



 **ELECTRONICS**

# D-Subminiature Connectors High Density

## FCI: SETTING THE STANDARD FOR CONNECTORS

With operations in 30 countries and sales of 935 million euros in 2009, FCI is a leading manufacturer of connectors.

Our 12,000 employees are committed to providing customers with high-quality, innovative products for a wide range of consumer and industrial applications.

For more information:  
[www.fciconnect.com](http://www.fciconnect.com)

The new High Density D-Sub range is part of FCI's IO-Connections portfolio which provides customers access to a wide range of industry standard and application specific I/O interconnect solutions.

FCI's I/O connector solutions complete your board and system designs by providing **high-density and high-speed interfaces** to enable interconnect technologies for networking, storage and memory and complementary products for power distribution. Our range of **standardized I/O solutions enables full compliance to industry standards**, such as Ethernet, SFF, Infiniband, USB, PCMCIA or HDMI. FCI also has the capability to provide **customized I/O solutions optimized to address application-specific requirements**. Through FCI's high-speed, power, assembly and mechanical packaging expertise, you gain the advantage of getting your signals out of the box at optimal cost and performance. FCI's I/O connectors - coupled with FCI's extensive range of backplane and board-to-board connectors and cable assembly products-enable complete link solutions for your equipment designs.



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## D-Subminiature Connectors

### DESCRIPTION

FCI's D-Subminiature connectors are part of an industry standard for applications requiring robust and reliable connectors. These D-Subminiature connectors are one of the most popular Input - Output interconnects, addressing a wide variety of applications in Telecommunications, Data, Consumer, Industrial, Military, Instrumentation and Medical markets. Since many years FCI offers a wide range of D-Subminiature connectors to meet all design requirements, and to address increasing needs for high density packaging, FCI developed the D-Subminiature High Density Range.



### TECHNICAL DATA

#### Electrical Performance

Rated Current	: 2.5 A
Rated Voltage	: 250 V
Contact Resistance	: 25 m $\Omega$ (Maximum) Initial & 40 m $\Omega$ (Maximum) After
Insulation resistance	: 5000 m $\Omega$ Minimum. at 500V DC
Dielectric Strength	: 750 Vrms
Operating temp range	: -55°C to +105°C

#### Material

Insulator	: Glass Filled Thermoplastic (UL 94V-0) Black
Contact	: Copper Alloy
Shell	: SPCC steel

#### Mechanical Performance

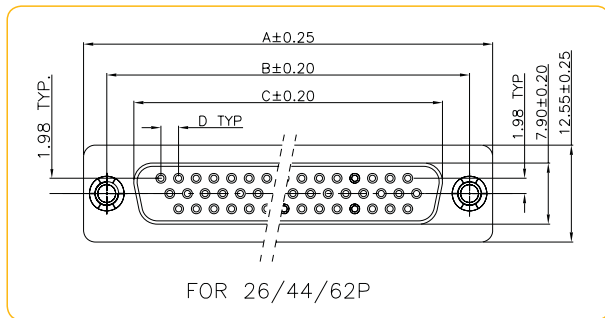
Mating/Unmating cycles	: 200 / 500
Insertion/Extraction force per contact	: 5 NMaximum / 0.2 NMinimum

## HIGH DENSITY D-SUB STRAIGHT

### ORDERING INFORMATION

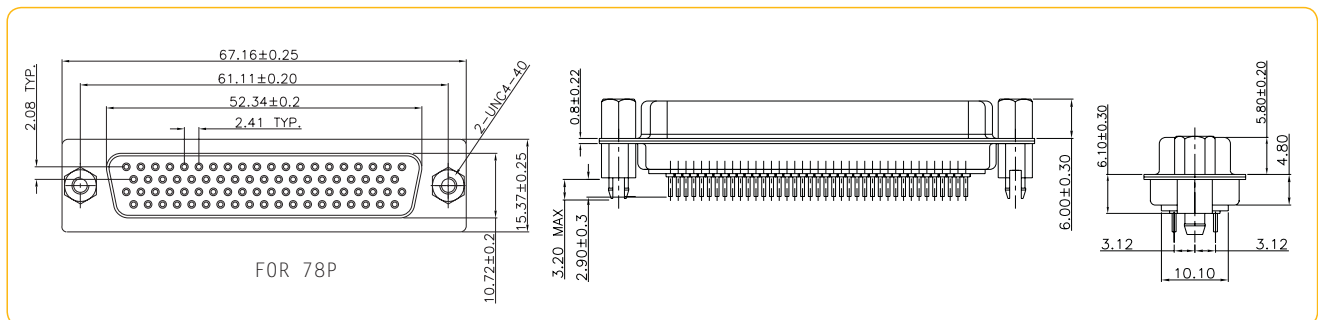
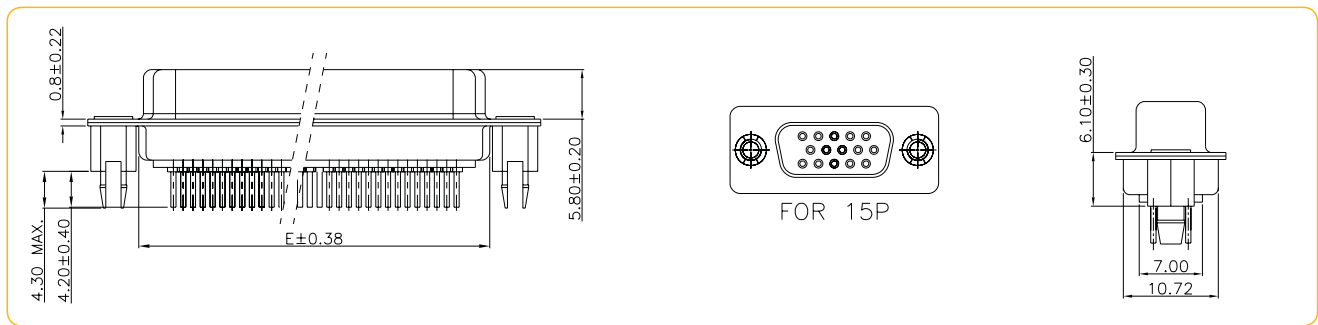
<b>Series</b> 10090928: Male Straight 10090929: Female Straight	<b>P</b>	<b>YY</b>	<b>4</b>	<b>X</b>	<b>LF</b>
<b>Gender</b>	<b>P</b> : Pin	<b>S</b> : Socket			
<b>No: of contacts</b>	<b>15 - 26 - 44 - 62 - 78</b>				
<b>Durability</b>	<b>4</b> : 200 mating cycles	<b>6</b> : 500 mating cycles			
<b>Mounting options</b>	<b>V</b> : UNC 4-40 Screw locks with Board locks <b>X</b> : UNC 4-40 Clinch nuts with Board locks <b>L</b> : M3 Clinch nuts with Board locks				
<b>RoHS status</b>	RoHS compliant				

### DIMENSION FOR MOUNTING OPTION 'X / L'



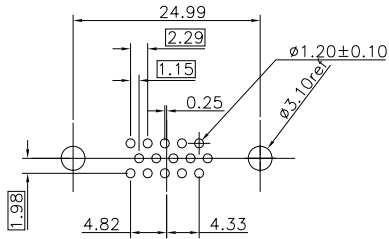
### DIMENSIONS (IN MM)

POS.	PART NO.	A	B	C	D	E
15P	10090929-S15**LF	30.81	24.99	16.33	2.29	19.10
26P	10090929-S26**LF	39.24	33.32	24.66	2.29	27.75
44P	10090929-S44**LF	53.04	47.04	38.38	2.29	41.30
62P	10090929-S62**LF	69.32	63.50	54.84	2.41	57.40

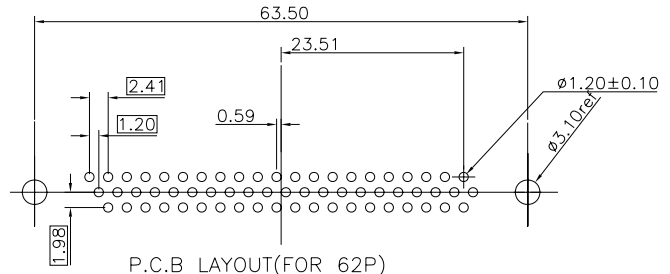


# D-Subminiature Connectors

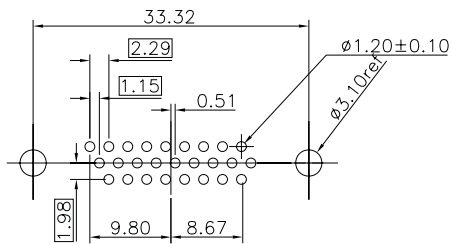
## PCB LAYOUT



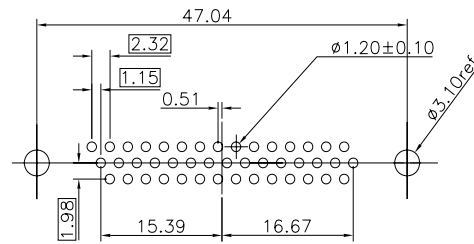
P.C.B LAYOUT (FOR 15P)



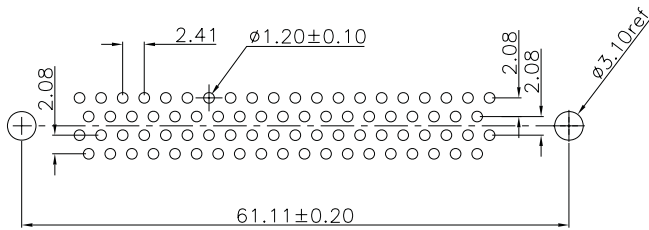
P.C.B LAYOUT (FOR 62P)



P.C.B LAYOUT (FOR 26P)



P.C.B LAYOUT (FOR 44P)



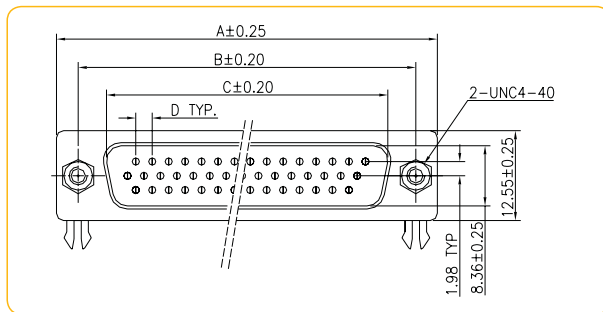
P.C.B LAYOUT (FOR 78P)

## HIGH DENSITY D-SUB RIGHT ANGLE

### ORDERING INFORMATION

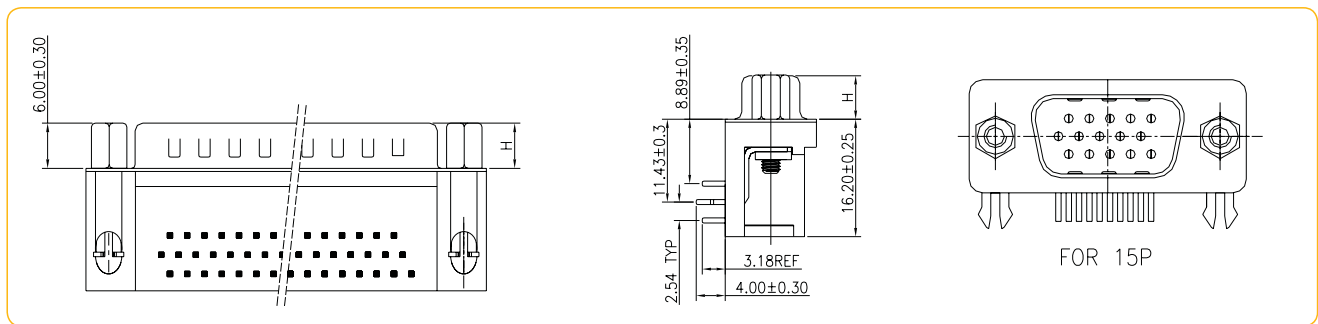
<b>Series</b> 10090926: Male Ringt Angle 10090927: Female Right Angle (Only 62 & 78 pin)	<b>P</b>	<b>YY</b>	<b>4</b>	<b>X</b>	<b>LF</b>
<b>Gender</b>	<b>P</b> : Pin	<b>S</b> : Socket			
<b>No: of contacts</b>	<b>15 - 26 - 44 - 62 - 78</b>				
<b>Durability</b>	<b>4</b> : 200 mating cycles		<b>6</b> : 500 mating cycles		
<b>Mounting options</b>	<b>V</b> : UNC 4-40 Screw locks with Board locks <b>X</b> : UNC 4-40 Clinch nuts with Board locks <b>L</b> : M3 Clinch nuts with Board locks				
<b>RoHS status</b>	RoHS compliant				

### DIMENSION FOR MOUNTING OPTION 'V'

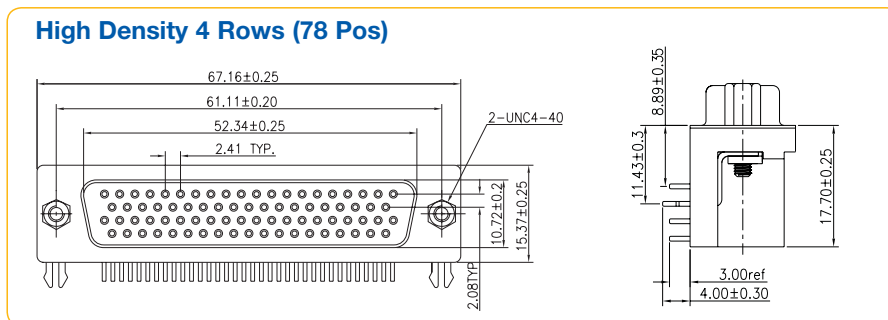


### DIMENSIONS (IN MM)

POS.	PART NO.	A	B	C	D	E	F	H
15P	10090926-P15*VLF	30.81	24.99	16.92	2.29	8.19	7.68	5.9 <sup>+0.25</sup> <sub>0</sub>
26P	10090926-P26*VLF	39.24	33.32	25.25	2.29	8.01	7.02	5.9 <sup>+0.25</sup> <sub>0</sub>
44P	10090926-P44*VLF	53.04	47.04	38.96	2.29	8.02	7.01	5.9 <sup>+0.25</sup> <sub>0</sub>
62P	10090926-P62*VLF	69.32	63.50	55.42	2.41	8.21	7.03	5.9 <sup>+0.25</sup> <sub>0</sub>

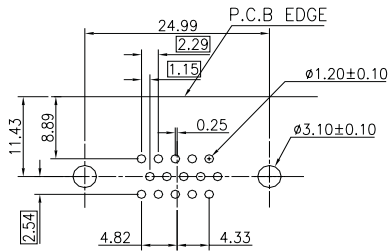


### High Density 4 Rows (78 Pos)

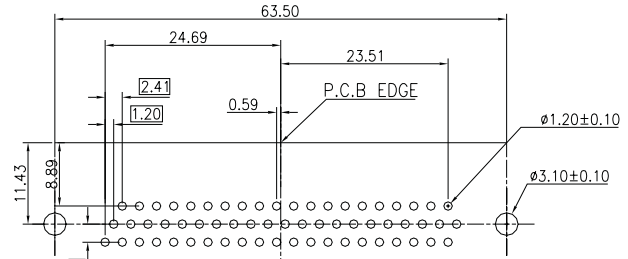


# D-Subminiature Connectors

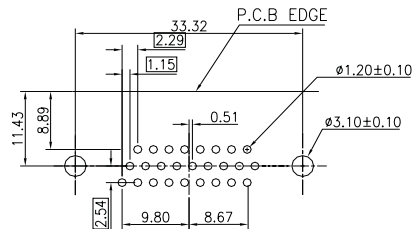
## PCB LAYOUT



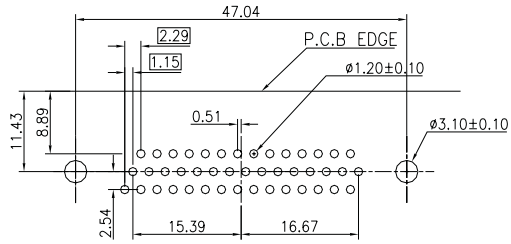
P.C.B LAYOUT(FOR 15P)



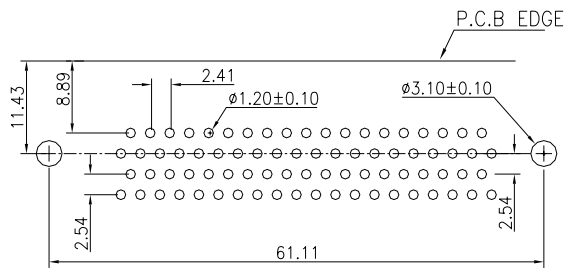
P.C.B LAYOUT(FOR 62P)



P.C.B LAYOUT(FOR 26P)



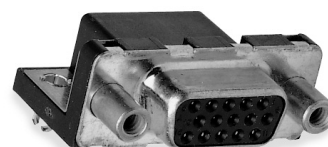
P.C.B LAYOUT(FOR 44P)



P.C.B LAYOUT (FOR 78P)

## **FCI**® HIGH DENSITY D-SUB RIGHT ANGLE FEMALE

UL Recognized File E 118235 (R)

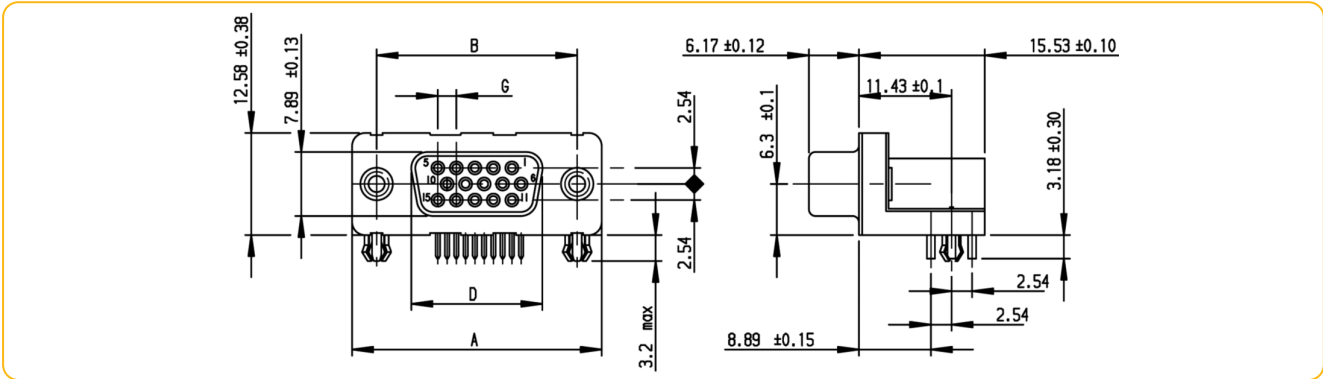


### ORDERING INFORMATION

<b>ICD</b> Series: ICD	<b>14</b>	<b>S</b>	<b>13E</b>		<b>GX</b>	<b>00LF</b>
<b>Number of contacts:</b> 14 - 15 - 26 - 44						
<b>Contacts:</b> S : female						
<b>Termination:</b> 13E : Angled spills US Standard, 3.18 mm 13A : Angled spills US Standard, 2.90 mm 13B : Angled spills US Standard, 3.70 mm						
<b>Durability:</b> 4 : Standard class (≥ 200 mating / unmating) 6 : High performance class (≥ 500 mating / unmating)						
<b>Mounting options (see page 71)</b> PA : Standard holes PL : Threaded insert (M3) PX : Threaded insert (UNC 4-40) PV : Female screw (UNC 4-40) ☺ GL : Harpoons + insert M3 + elec. continuity ☺ GX : Harpoons + insert UNC 4-40 + elec. continuity ☺ GV : Harpoons + female (UNC 4-40) + elec. continuity UL : Insert M3 + elec. continuity UX : Insert UNC 4-40 + elec. continuity UV : Female screw UNC 4-40 + elec. continuity						
<b>Options:</b> ☺ 00LF : Standard series, RoHS compatible						

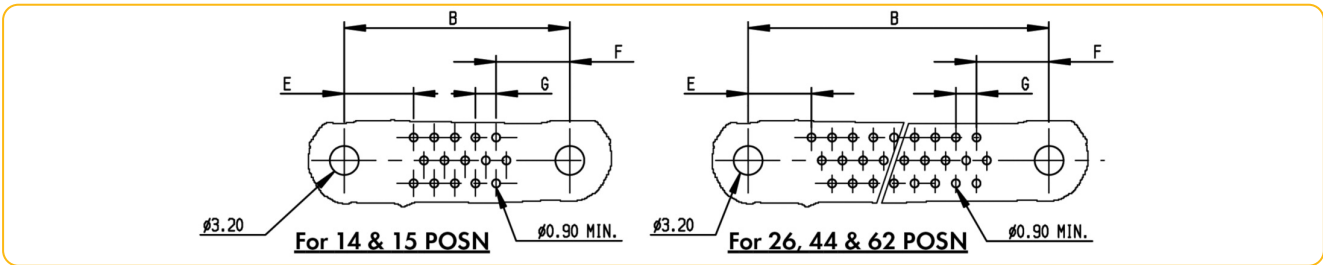


## HIGH DENSITY D-SUB 3 ROWS (14-15/26/44 POS)



Size	Dimensions						
	A + 0.38	B + 0.12	C + 0.10	D + 0.25	E	F	G
14 / 15	30,81	24,99	16,96	16,21	7,68	8,19	2,285
26	39,14	33,32	25,18	24,54	7,02	8,01	2,285
44	53,03	47,04	39,12	38,25	7,01	8,02	2,285

## PCB DRILLING DIMENSIONS

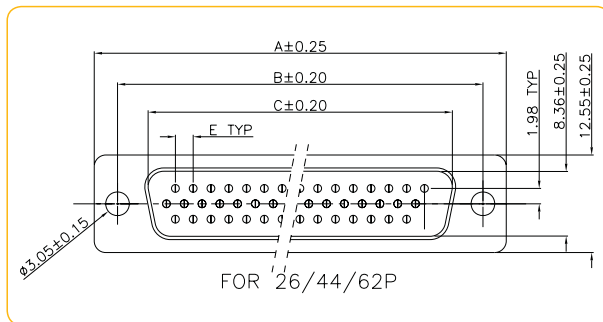


## HIGH DENSITY D-SUB CRIMP HOUSING

### ORDERING INFORMATION

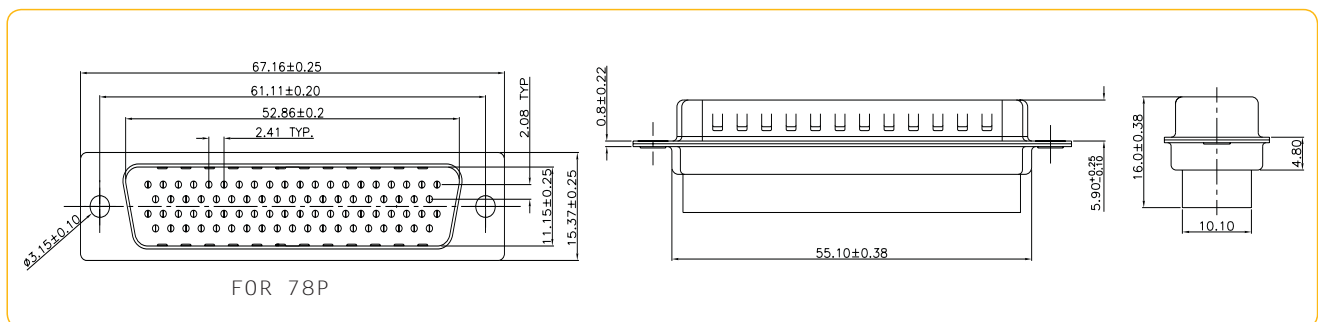
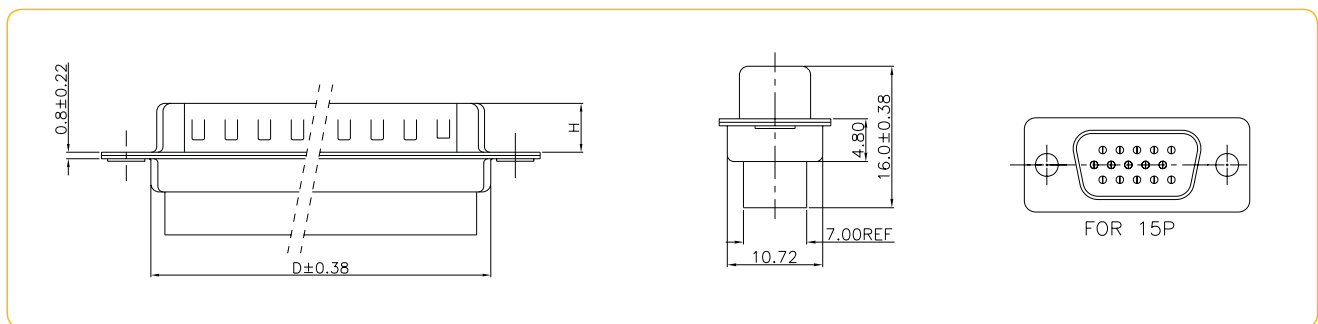
<b>Series</b>	<b>P</b>	<b>YY</b>	<b>X</b>	<b>A</b>	<b>LF</b>
10090930: Male Crimp Housing 10090931: Female Crimp Housing					
<b>Gender</b>	<b>P</b> : Pin	<b>S</b> : Socket			
<b>No: of contacts</b>	<b>15 - 26 - 44 - 62 - 78</b>				
<b>Contact Finish</b>	No Contact				
<b>Mounting Option:</b>	<b>A</b> : Standard Hole				
<b>RoHS status</b>	RoHS compliant				

### DIMENSION



### DIMENSIONS (IN MM)

POS.	PART NO.	A	B	C	D	E	H
15P	10090930-P150ALF	30.81	24.99	16.92	19.10	2.29	5.9 <sup>+0.25</sup> <sub>0</sub>
26P	10090930-P260ALF	39.24	33.32	25.25	27.75	2.29	5.9 <sup>+0.25</sup> <sub>0</sub>
44P	10090930-P440ALF	53.04	47.04	38.96	41.30	2.29	5.9 <sup>+0.25</sup> <sub>0</sub>
62P	10090930-P620ALF	69.32	63.50	55.42	57.40	2.41	5.9 <sup>+0.25</sup> <sub>0</sub>

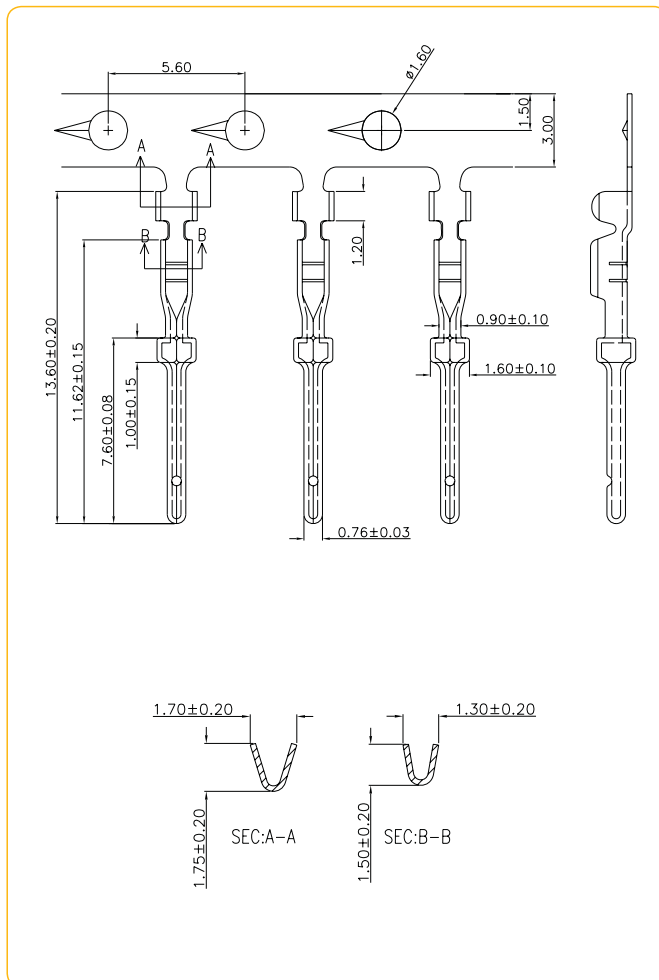


## HIGH DENSITY D-SUB CRIMP CONTACT

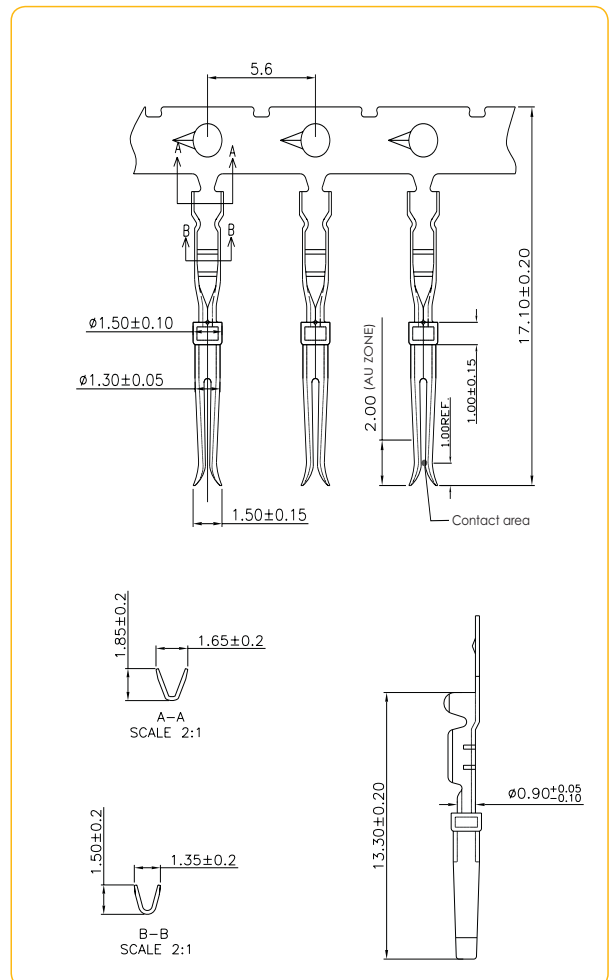
### ORDERING INFORMATION

<b>Series</b>	<b>P</b>	<b>24</b>	<b>X</b>	<b>9</b>	<b>LF</b>
10090932: Male Crimp Contact 10090933: Female Crimp Contact					
<b>Gender</b>	<b>P</b> : Pin	<b>S</b> : Socket			
<b>Gauge Size</b>	24-28 AWG				
<b>Durability</b>	<b>4</b> : 200 mating cycles	<b>6</b> : 500 mating cycles			
<b>Packaging</b>	<b>8</b> : Box, 500 contacts <b>9</b> : Reel, 10K contacts				
<b>RoHS status</b>	RoHS compliant				

### MALE CONTACT DIMENSION



### FEMALE CONTACT DIMENSION

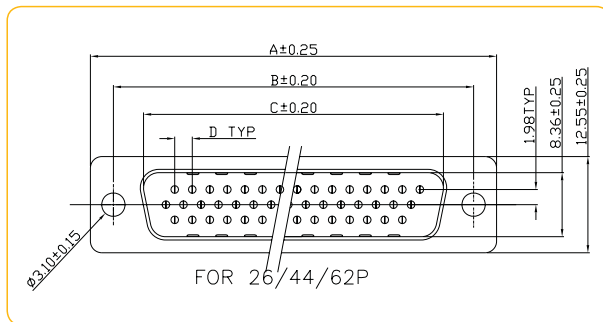


## HIGH DENSITY D-SUB SOLDER BUCKET

### ORDERING INFORMATION

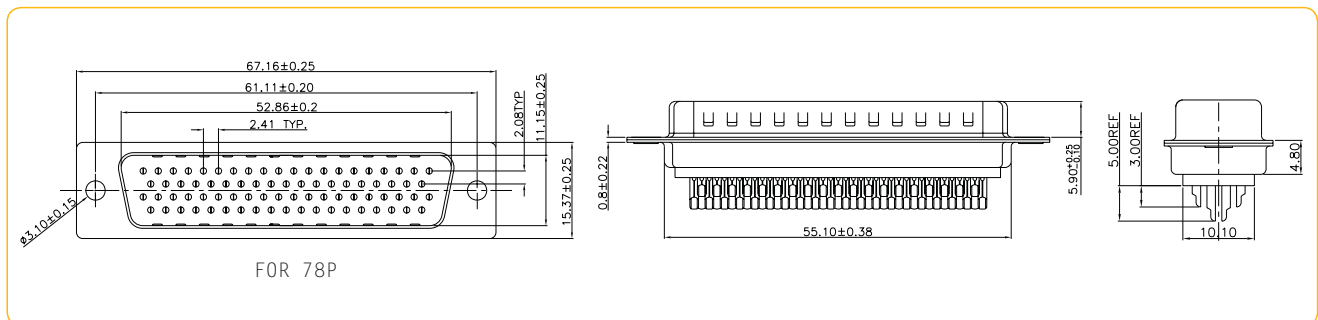
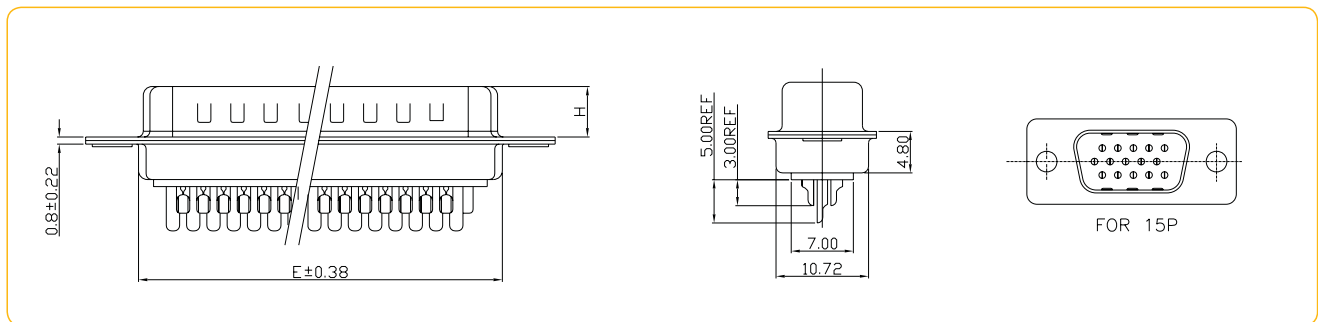
<b>Series</b>	<b>P</b>	<b>YY</b>	<b>4</b>	<b>A</b>	<b>LF</b>
10090769: Male Solder bucket 10090770: Female Solder bucket					
<b>Gender</b>	<b>P</b> : Pin	<b>S</b> : Socket			
<b>No: of contacts</b>	<b>15 - 26 - 44 - 62 - 78</b>				
<b>Durability</b>	<b>4</b> : 200 mating cycles		<b>6</b> : 500 mating cycles		
<b>Mounting Option:</b>	<b>A</b> : Standard Hole				
<b>RoHS status</b>	RoHS compliant				

### DIMENSION



### DIMENSIONS (IN MM)

POS.	PART NO.	A	B	C	D	E	H
15P	10090769-P15*ALF	30.81	24.99	16.92	19.10	2.29	5.9 <sup>+0.25</sup> <sub>0</sub>
26P	10090769-P26*ALF	39.24	33.32	25.25	27.75	2.29	5.9 <sup>+0.25</sup> <sub>0</sub>
44P	10090769-P44*ALF	53.04	47.04	38.96	41.30	2.29	5.9 <sup>+0.25</sup> <sub>0</sub>
62P	10090769-P62*ALF	69.32	63.50	55.42	57.40	2.41	5.9 <sup>+0.25</sup> <sub>0</sub>

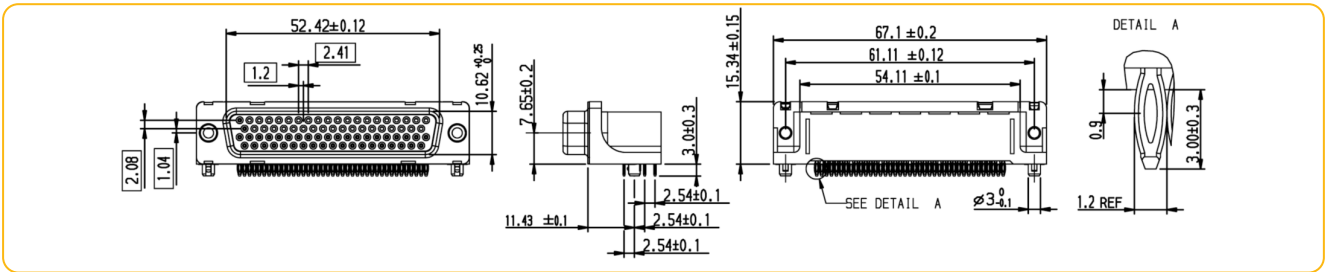


**RU** HIGH DENSITY PRESS FIT 78 PIN  
UL Recognized File E 118235 (R)

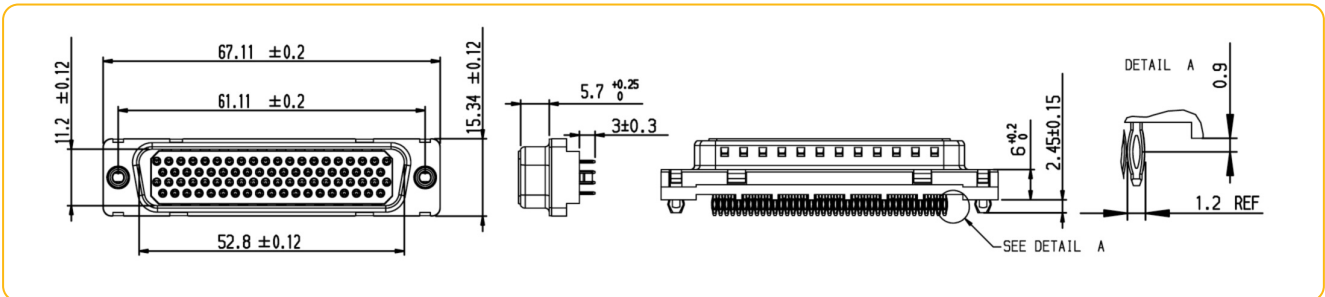


ORDERING INFORMATION

<b>CD78S80C</b>	<b>6</b>	<b>GL</b>	<b>00LF</b>
<b>Series:</b> 78 way right angle female press-fit			
<b>Durability:</b> 4 : Standard class (> 200 mating/unmating) 6 : High performance class (> 500 mating/unmating)			
<b>Mounting options:</b>			
<b>GL</b>	: Harpoons + insert M3	+ elec. continuity	
<b>GX</b>	: Harpoons + insert UNC 4-40	+ elec. continuity	
<b>GV</b>	: Harpoons	+ female screw UNC 4-40	
		+ elec. continuity	
<b>Options:</b> 00LF : RoHS compatible EU directive 2002/95/EC			

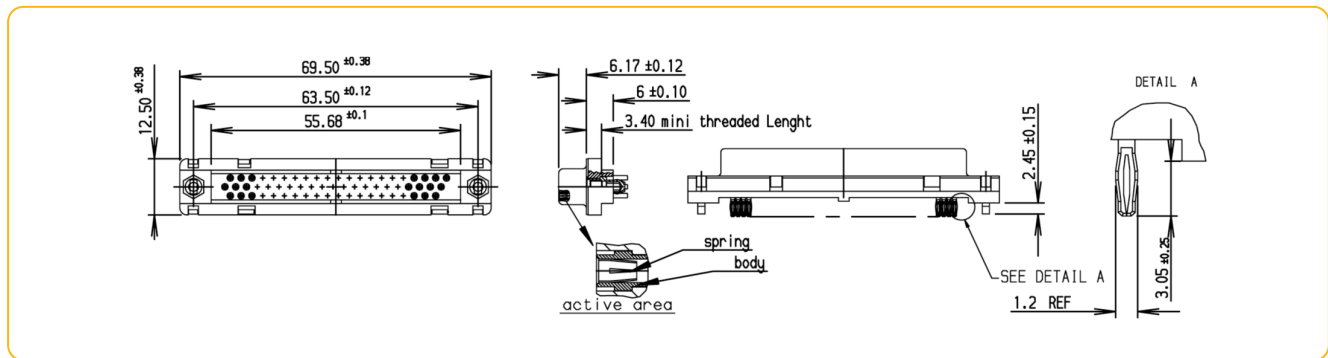


<b>CD78P91C</b>	<b>6</b>	<b>GL</b>	<b>00LF</b>
<b>Series:</b> 78 way straight male press-fit			
<b>Plating:</b> 4 : Standard class (> 200 mating/unmating) 6 : High performance class (> 500 mating/unmating)			
<b>Mounting options:</b>			
<b>GL</b>	: Harpoons + insert M3	+ elec. continuity	
<b>GX</b>	: Harpoons + insert UNC 4-40	+ elec. continuity	
<b>GV</b>	: Harpoons	+ female screw UNC 4-40	
		+ elec. continuity	
<b>Options:</b> 00LF : RoHS compatible EU directive 2002/95/EC			



## HIGH DENSITY PRESS FIT 62 PIN ORDERING INFORMATION

<b>CD62S91C</b> Series : 62 way straight female press-fit	<b>6</b>	<b>GL</b>	<b>00LF</b>
<b>Durability:</b>	<b>4</b> : Standard class (> 200 mating/unmating) <b>6</b> : High performance class (> 500 mating/unmating)		
<b>Mounting options:</b>	<b>GL</b> : Harpoons + insert M3 <b>GX</b> : Harpoons + insert UNC 4-40 <b>GV</b> : Harpoons	+ elec. continuity + elec. continuity + female screw UNC 4-40 + elec. continuity	
<b>Options</b>	<b>00LF</b> : RoHS compatible EU directive 2002/95/EC		



## PRESS-FIT FEATURES

Application by pressure on insulator  
Eye of the needle design.

### Metallized hole dimensions

Metallized hole dimension	Hole press-fit contact SnPb	Hole press-fit contact Sn	Hole press-fit harpoon SnPb	Hole press-fit harpoon Sn	Hole press-fit contact Copper OSP	Hole press-fit harpoon Copper OSP	
<b>P.C.B. hole definition (note 1 and 2)</b>	Drill diameter	Ø 1,15 ref (note 3)	Ø 1,15 ref (note 3)	Ø 3,22 ref (note 3)	Ø 3,22 ref (note 3)	Ø 1,15 ref (note 3)	Ø 3,22 ref (note 3)
	Drilled hole	Ø 1,12 - Ø 1,18	Ø 1,12 - Ø 1,18	Ø 3,19 - Ø 3,25	Ø 3,19 - Ø 3,25	Ø 1,12 - Ø 1,18	Ø 3,19 - Ø 3,25
	Copper plating	25µm mini - 50µ maxi	25µm mini - 50µ maxi	25µm mini - 50µ maxi	25µm mini - 50µ maxi	25µm mini - 50µ maxi	25µm mini - 50µ maxi
	Tin lead plating	5µm mini - 15µ maxi		5µm mini - 15µ maxi			
	Pur lead plating		0,8 mini to 1,2µ maxi		0,8 mini to 1,2µ maxi		
	OSP plating (copper)					0,20µm mini - 0,5µ maxi	0,20µm mini - 0,5µ maxi
	Finish hole	Ø 0,94-1,09	Ø 1,00-1,09	Ø 3,00-3,20	Ø 3,08-3,20	Ø 1,01-1,09	Ø 3,09-3,20

Note 1 : These dimensions must be respected to ensure press-fit pin performance

Note 2 : According to IEC-352-S specification

**Note 3 : Vital requirement for press-fit pin performance**

### Press-fit performance

	Press-fit contacts	Press-fit harpoons
<b>Insertion force</b>	< 100N	< 120N
<b>SnPb / Extraction force</b>	> 30N	> 30N
<b>Copper Extraction force</b>	> 20N	> 20N

# D-Subminiature Connectors

## ACCESSORIES

### HOODS

Plastic	Metalised	Metallic
Core range PNs	Core range PNs	Core range PNs
86303637BLF	863093C09MLF	8655MH0901BLF
86303638BLF	863093C15MLF	8655MH1501BLF
86303639BLF	863093C25MLF	8655MH2501BLF

FOR OTHER ACCESSORIES OR ANY FURTHER DETAILS PLEASE VISIT D-SUB LANDING PAGE [www.fciconnect.com/dsub](http://www.fciconnect.com/dsub)

### PART NUMBER LIST

FCI part number	Part Description
10090928-P154VLF	Dsub High density straight 15 way solder pin
10090928-P264VLF	Dsub High density straight 26 way solder pin
10090928-P444VLF	Dsub High density straight 44 way solder pin
10090928-P624VLF	Dsub High density straight 62 way solder pin
10090928-P784VLF	Dsub High density straight 78 way solder pin
10090929-S154VLF	Dsub High density straight 15 way solder socket
10090929-S264VLF	Dsub High density straight 26 way solder socket
10090929-S444VLF	Dsub High density straight 44 way solder socket
10090929-S624VLF	Dsub High density straight 62 way solder socket
10090929-S784VLF	Dsub High density straight 78 way solder socket
10090928-P154XLF	Dsub High density straight 15 way solder pin
10090928-P264XLF	Dsub High density straight 26 way solder pin
10090928-P444XLF	Dsub High density straight 44 way solder pin
10090928-P624XLF	Dsub High density straight 62 way solder pin
10090928-P784XLF	Dsub High density straight 78 way solder pin
10090929-S154XLF	Dsub High density straight 15 way solder socket
10090929-S264XLF	Dsub High density straight 26 way solder socket
10090929-S444XLF	Dsub High density straight 44 way solder socket
10090929-S624XLF	Dsub High density straight 62 way solder socket
10090929-S784XLF	Dsub High density straight 78 way solder socket
10090926-P154VLF	Dsub High density right angle 15 way solder pin
10090926-P264VLF	Dsub High density right angle 26 way solder pin
10090926-P444VLF	Dsub High density right angle 44 way solder pin
10090926-P624VLF	Dsub High density right angle 62 way solder pin
10090926-P784VLF	Dsub High density right angle 78 way solder pin
ICD15S13E4GV00LF	Dsub High density right angle 15 way solder socket
ICD26S13E4GV00LF	Dsub High density right angle 26 way solder socket
ICD44S13E4GV00LF	Dsub High density right angle 44 way solder socket
10090927-S624VLF	Dsub High density right angle 62 way solder socket
10090927-S784VLF	Dsub High density right angle 78 way solder socket
10090926-P154XLF	Dsub High density right angle 15 way solder pin
10090926-P264XLF	Dsub High density right angle 26 way solder pin
10090926-P444XLF	Dsub High density right angle 44 way solder pin
10090926-P624XLF	Dsub High density right angle 62 way solder pin

FCI part number	Part Description
10090926-P784XLF	Dsub High density right angle 78 way solder pin
ICD15S13E4GX00LF	Dsub High density right angle 15 way solder socket
ICD26S13E4GX00LF	Dsub High density right angle 26 way solder socket
ICD44S13E4GX00LF	Dsub High density right angle 44 way solder socket
10090927-S624XLF	Dsub High density right angle 62 way solder socket
10090927-S784XLF	Dsub High density right angle 78 way solder socket
10090769-P154ALF	Dsub High density 15 way solder bucket pin
10090769-P264ALF	Dsub High density 26 way solder bucket pin
10090769-P444ALF	Dsub High density 44 way solder bucket pin
10090769-P624ALF	Dsub High density 62 way solder bucket pin
10090769-P784ALF	Dsub High density 78 way solder bucket pin
10090770-S154ALF	Dsub High density 15 way solder bucket socket
10090770-S264ALF	Dsub High density 26 way solder bucket socket
10090770-S444ALF	Dsub High density 44 way solder bucket socket
10090770-S624ALF	Dsub High density 62 way solder bucket socket
10090770-S784ALF	Dsub High density 78 way solder bucket socket
10090930-P150ALF	Dsub High density 15 way crimp pin
10090930-P260ALF	Dsub High density 26 way crimp pin
10090930-P440ALF	Dsub High density 44 way crimp pin
10090930-P620ALF	Dsub High density 62 way crimp pin
10090930-P780ALF	Dsub High density 78 way crimp pin
10090931-S150ALF	Dsub High density 15 way crimp socket
10090931-S260ALF	Dsub High density 26 way crimp socket
10090931-S440ALF	Dsub High density 44 way crimp socket
10090931-S620ALF	Dsub High density 62 way crimp socket
10090931-S780ALF	Dsub High density 78 way crimp socket
10090932-P2448LF	Dsub crimp loose contact gold flash pin
10090932-P2449LF	Dsub crimp 10000 contact reel gold flash pin
10090933-S2448LF	Dsub crimp loose contact gold flash socket
10090933-S2449LF	Dsub crimp 10000 contact reel gold flash socket
CD78S80C6GV00LF	Dsub High Density 78 way right angle Press Fit socket
CD78P91C6GV00LF	Dsub High Density 78 way straight Press Fit pin
CD62S91C6GV00LF	Dsub High Density 62 way straight Press Fit socket

NOTE: FOR 500 MATING CYCLE PART NUMBERS, PLEASE CHANGE CODE "4" TO "6" IN THE ABOVE PART NUMBER LIST.



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