage: 300VDC@1min

Part Number: SBX0-XX-XXXX

- Cage options: ① 2X1 ② 2X2 ③ 2X4 ④ 2X6
- Contact Area plating options: ① 15 μ " ② 30 μ "
- Light Pipe options: ① 4 light pipes ② 2 inner light pipes ③ 2 outer light pipes ④ no light pipe

Product 3D



QSFP+ Series (QSFP+ Connector, 4X10Gpbs)

Material

Terminal: Ph. Bronze, Thickness=0.20mm
 (under plating: 50 μ " min. Nickel overall)
 Plastic: LCP, Black <UL94V-0>

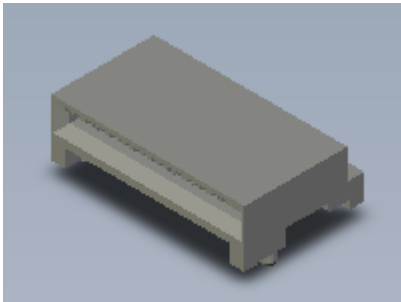
Mechanical

Insertion Force: 60N Max.
 Extraction Force: 30N Max.
 Durability: 100 cycles Min.
 Operating Temperature: -40 $^{\circ}$ C to +85 $^{\circ}$ C
 Storage Temperature: -20 $^{\circ}$ C to +85 $^{\circ}$ C

Electrical

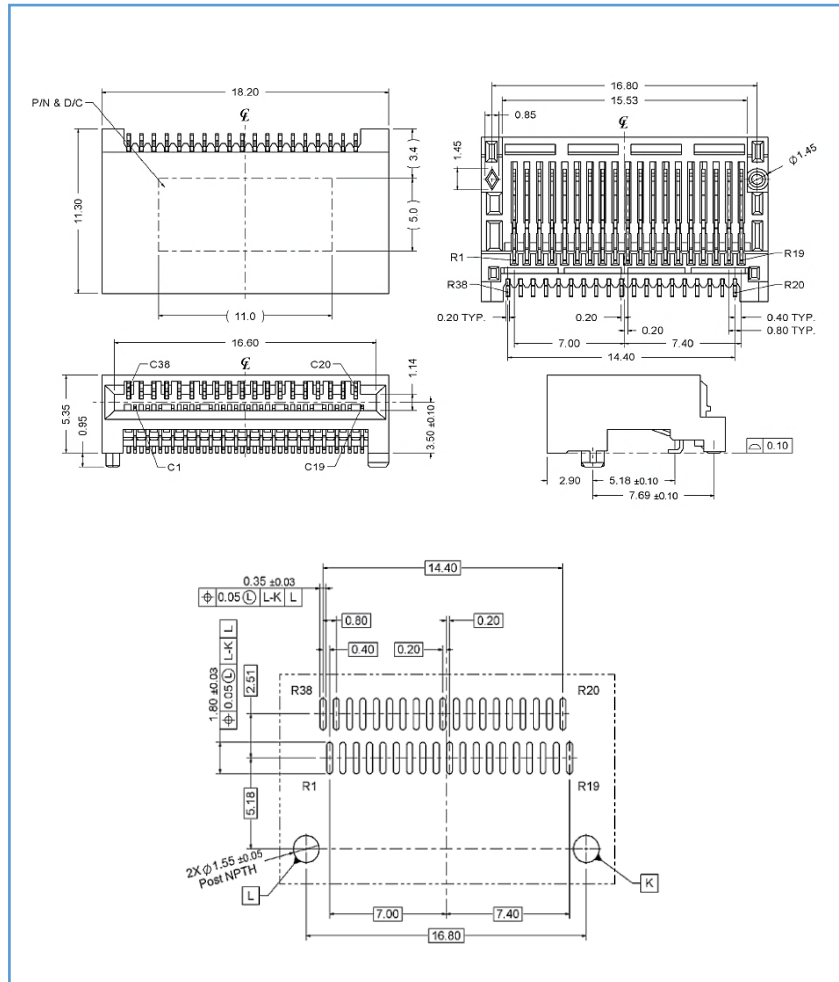
Contact Current Rating: 0.5A (per contact)
 Insulation Resistance: 1000M Ω Min.
 Dielectric Withstanding Voltage: 300VDC@1min

Product 3D



Part Number: SQ01-XX-XXXX

- Contact Area plating options: ① 15u" ② 30u"



QSFP+ Series (QSFP+ 1-by Cages, 4X10Gpbs)

Material

Top Shell: Copper Alloy, Thickness=0.25mm
 Bottom Shell: Copper Alloy, Thickness=0.25mm
 EMI Spring Finger: Ph. Bronze, Thickness=0.08mm
 (plating: 30μ" min. Nickel)

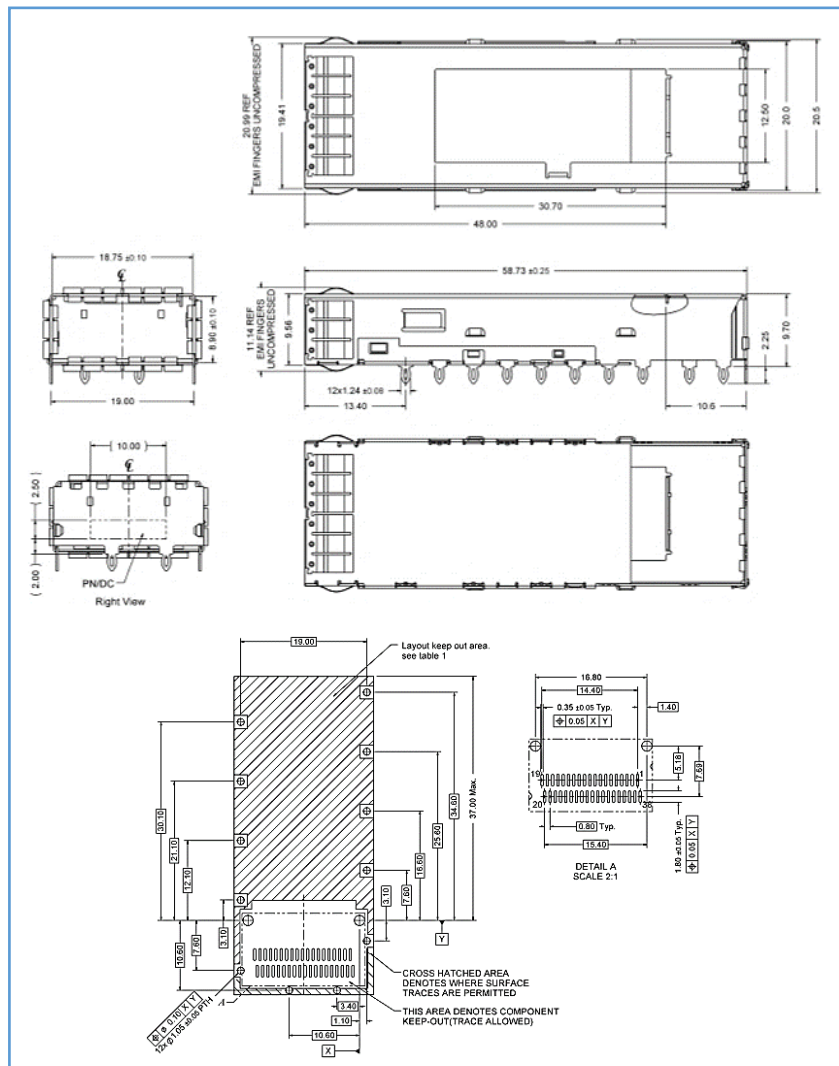
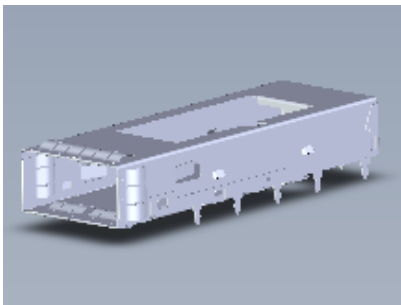
Mechanical

Insertion Force: 60N Max. (with connector, cage & module)
 Extraction Force: 30N Max. (with connector, cage & module)
 Durability: 100 cycles Min.
 Operating Temperature: -40°C to +85°C
 Storage Temperature: -55°C to +105°C
 Cage Retention: 125N Min.

Part Number: SQX0-XX-XXXX

- Cage options: ① 1X1 ② 1X2
- Light Pipe options: ① 2 light pipes ② no light pipe
- Heatsink options (1X1): ① 12.6mm ② 22.2mm
- Heatsink options (1X2): ① 13.7mm ② 16.0mm ③ 23.0mm
- Other customized options are also provided.

Product 3D



QSFP+ Series (QSFP+ Stacked Cage Assembly, 4X10Gpbs)

Material

Shell: Copper Alloy, Thickness=0.25mm
EMI Spring Finger: Ph. Bronze, Thickness=0.08mm
(plating: 30 μ " min. Nickel)
Terminal: Copper Alloy, Thickness=0.20mm
(under plating: 50 μ " min. Nickel overall)
Connector Housing: LCP, Black <UL94V-0>
Light Pipe: PC, Transparent <UL94V-0>
Light Pipe Cover: PBT, Black <UL94V-0>

Mechanical

Insertion Force: 60N Max.
Extraction Force: 30N Max.
Durability: 100 cycles Min.
Operating Temperature: -40 $^{\circ}$ C to +85 $^{\circ}$ C
Storage Temperature: -55 $^{\circ}$ C to +105 $^{\circ}$ C
Cage Retention: 125N Min.

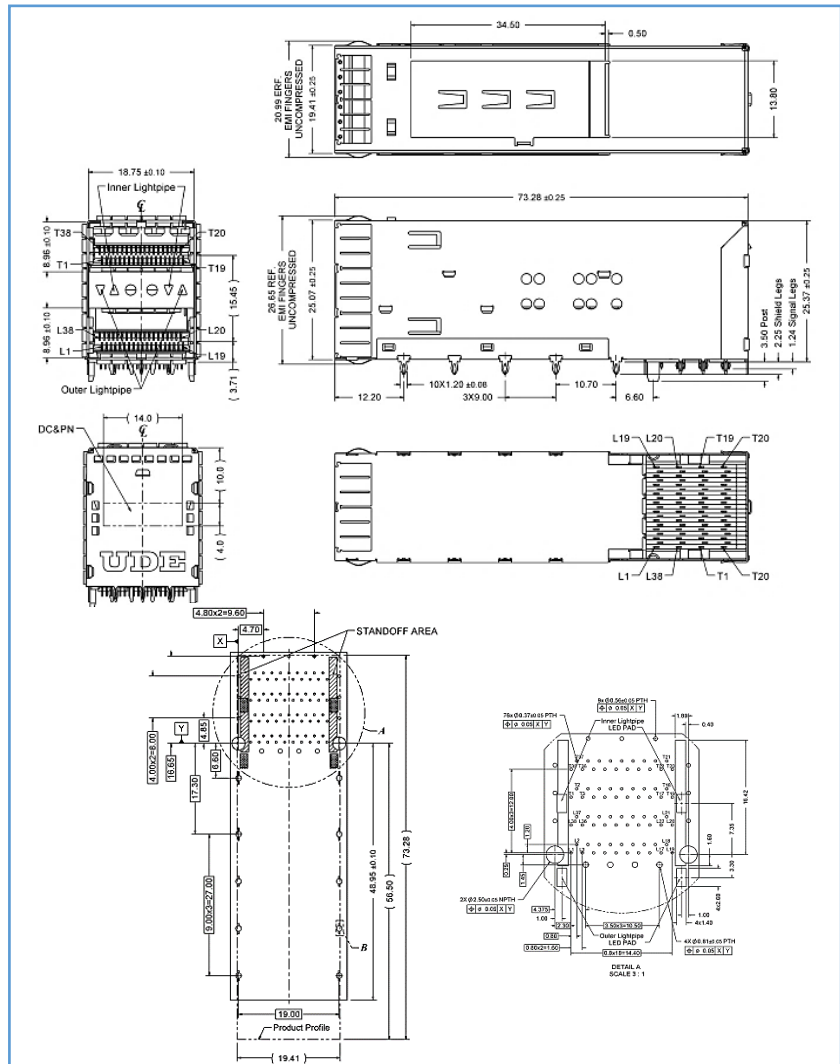
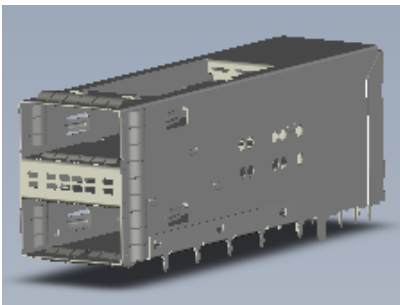
Electrical

Contact Current Rating: 0.5A (per contact)
Insulation Resistance: 1000M Ω Min.
Dielectric Withstanding Voltage: 300VDC@1min

Part Number: SQX0-XX-XXXX

- Cage options: ① 2X1 ② 2X2
- Contact Area plating options: ① 15u" ② 30u"
- Light Pipe options: ① 4 light pipes ② 2 light pipes
③ no light pipes
- Other customized options are also provided.

Product 3D



QSFP28 Series (QSFP28 Connector, 4X25Gpbs)

Material

Terminal: Ph. Bronze, Thickness=0.20mm
 (under plating: 50 μ " min. Nickel overall)
 Plastic: LCP, Black <UL94V-0>

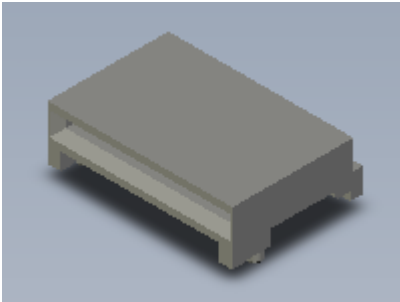
Mechanical

Insertion Force: 60N Max.
 Extraction Force: 30N Max.
 Durability: 100 cycles Min.
 Operating Temperature: -40°C to +85°C
 Storage Temperature: -20°C to +85°C

Electrical

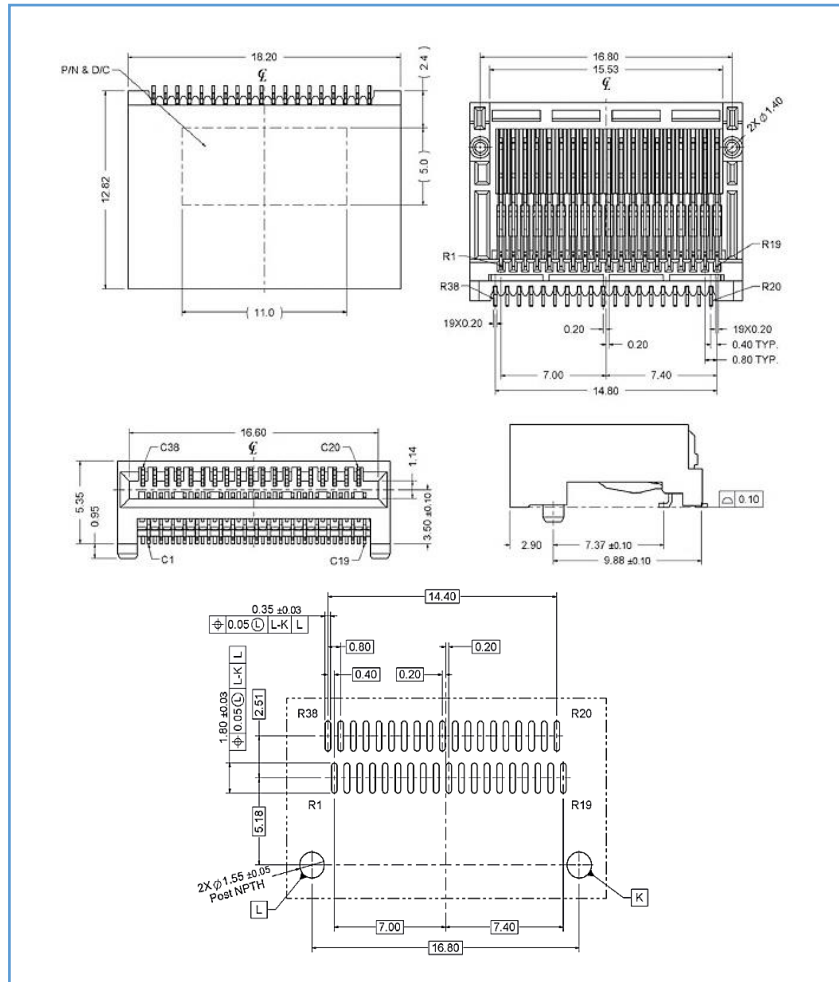
Contact Current Rating: 0.5A (per contact)
 Insulation Resistance: 1000M Ω Min.
 Dielectric Withstanding Voltage: 300VDC@1min

Product 3D



Part Number: SZ01-XX-XXXX

- Contact Area plating options: ① 15u" ② 30u"



QSFP28 Series (QSFP28 1-by Cages, 4X25Gpbs)

Material

Top Shell: Copper Alloy, Thickness=0.25mm
 Bottom Shell: Copper Alloy, Thickness=0.25mm
 EMI Spring Finger: Ph. Bronze, Thickness=0.08mm
 (plating: 30μ" min. Nickel)

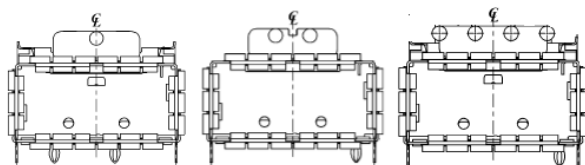
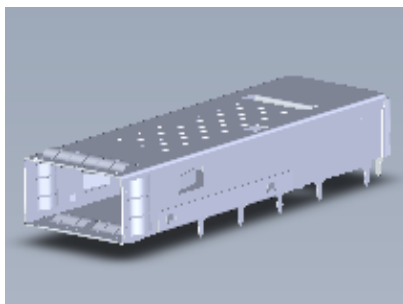
Mechanical

Insertion Force: 60N Max. (with connector, cage & module)
 Extraction Force: 30N Max. (with connector, cage & module)
 Durability: 100 cycles Min.
 Operating Temperature: -40°C to +85°C
 Storage Temperature: -55°C to +105°C
 Cage Retention: 125N Min.

Part Number: SZX0-XX-XXXX

- Cage options: ① 1X1 ② 1X2
- Light Pipe options: ① 4 light pipes ② 2 light pipes ③ 1 light pipe ④ no light pipe
- Heatsink options: ① 13.7mm ② 16.0mm ③ 23.0mm
- Other customized options are also provided.

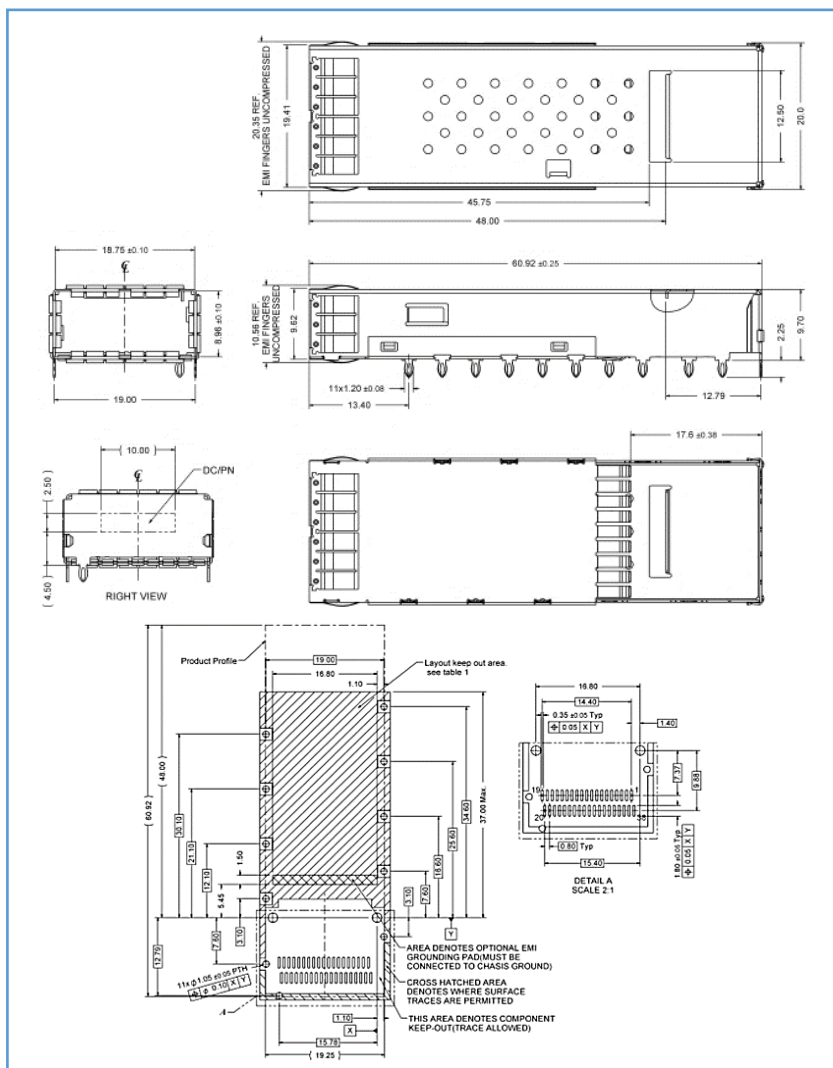
Product 3D



1 light pipe

2 light pipes

4 light pipes



QSFP28 Series (QSFP28 Stacked Cage Assembly, 4X25Gpbs)

Material

Shell: Copper Alloy, Thickness=0.25mm
 EMI Spring Finger: Ph. Bronze, Thickness=0.08mm
 (plating: 30μ" min. Nickel)
 Terminal: Copper Alloy, Thickness=0.20mm
 (under plating: 50μ" min. Nickel overall)
 Connector Housing: LCP, Black <UL94V-0>
 Light Pipe: PC, Transparent <UL94V-0>
 Light Pipe Cover: PBT, Black <UL94V-0>

Mechanical

Insertion Force: 60N Max.
 Extraction Force: 30N Max.
 Durability: 100 cycles Min.
 Operating Temperature: -40°C to +85°C
 Storage Temperature: -55°C to +105°C
 Cage Retention: 125N Min.

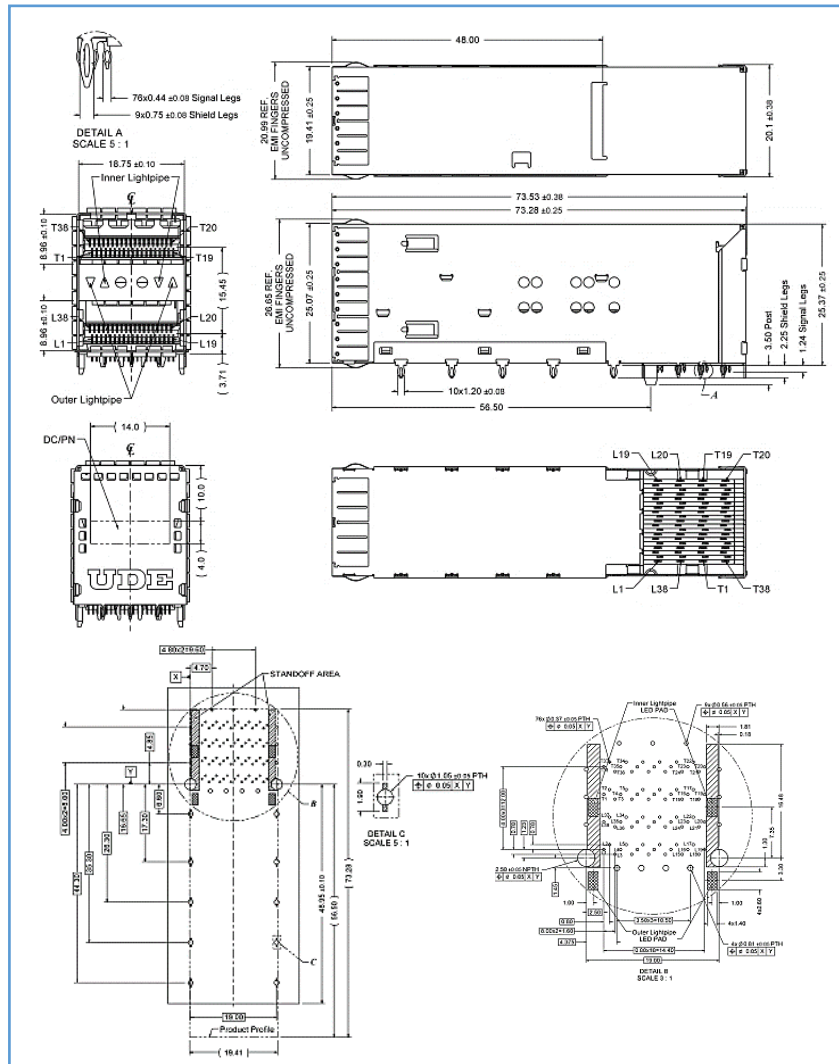
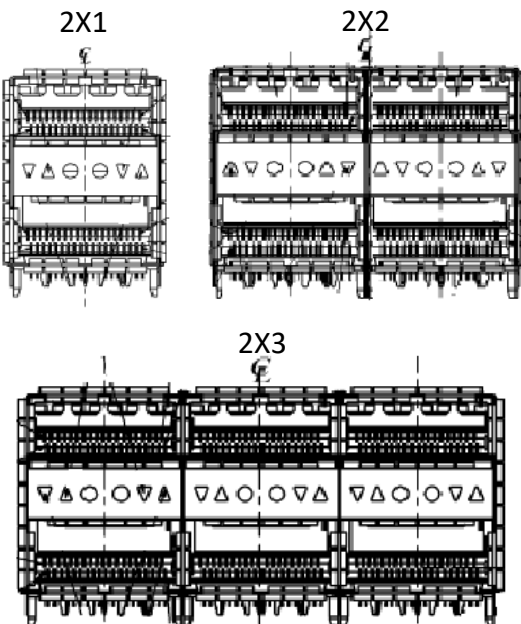
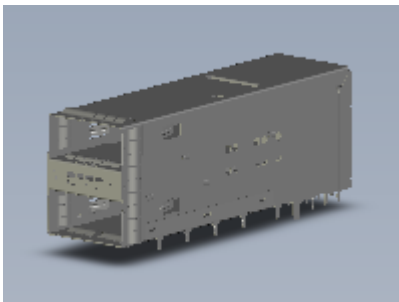
Electrical

Contact Current Rating: 0.5A (per contact)
 Insulation Resistance: 1000MΩ Min.
 Dielectric Withstanding Voltage: 300VDC@1min

Part Number: SZX0-XX-XXXX

- Cage options: ① 2X1 ② 2X2 ③ 2X3
- Contact Area plating options: ① 15u" ② 30u"
- Light Pipe options: ① 4 light pipes ② 2 light pipes ③ no light pipes
- Other customized options are also provided.

Product 3D



QSFPDD Series (QSFPDD Connector, 8X25Gpbs)

Material

Terminal: Ph. Bronze, Thickness=0.20mm
 (under plating: 50μ" min. Nickel overall)
 Plastic: LCP, Black <UL94V-0>

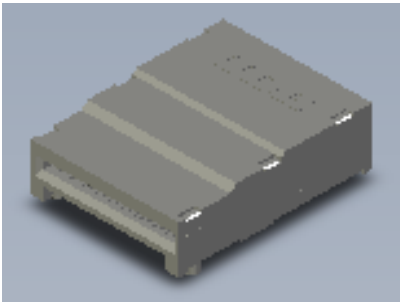
Mechanical

Insertion Force: 90N Max.
 Extraction Force: 50N Max.
 Durability: 50 cycles Min.
 Operating Temperature: -40°C to +85°C
 Storage Temperature: -40°C to +85°C

Electrical

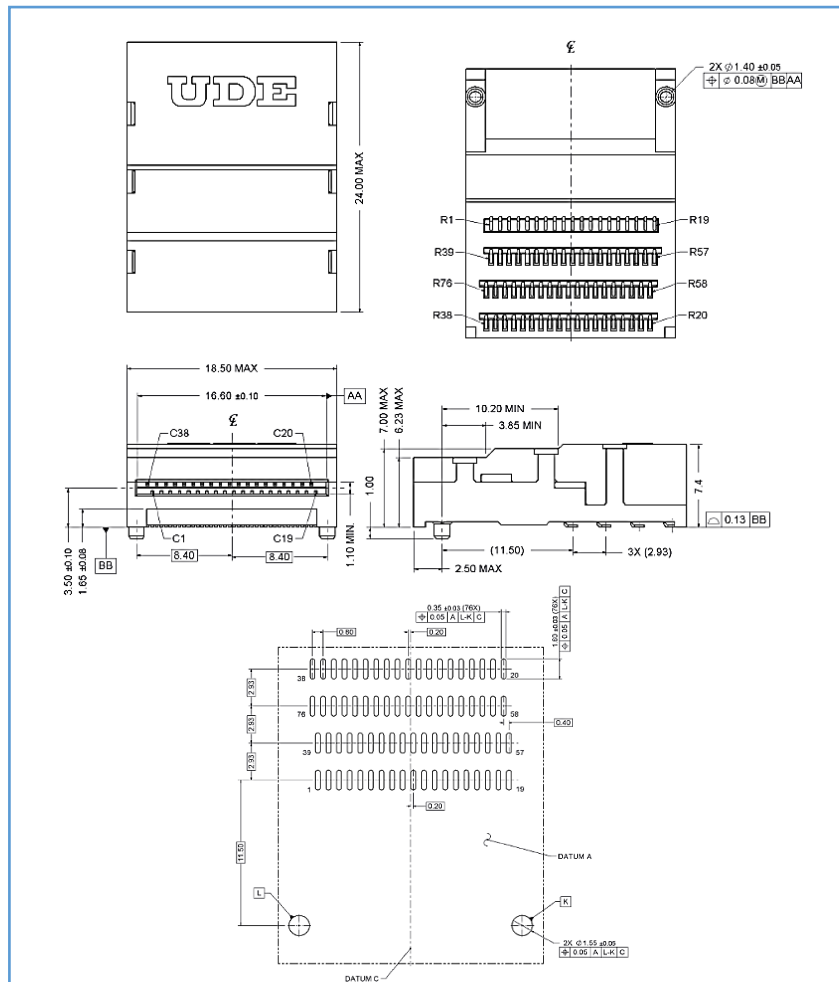
Contact Current Rating: 0.5A (per contact)
 Insulation Resistance: 1000MΩ Min.
 Dielectric Withstanding Voltage: 300VDC@1min

Product 3D



Part Number: SD00-XX-XXXX

- Contact Area plating options: ① 15u" ② 30u"



QSFPDD Series (QSFPDD 1-by Cages, 8X25Gpbs)

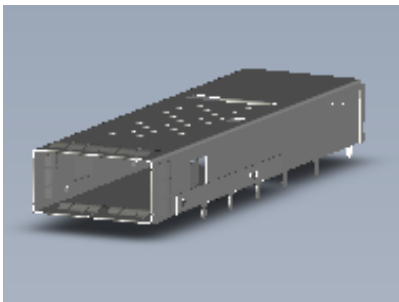
Material

Top Shell: Copper Alloy, Thickness=0.25mm
 Bottom Shell: Copper Alloy, Thickness=0.25mm
 EMI Spring Finger: Ph. Bronze, Thickness=0.08mm
 (plating: 30μ" min. Nickel)

Mechanical

Insertion Force: 90N Max. (with connector, cage & module)
 Extraction Force: 50N Max. (with connector, cage & module)
 Durability: 100 cycles Min.
 Operating Temperature: -40°C to +85°C
 Storage Temperature: -55°C to +105°C
 Cage Retention: 125N Min.

Product 3D



Part Number: SDX0-XX-XXXX

- Cage options: ① 1X1 ② 1X2
- Other customized options are also provided.

