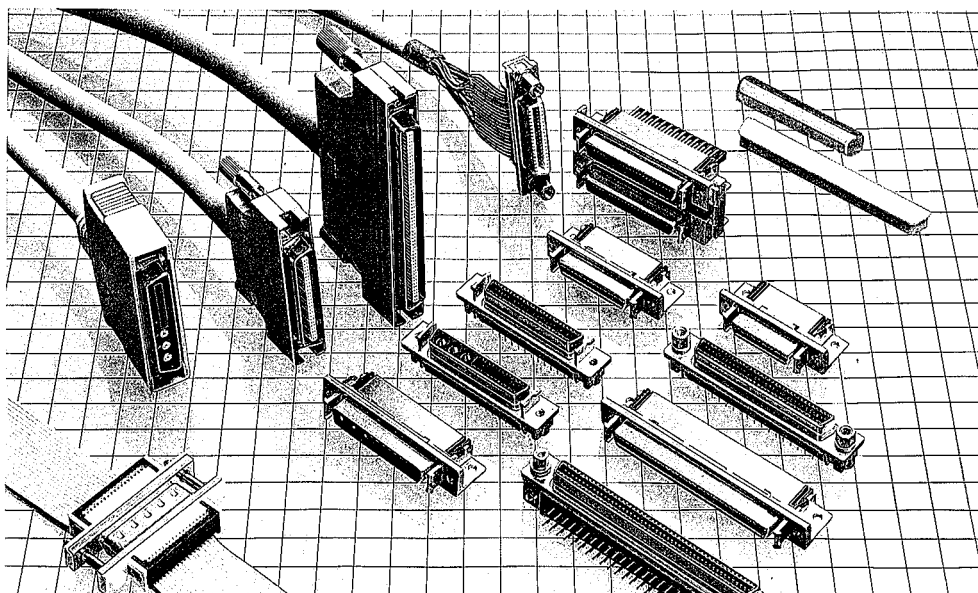


DX SERIES HIGH-DENSITY I/O CONNECTORS

General

DX series high-density I/O connectors with bellow contacts are perfect for tomorrow's miniaturized electronic devices. This new 1.27 mm (0.050") interconnect design ensures positive locking, effortless coupling, terminal protection and EMI reduction in a miniaturized and rugged package. DX series offers you one of the most

varied and complete lines of High-Density connectors in the world, i.e. IDC, Solder and with Co-axial contacts for the plug and right angle dip, straight dip, IDC and with Co-axial contacts for the receptacle. Available in 20, 28, 36, 50, 68, 80, 100 and 132 way.



Features

1. 1.27 mm (0.050") contact spacing conserves valuable board space and permits ultra-high density designs.
2. Bellow contacts create smooth and precise mating and unmating.
3. Unique shell design assures first make/last break grounding and overall noise protection.
4. IDC termination allows quick and low cost termination to AWG #28 & #30 wires.
5. Group IDC termination of 1.27 mm pitch cable and loose piece contacts is possible simply by replacing the protector, allowing you to select a termination system meeting requirements, trial production and mass production, for example.
6. Backshell and receptacle shell are made of die-cast zinc alloy to reduce the penetration of external EMI noise.
7. Easy to use 'One-Touch' and 'Screw' locking mechanisms assure quick and easy 'positive' closures every time.
8. Termination method is available in IDC, Soldering, Right Angle Dip, Straight Dip and SMT.
9. DX with 3 cavities and 2 cavities for Co-axial contacts are newly introduced to meet the needs of high speed data transmission.
10. Shielded Plug-in type for interface between 2 Units available.

Applications

Office Automation, Computers, Communications Equipment, Factory Automation, Home Automation and other commercial applications needing high density interconnections.

Specifications

Items	Standard value
Current capacity	0.5A
Rated voltage	AC125V
Insulation resistance	250M Ω or more at DC100V
Contact resistance	50m Ω or less at DC100mA
Withstanding voltage	AC300Vr.m.s. for 1 minute

Material & Finish

Parts	Materials	Finish
Plug shell	Zinc alloy die-cast	Silver finish
Receptacle shell	Zinc alloy die-cast	Nickel plating
Insulator	PBT resin or equivalent※	Black ※
Pin contact	Copper alloy	Selective gold plating
Socket contact	Copper alloy	Selective gold plating

※UL94V-0

※To identify DX30A, DX31A, DX32A & DX33A for AWG #28, natural color is partially used in the insulator.

Applicable cable

I/O cable (Discrete wire)		
Conductor size	AWG #30	AWG #28
Conductor information	7/0.1	7/0.127
Insulator outer dia.	ϕ 0.5	ϕ 0.58
UL style cables	UL20276 and UL2789	

Ribbon cable (flat & slit)	
Conductor size	AWG #28
Conductor information	19/0.08
Cable thickness	0.9
UL style cables	UL2651, UL2734, UL20012

Ordering Information

• Receptacle Connector

<u>DX</u>	<u>10</u>	<u>※</u>	<u>※</u>	<u>—</u>	<u>50</u>	<u>S</u>	<u>—</u>	<u>※</u>
(1)	(2)	(3)	(5)		(6)	(7)		(8)

• Plug Connector

<u>DX</u>	<u>30</u>	<u>A</u>	<u>※</u>	<u>—</u>	<u>50</u>	<u>P</u>	<u>—</u>	<u>※</u>
(1)	(2)	(4)	(5)		(6)	(7)		(8)

• Co-axial Connector

<u>DX</u>	<u>30</u>	<u>A</u>	<u>J</u>	<u>—</u>	<u>26</u>	<u>P</u>	<u>—</u>	<u>CP3</u>
(1)	(2)	(4)	(5)		(10)	(7)		(8)

<u>DX</u>	<u>10</u>	<u>J</u>	<u>—</u>	<u>0</u>	<u>SE</u>	<u>—</u>	<u>CR3</u>	<u>/</u>	<u>A</u>
(1)	(2)	(5)		(10)	(7)		(8)		(11)

• SMT Connector

<u>DX</u>	<u>10</u>	<u>S</u>	<u>—</u>	<u>60</u>	<u>S</u>	<u>—</u>	<u>SG</u>
(1)	(2)	(3)		(6)	(7)		(8)

<u>DX</u>	<u>30</u>	<u>A</u>	<u>—</u>	<u>60</u>	<u>P</u>	<u>—</u>	<u>PG</u>
(1)	(2)	(4)		(6)	(7)		(8)

• Accessories

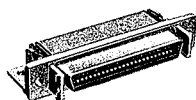
<u>DX</u>	<u>—</u>	<u>50</u>	<u>—</u>	<u>CV</u>
(1)		(6)		(9)

- (1) Series Number: DX
- (2) Connection Type
10 : Right Angle Dip
20 : Straight Dip
30 : IDC for discrete thin wire (AWG #28 and 30)
31 : IDC for discrete wire laminated (AWG #28 and #30)
32 : IDC for slit ribbon cable (AWG #28)
33 : IDC for flat ribbon cable (AWG #28)
- (3) Lock Type
Blank : One Touch Lock
A : Screw Lock S : SMT type
- (4) Applicable Wire
Blank : AWG #30
A : AWG #28
- (5) Variation
Blank : Standard
J : Co-axial contact included
- (6) Number of Pins: 20, 28, 36, 50, 60, 68, 80, 100, 132
- (7) Types of Opening
P : Plug connector
S : Receptacle connector
SW : Receptacle connector (double layer)
SE : Receptacle connector (Lock Pin)
- (8) Variation
Blank : Standard
CR2A : 2 co-axial contacts provided (Receptacle)
CR3 : 3 co-axial contacts provided (Receptacle)
CP3 : 3 co-axial contact holes provided (Plug)
LNA : Screw lock mechanism (Receptacle)
PG : Plug-in (Plug)
SG : Plug-in (Receptacle)
- (9) Accessories
CV : Straight cable (One-touch lock type)
CV1 : Straight cable entry case (Screw lock type)
CV3 : Straight cable entry case (Over mode type)
CV4 : Straight cable entry (Symmetry big cable)
DC : Dust cap (Semi-hard, for one-touch lock)
DC1 : Dust cap (Semi-hard, for screw lock)
DC2 : Dust cap (Soft, for screw lock)
- (10) No. of signal terminals:
0 : 26
- (11) Shell size
No symbol : 50 pins
A : 20 pins

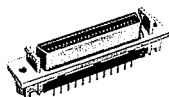
DX Series variations

● One-touch lock I/O connector

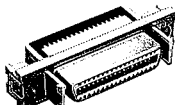
[Receptacle]



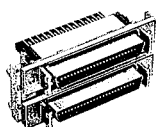
DX10-***S (Right angle dip)



DX20-***S (Straight dip)

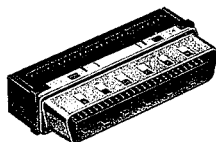


DX30A, 31A-***S
(IDC type for fine wire)
DX32A, 33A-***S
(IDC type for ribbon cable)



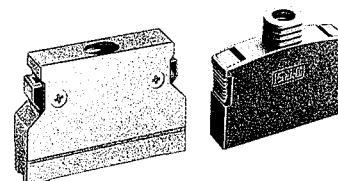
DX10-50SW (50 pin double layer type)

[Plug]



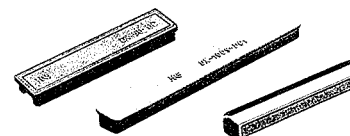
DX30, 31-***P (IDC type)
DX30A, 31A-***P (IDC type)

[Cover]



DX-***-CV (Die cast cover)
DX-***-CV3 (Overmold cover)

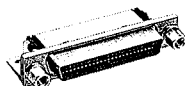
[Dust cap]



DX-***-DC
DX-100S-DC1
DX-***S-DC2

● Screw lock I/O connector

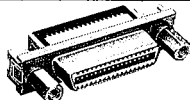
[Receptacle]



DX10A-***S (Right angle dip)

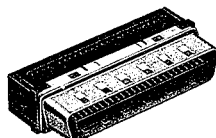


DX20A-***S (Straight dip)



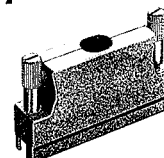
DX30A, 31A-***S-LNA
(IDC type for fine wire)
DX32A, 33A-***S-LNA
(IDC type for ribbon cable)

[Plug]



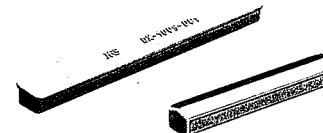
DX30, 31-***P (Press-fit type)
DX30A, 31A-***P (Press-fit type)

[Cover]



DX-***-CV1 (Die cast cover)

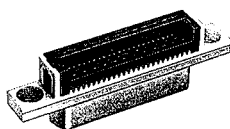
[Dust cap]



DX-100S-DC1
DX-***S-DC2

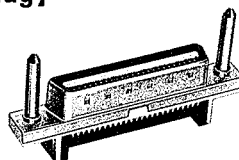
● Plug-in connector

[Receptacle]



DX30A, 31A-※S-SG

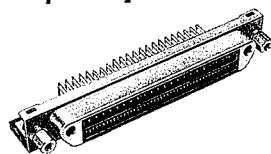
[Plug]



DX30A, 31A-※P-PG

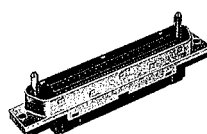
● Multipole (132 pins) Connector

[Receptacle]



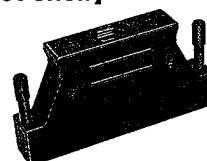
DX10A-132S

[Plug]



DX30A-132P

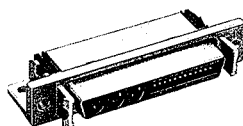
[Diecast shell]



DX-132-CV1

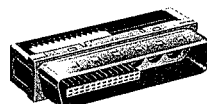
● I/O connector with co-axial contact

[Receptacle]



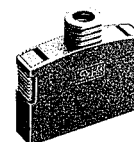
DX10J-26S-CR3 (Right angle dip)
 DX20J-26S-CR3 (Straight dip)
 DX10J-26S-CR2A

[Plug]



DX30AJ-26P-CP3 (IDC type)

[Over-mold shell]



DX-50-CV3

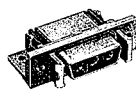
[Dust cap]



DX-50-DC

<Prevention of mis-insertion>

[Receptacle]



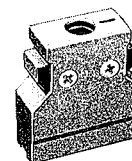
DX10J-0SE-CR3/A
 DX10J1-0SE-CR3/A

[Plug]



DXJ-0P-CP3/A
 DXJ1-0P-CP3/A

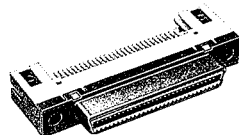
[Diecast shell]



DX-20-CV

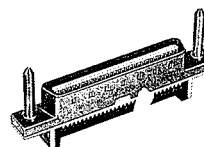
● SMT connector

[Receptacle]



DX10S-60S-SG

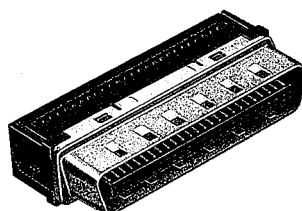
[Plug]



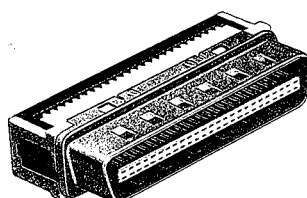
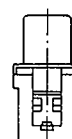
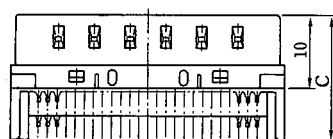
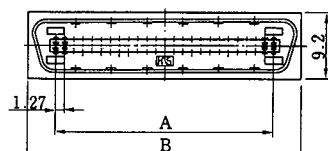
DX30A-60P-PG

1. IDC Plug Connector

1.1 DX30, DX30A-※※P (AWG#28 Discrete Thin Wire)



CL230-0011-5
DX30-50P



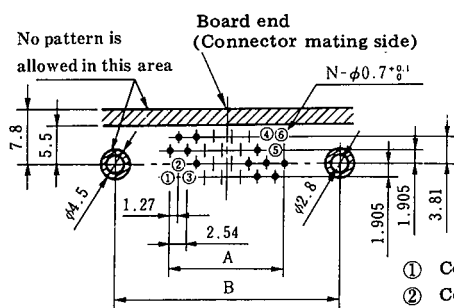
CL230-0025-0
DX30A-50P

Unit: mm

HRS No.	No. of Pin	Part No.	Applicable cable	A	B	C
CL230-0008-0	20	DX30-20P	AWG #30	11.43	19.18	17.2
CL230-0022-1		DX30A-20P	AWG #28			
CL230-0009-3	28	DX30-28P	AWG #30	16.51	24.26	17.2
CL230-0023-4		DX30A-28P	AWG #28			
CL230-0010-2	36	DX30-36P	AWG #30	21.59	29.34	17.2
CL230-0024-7		DX30A-36P	AWG #28			
CL230-0011-5	50	DX30-50P	AWG #30	30.48	38.23	17.2
CL230-0025-0		DX30A-50P	AWG #28			
CL230-0012-8	68	DX30-68P	AWG #30	41.91	49.66	17.2
CL230-0026-2		DX30A-68P	AWG #28			
CL230-0013-0	80	DX30-80P	AWG #30	49.53	57.28	17.2
CL230-0027-5		DX30A-80P	AWG #28			
CL230-0014-3	100	DX30-100P	AWG #30	62.23	69.98	18.2
CL230-0028-8		DX30A-100P	AWG #28			

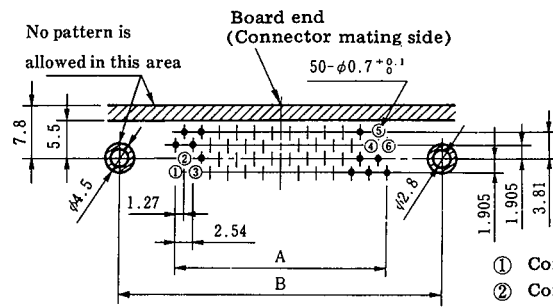
PC Board Layout (Recommended board thickness: 1.6mm)

DX10, DX10A—※※S



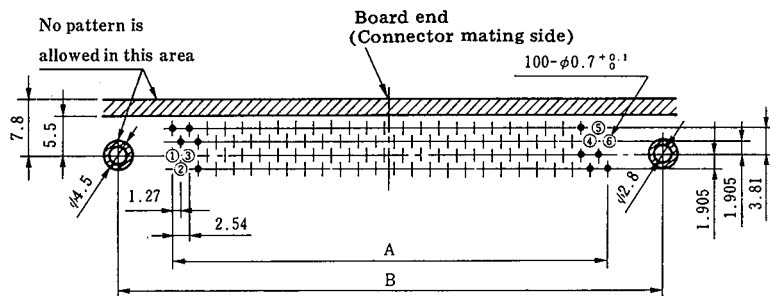
(20, 28, 36, 68, 80 Pin)

- ① Contact No.1
- ② Contact No.2
- ③ Contact No.3
- ④ Contact No.(N-2)
- ⑤ Contact No.(N-1)
- ⑥ Contact No.(N)



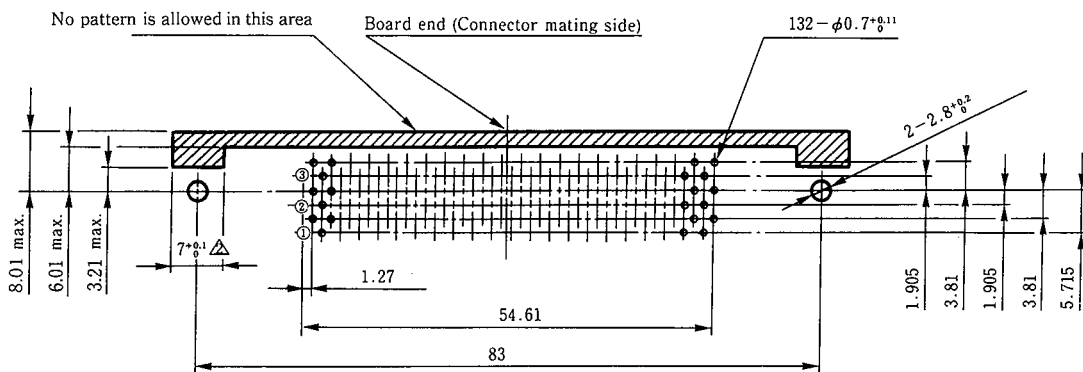
(50 Pin)

- ① Contact No.1
- ② Contact No.2
- ③ Contact No.3
- ④ Contact No.48
- ⑤ Contact No.49
- ⑥ Contact No.50



(100 Pin)

- ① Contact No.1
- ② Contact No.2
- ③ Contact No.3
- ④ Contact No.98
- ⑤ Contact No.99
- ⑥ Contact No.100



(132 pin)

- ① Terminal No.1
- ① Terminal No.45
- ① Terminal No.89

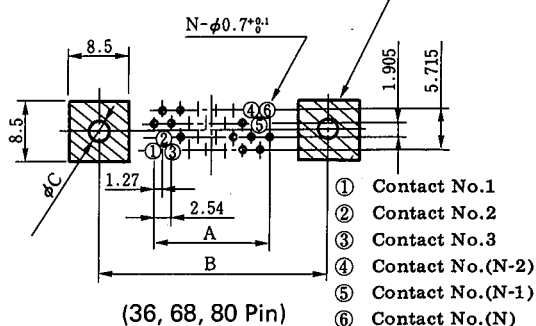
Unit: mm

HRS No.	No. of Pin	Part No.	A	B
CL230-0001-1	20	DX10-20S	11.43	27.4
CL230-0047-2		DX10A-20S		
CL230-0002-4	28	DX10-28S	16.51	32.48
CL230-0048-5		DX10A-28S		
CL230-0003-7	36	DX10-36S	21.59	37.56
CL230-0049-8		DX10A-36S		
CL230-0004-0	50	DX10-50S	30.48	46.45
CL230-0050-7		DX10A-50S		

HRS No.	No. of Pin	Part No.	A	B
CL230-0005-2	68	DX10-68S	41.91	57.88
CL230-0051-0		DX10A-68S		
CL230-0006-5	80	DX10-80S	49.53	65.5
CL230-0052-2		DX10A-80S		
CL230-0043-1	100	DX10A-100S	62.23	78.2
CL230-0225-9	132	DX10A-132S	54.61	83

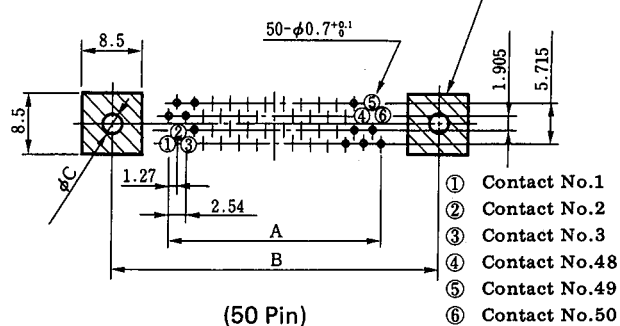
DX20, DX20A—※※S

No pattern is allowed in this area.



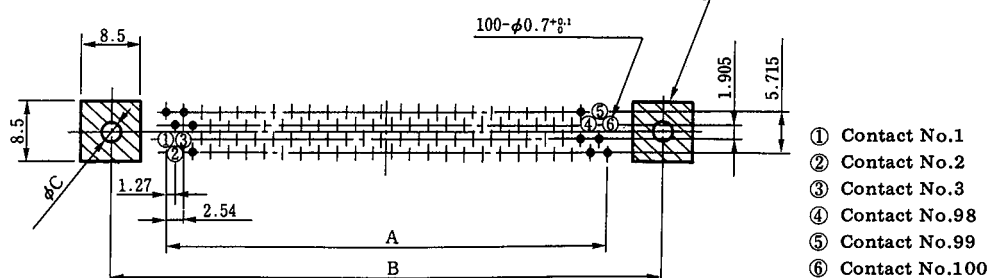
(36, 68, 80 Pin)

No pattern is allowed in this area.



(50 Pin)

No pattern is allowed in this area.



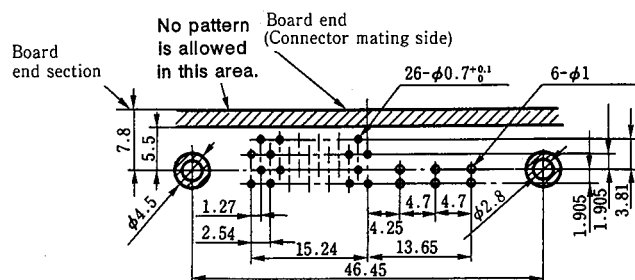
(100 Pin)

Unit: mm

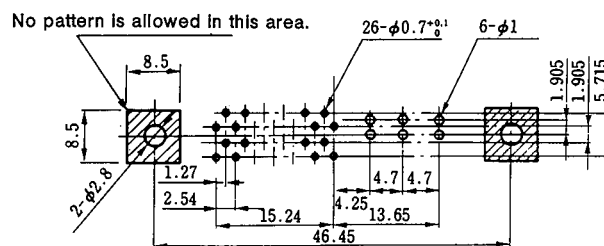
HRS No.	No. of Pin	Part No.	A	B	C
CL230-0081-0	36	DX20-36S	21.59	37.56	2.8
CL230-0068-2	50	DX20-50S	30.48	46.45	2.8
CL230-0144-9	68	DX20A-68S	41.91	57.88	3.7
CL230-0158-3	80	DX20-80S	49.53	65.5	3.7
CL230-0084-9	100	DX20A-100S	62.23	78.2	3.7

Coaxial-Connector

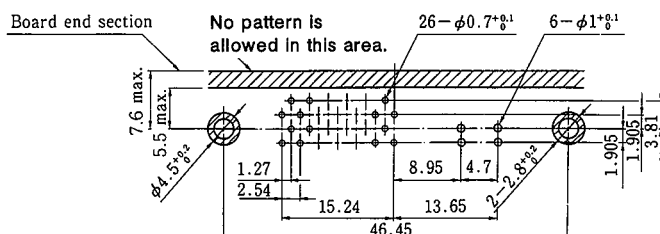
DX10J-26S-CR3



DX20J-26S-CR3

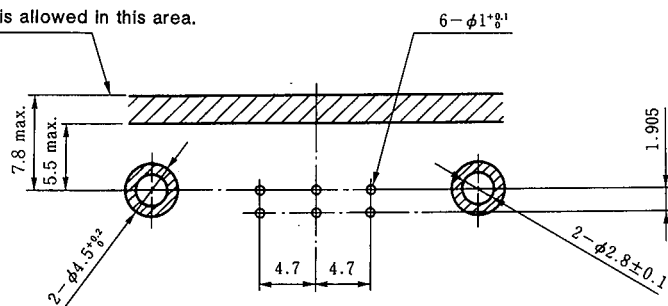


DX10J-26S-CR2A



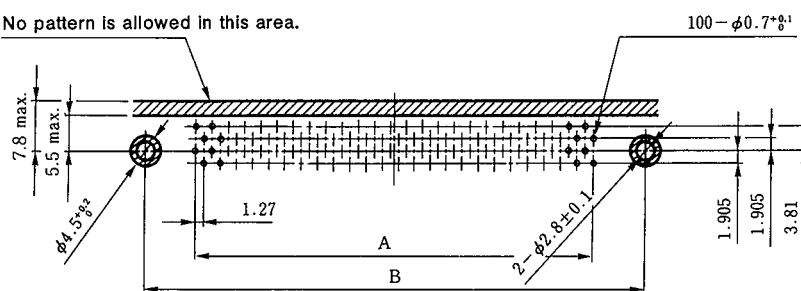
DX10J(1)-OSE-CR3/A

No pattern is allowed in this area.



DX10-※SE

No pattern is allowed in this area.

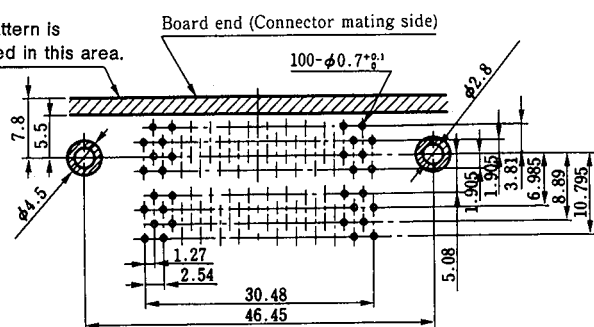


Unit: mm

HRS No.	No. of Pin	Part No.	A	B
CL230-0274-4	20	DX10A-20SE	11.43	27.4
CL230-0262-5	100	DX10A-100SE	62.23	78.2

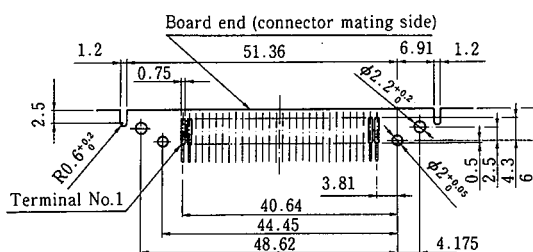
DX10-50SW

No pattern is allowed in this area.



SMT Connector

DX10S-60S-SG



Panel-Fitting Dimensional Drawing (Recommended panel thickness:1.6mm)

One-Touch Lock Type				Screw Lock Type			
Unit: mm				Unit: mm			
No. of Pin	A	B		No. of Pin	A	B	
20	27.4	23.7		20	27.4	18.81	
28	32.48	28.78		28	32.48	23.89	
36	37.56	33.86		36	37.56	28.97	
50	46.45	42.75		50	46.45	37.86	
68	57.88	54.18		68	57.88	49.29	
80	65.5	61.8		80	65.5	56.91	
				100	78.2	69.61	

DX Connector Distribution Diagram

DX10-36S, DX30※-36P

