

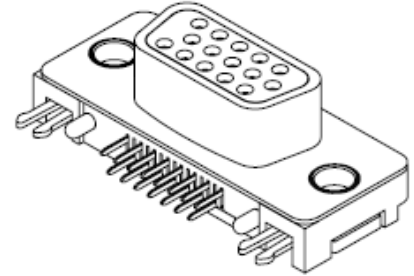
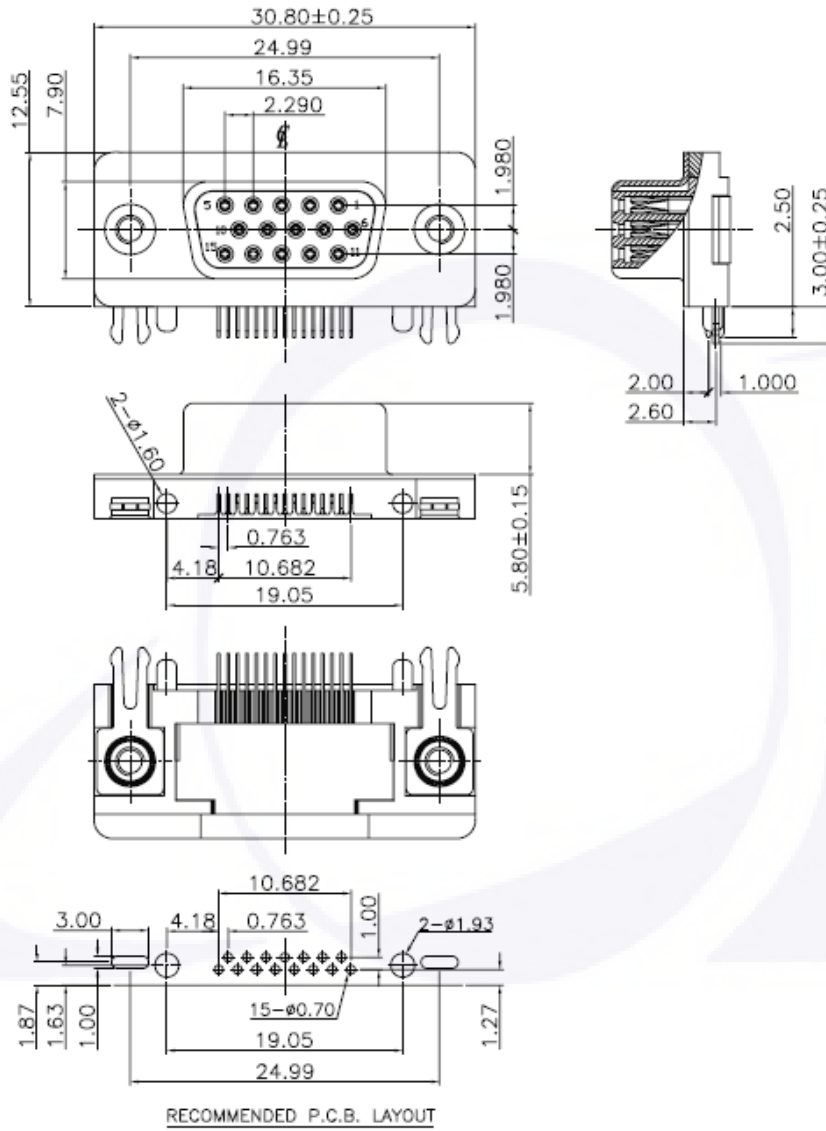
## D-SUB CONNECTOR, HIGH DENSITY, PCB TYPE, FEMALE, RIGHT ANGLE, SLIM, ROW SPACE 1.0mm

### Material

Body & Latch: PA66  
 Contacts: Brass  
 Shell: SPCD  
 Contact plating: Gold plating over Nickel

### Electrical

Current rating: 3A  
 Contact resistance: 25m ohms Max.  
 Insulation resistance: 1000m ohms Min. at DC 500V.  
 Dielectric withstanding voltage: AC 1000/ 60sec rms.



Series-	Type-	NO. Pins-	Angle-	Screw-	Color-	Plating-	Edge	Option-	Status-
DHF-- (High-Density, FEMALE)	1- [1] PCB TYPE	15	[R] 90°	[0] W/O [1] LOCKED [2] UNLOCKED	[1] WHITE [4] BLUE	[T1] SELECTIVE GOLD PLATED 1u" [T15] SELECTIVE GOLD PLATED 15u" [G1] FULL GOLD PLATED 1u" [G3] FULL GOLD PLATED 3u"	127		[R]RoHS

**D-SUB CONNECTOR, HIGH DENSITY, PCB TYPE, FEMALE, RIGHT ANGLE, 8.89mm**

**Material**

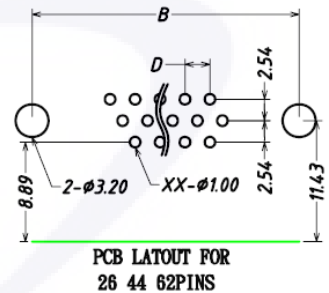
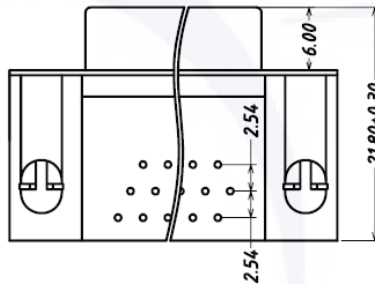
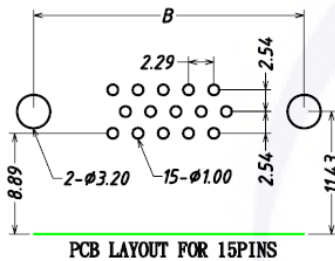
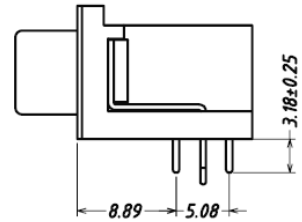
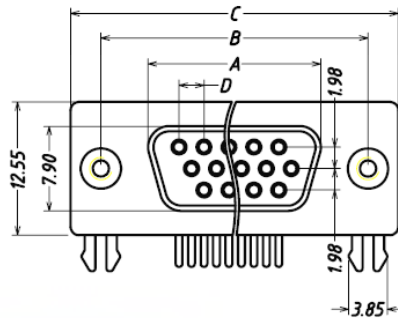
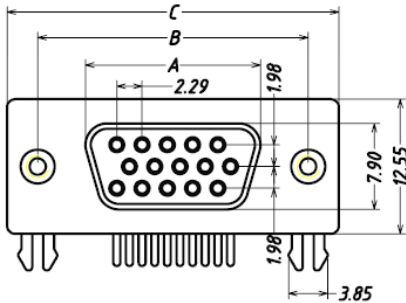
Contacts: Brass  
 Insulator: PBT +30%, UL 94V-0  
 Shell: Steel

**Mechanical**

Contact insertion force: 300gf Max.  
 Contact separation force: 25gf Min.

**Electrical**

Contact current rating: 3 AMP  
 Dielectric withstanding voltage: AC 1000/ 60sec rms.  
 Insulation resistance: 5000m ohms Min. at DC 500V.  
 Contact resistance: 25m ohms Max.  
 Operating temperature: -55°C ~ +105°C



NUMBER OF CONTACTS	A ±0.25	B ±0.13	C ±0.38	D ±0.05
15	16.33	24.99	30.85	2.29
26	24.66	33.32	39.14	2.29
44	38.38	47.04	53.04	2.29
62	54.84	63.50	69.32	2.41

Series-	Type-	NO. Pins-	Angle-	Screw-	Color-	Plating-	Edge	Option-	Status-
DHF-- (High-Density, FEMALE)	[1] PCB TYPE	15 26 44 62	[R] 90°	[0] W/O [1] LOCKED [2] UNLOCKED	[1] WHITE [4] BLUE	[T1] SELECTIVE GOLD PLATED 1u" [T15] SELECTIVE GOLD PLATED 15u" [G1] FULL GOLD PLATED 1u" [G3] FULL GOLD PLATED 3u"	889		[R]RoHS

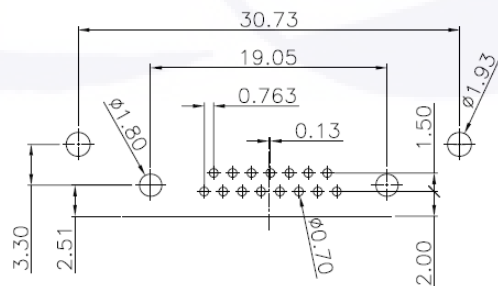
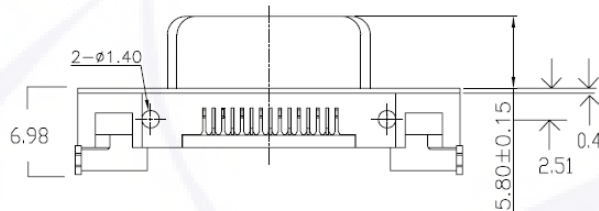
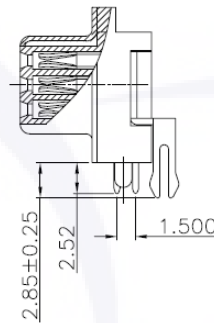
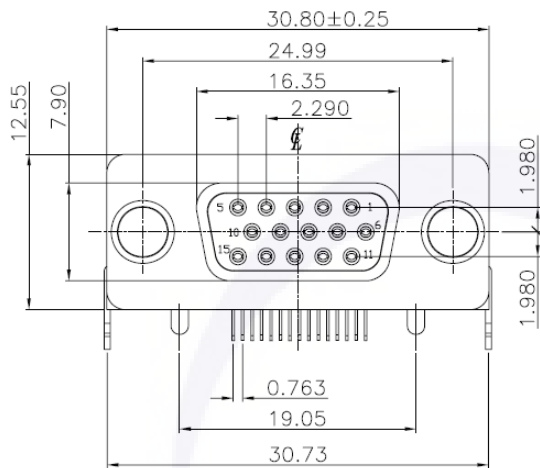
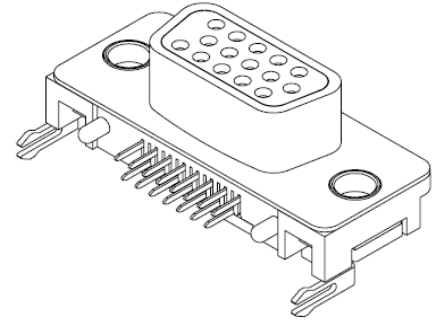
## D-SUB CONNECTOR, HIGH DENSITY, PCB TYPE, FEMALE, RIGHT ANGLE, SLIM, ROW SPACE 1.5mm

### Material

Body & Latch: PA66  
 Contacts: Brass  
 Shell: SPCD  
 Contact plating: Gold plating over Nickel

### Electrical

Current rating: 3A  
 Contact resistance: 25m ohms Max.  
 Insulation resistance: 1000m ohms Min. at DC 500V.  
 Dielectric withstanding voltage: AC 1000/ 60sec rms.



RECOMMENDED P.C.B. LAYOUT

Series-	Type-	NO. Pins-	Angle-	Screw-	Color-	Plating-	Edge	Option-
DHF-- (High-Density, FEMALE)	2- [1] PCB TYPE	15	[R] 90°	[0] W/O [1] LOCKED [2] UNLOCKED	[1] WHITE [4] BLUE	[T1] SELECTIVE GOLD PLATED 1u" [T15] SELECTIVE GOLD PLATED 15u" [G1] FULL GOLD PLATED 1u" [G3] FULL GOLD PLATED 3u"	200	

**D-SUB CONNECTOR, HIGH DENSITY, PCB TYPE, MALE, RIGHT ANGLE, 15/ 26/ 44 /62 PINS, 8.89mm**

**Material**

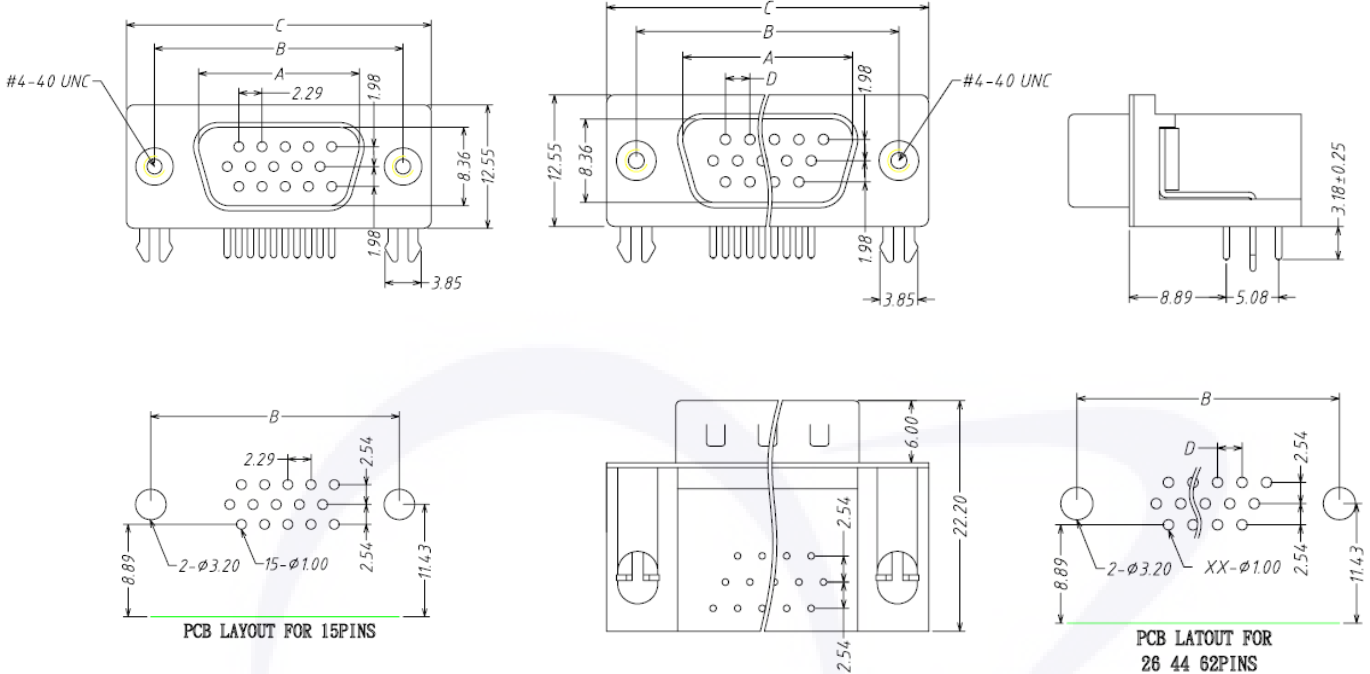
Contacts: Brass  
 Insulator: PBT +30%, UL 94V-0  
 Shell: Steel

**Mechanical**

Contact insertion force: 300gf Max.  
 Contact separation force: 25gf Min.

**Electrical**

Contact current rating: 3 AMP  
 Dielectric withstanding voltage: AC 1000/ 60sec rms.  
 Insulation resistance: 5000m ohms Min. at DC 500V.  
 Contact resistance: 25m ohms Max.  
 Operating temperature: -55°C ~ +105°C



NUMBER OF CONTACTS	A	B	C	D
	±0.25	±0.13	±0.38	±0.05
15	16.92	24.99	30.85	2.29
26	25.25	33.32	39.14	2.29
44	38.96	47.04	53.04	2.29
62	55.42	63.50	69.32	2.41

Series-	Type-	NO. Pins-	Angle-	Screw-	Color-	Plating-	Edge	Option-
DHM-- (High-Density, MALE)	1- [1] PCB TYPE	15	[R] 90°	[0] W/O	[1] WHITE	[T1] SELECTIVE GOLD PLATED 1u"	508	
		26		[1] LOCKED	[4] BLUE	[T15] SELECTIVE GOLD PLATED 15u"	808	
		44		[2] UNLOCKED		[G1] FULL GOLD PLATED 1u"	889	
		62				[G3] FULL GOLD PLATED 3u"	1030	
							1348	
							1490	

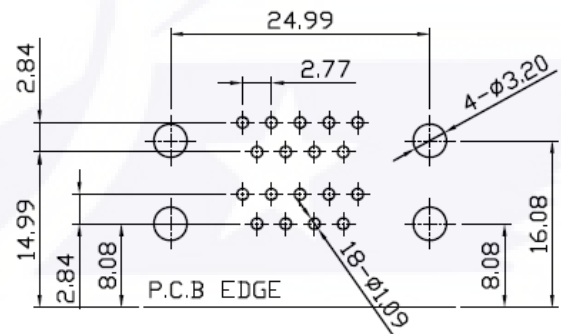
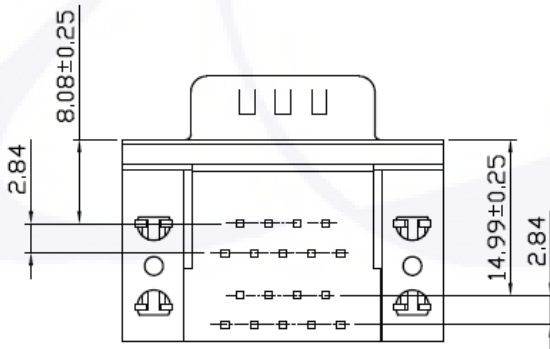
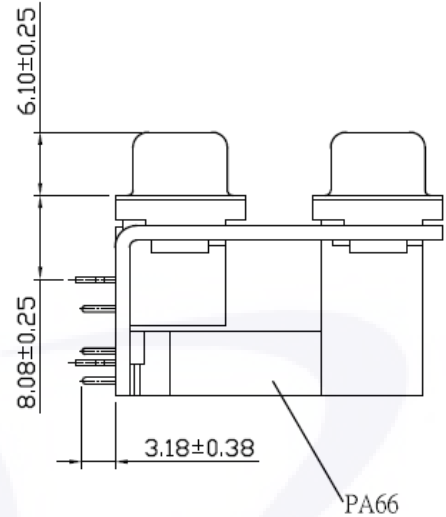
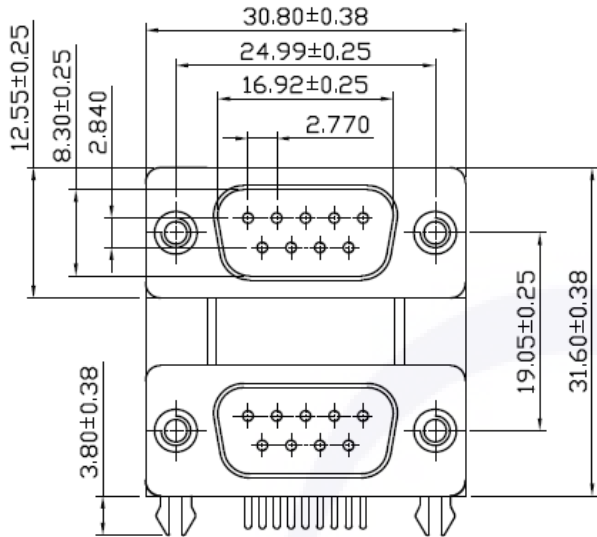
## D-SUB CONNECTOR, PCB TYPE, 9 MALE+ 9MALE, RIGHT ANGLE ( 19.05mm)

### Material

Housing: PBT/PA66 (UL 94V-0), BLACK  
 Contacts: Brass  
 Shell: SPCC  
 Rivet: Copper Alloy (Lead $\leq$ 40000PPM)  
 Board Lock: Brass  
 Bracket: SPCC

### Finish

Contact: Gold Flash plated on contact area.  
 Sn Plated on solder tails  
 Nickel under plated over all.  
 Shell: Nickel plated  
 Rivet: Nickel plated  
 Board lock: Sn plated  
 Bracket: Nickel plated.



P.C.B. LAYOUT

Series		NO. PINS	UPPER	NO. PINS	LOWER	SCREW	COLOR	PLATING	Edge
DD- (DUAL DECK)	1-	9	[M] MALE	9	[M] MALE	[0] W/O SCREW [1] W/ SCREW LOCKED [2] W/ SCREW UNLOCKED	[0] BLACK	[T1] SELECTIVE GOLD PLATED 1u" 808	

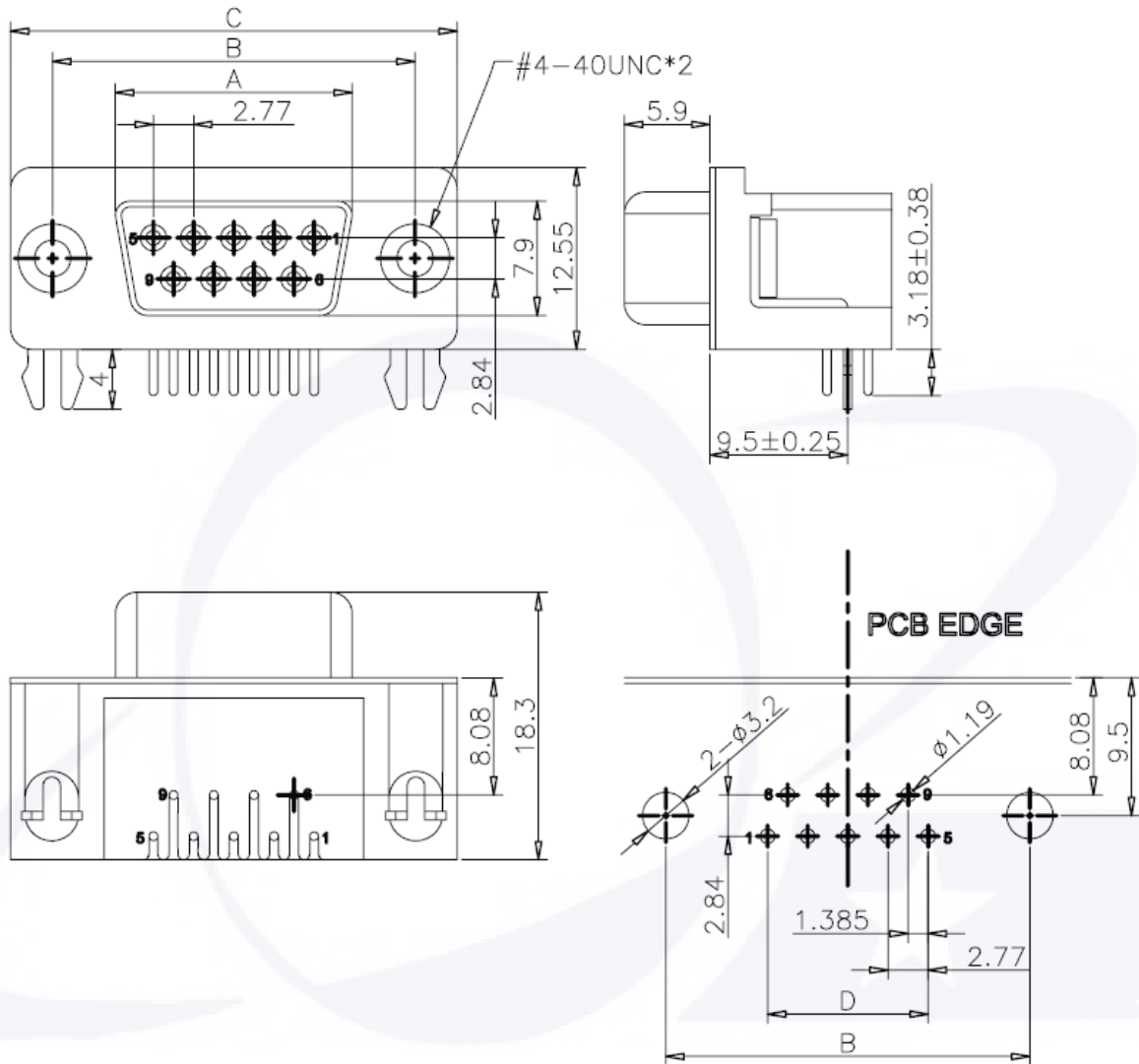
## D-SUB CONNECTOR, PCB TYPE, FEMALE, RIGHT ANGLE, 9/15/25/37 PINS, 8.08mm

### Material

Insulator: PBT +30% Glass Fiber, UL 94V-0  
 Contact: Copper Alloy  
 Contact finish: Gold over Nickel  
 Shell: Steel, Nickel plated  
 Boardlock: Brass, Tin plated  
 Riveted insert: Brass, Nickel plated

### Electrical

Current rating: 5 AMP  
 Dielectric withstanding voltage: AC 1000 for 1 minute  
 Insulation resistance: 1000m ohms Min. at 500V DC  
 Contact resistance: 15m ohms Max.  
 Operating temperature: -55°C ~ 105°C



Shell Size	A±0.25	B±0.25	C±0.38	D
09 Pin	16.33	24.99	30.80	11.08
15 Pin	24.66	33.32	39.10	19.39
25 Pin	38.38	47.04	53.00	33.24
37 Pin	54.84	63.50	69.32	49.86

Series-	Type-	NO. Pins-	Angle-	Screw-	Color-	Plating-	Edge	Option-
DBF-	1- [1] PCB TYPE	9	[R] 90°	[0] W/O	[0] BLACK	[T1] SELECTIVE GOLD PLATED 1u"	508	
		15		[1] LOCKED	[4] BLUE	[T15] SELECTIVE GOLD PLATED 15u"	808	
		25		[2] UNLOCKED		[G1] FULL GOLD PLATED 1u"	889	
		37				[G3] FULL GOLD PLATED 3u"	1030	
							1348	
							1490	

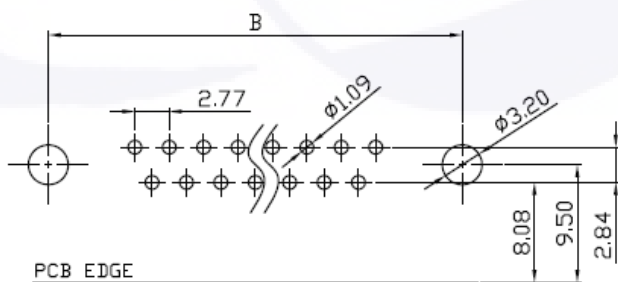
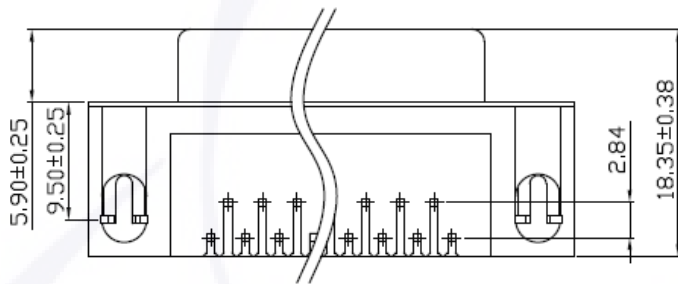
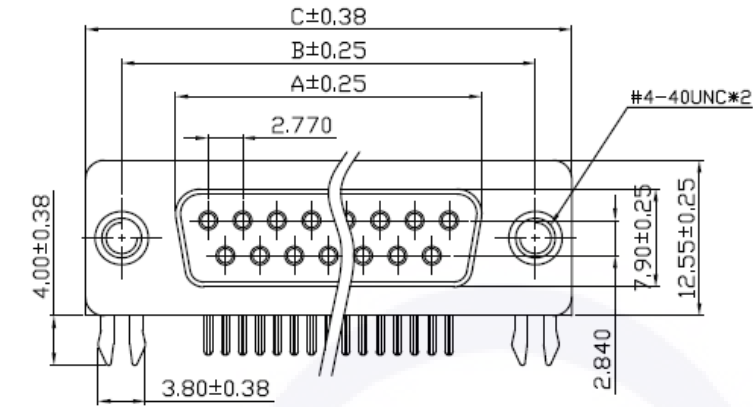
**D-SUB CONNECTOR, PCB TYPE, FEMALE, RIGHT ANGLE, 9PINS, 8.08mm**

**Material**

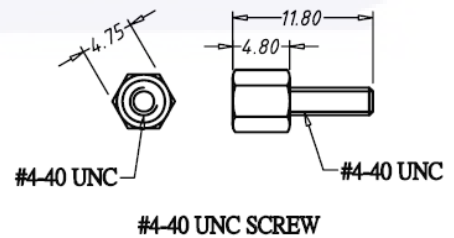
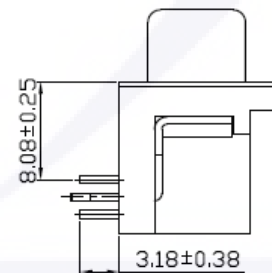
Housing: PBT (UL 94V-0)  
 Contacts: Brass  
 Shell: SPCC  
 Rivet: Copper Alloy(Lead $\leq$ 40000PPM)  
 Board Lock: SPCC  
 Screw: SPCC or Copper Alloy(Lead $\leq$ 40000PPM)

**Finish**

Contacts: Gold Flash plated on contact area.  
 Sn plated on solder tails.  
 Nickel under plated over all  
 Shell: Nickel plated  
 Rivet: Nickel plated  
 Board Lock: Sn plated  
 Screw: Nickel plated



P.C.B. LAYOUT



Series-	Type-	NO. Pins-	Angle-	Screw-	Color-	Plating-	Edge
DBF-	1- [1] PCB TYPE	9	[R] 90°	[0] W/O [1] LOCKED [2] UNLOCKED	[0] BLACK	[T1] SELECTIVE GOLD PLATED 1u"	808

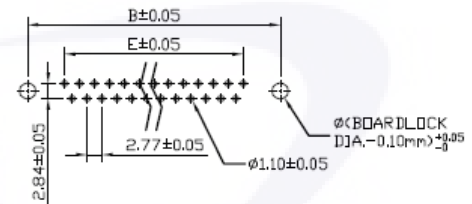
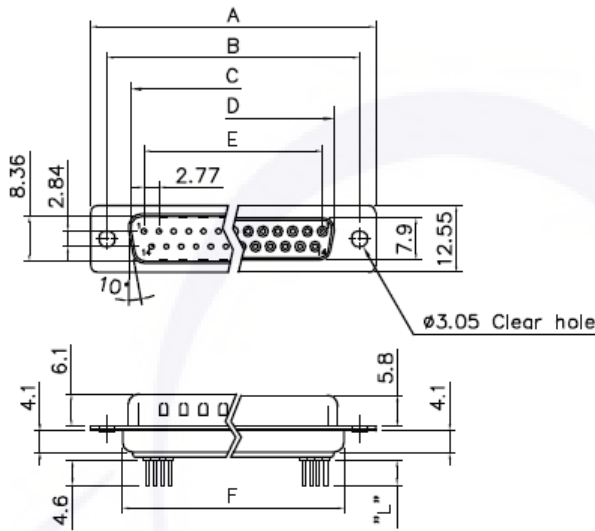
**D-SUB CONNECTOR, PCB TYPE, FEMALE, STRAIGHT, 9PINS**

**Material**

Insulator: Glass-Filled Thermoplastic PBT, UL94V-0  
 Contact: Brass  
 Shell: Steel, 100u" Tin over 50u" min. Copper  
 Clinch Nut: Brass, Nickel plated  
 Boardlock: Brass, Tin plated  
 Screwlock: Brass, Nickel plated

**Electrical**

Contact Resistance: 20 milliohms  
 Insulation Resistance: 1000 megohms min. at 500 VDC  
 Dielectric Withstanding Voltage: 1000 VAC/rms 60Hz for 1 minute  
 Current Rating: 3 AMP  
 Voltage Rating: 250 VAC/rms 60Hz  
 Temperature Range: -55°C ~ +85°C



DIMENSION TABLE

POSITIONS	A±0.15	B±0.10	C±0.15	D±0.13	E±0.08	F±0.10
9	30.81	24.99	16.92	16.33	11.08	19.20
15	39.20	33.30	25.25	24.70	19.39	27.70
25	53.05	47.04	38.96	38.40	33.24	41.10
37	69.40	63.50	55.42	54.80	49.86	57.30

Series-	Type-	NO. Pins-	Angle-	Screw-	Color-	Plating-
DBF-	1- [1] PCB TYPE	9	[S] 180°	[0] W/O [1] LOCKED [2] UNLOCKED	[0] BLACK	[T1] SELECTIVE GOLD PLATED 1u"

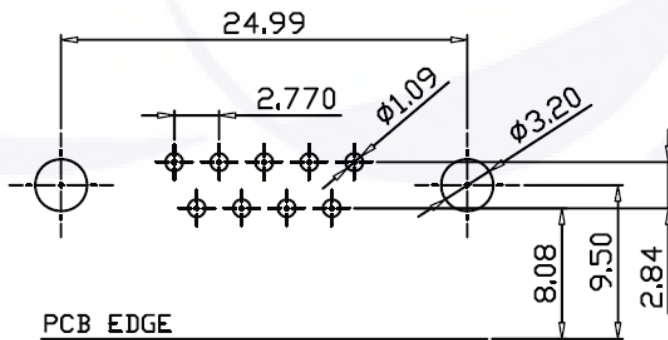
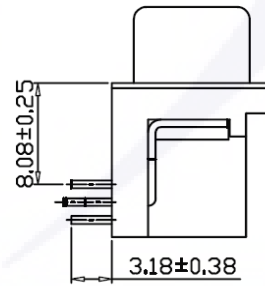
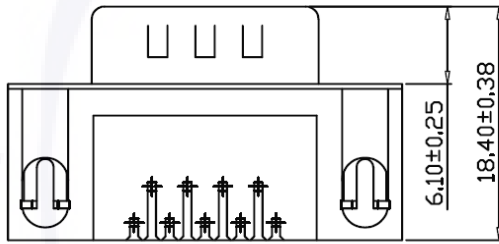
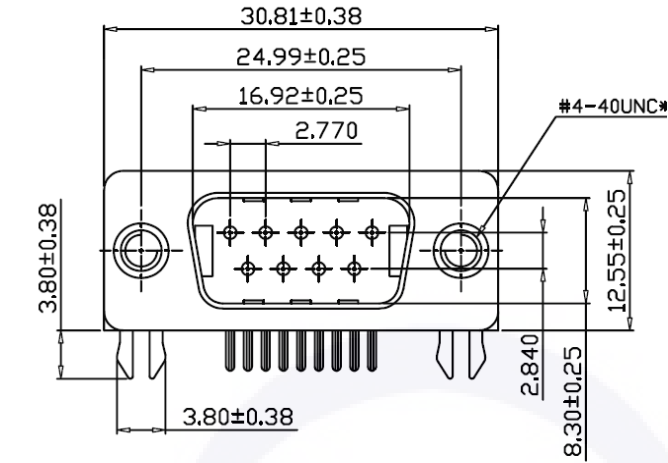
**D-SUB CONNECTOR, PCB TYPE, MALE, RIGHT ANGLE, 9 PINS, 8.08mm**

**Material**

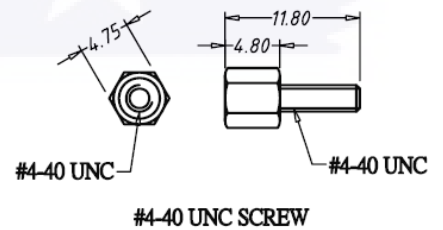
Housing: PBT (UL 94V-0), Green  
 Contacts: Brass  
 Shell: SPCC  
 Rivet: Copper Alloy(Lead ≤ 40000PPM)  
 Board Lock: SPCC

**Finish**

Contact: Gold Flash on Contact Area  
 Sn plated on Solder Area  
 Nickel under plated over all.  
 Shell: Nickel plated  
 Rivet: Nickel plated  
 Board Lock: Sn plated



P.C.B. LAYOUT



Series-	Type-	NO. Pins-	Angle-	Screw-	Color-	Plating-	Edge
DBM-	1- [1] PCB TYPE	9	[R] 90°	[0] W/O [1] LOCKED [2] UNLOCKED	[7] GREEN	[T1] SELECTIVE GOLD PLATED 1u"	808

**D-SUB CONNECTOR, PCB TYPE, MALE, RIGHT ANGLE, 9/15/25/37 PINS, 8.08mm**

**Material**

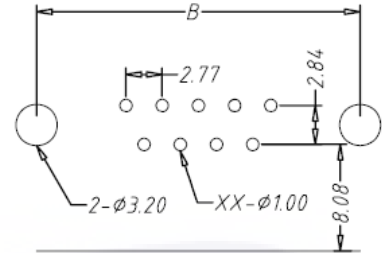
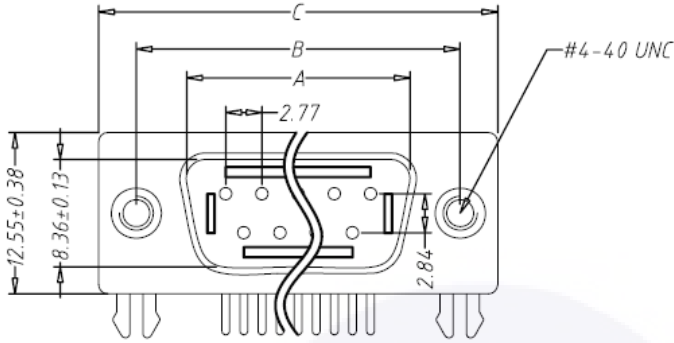
Contacts: Brass  
 Insulator: PBT + 30%, UL 94V-0  
 Shell: Steel

**Mechanical**

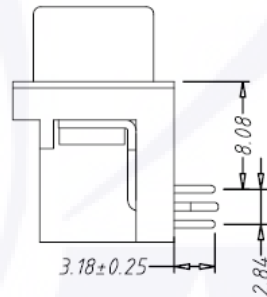
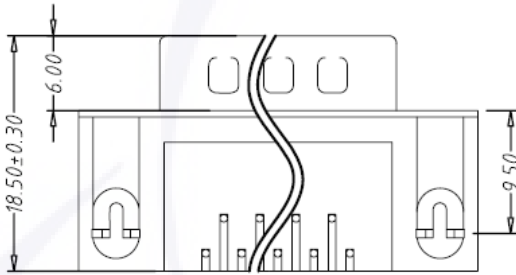
Contact insertion force: 300gf Max.  
 Contact separation force: 25gf Min.

**Electrical**

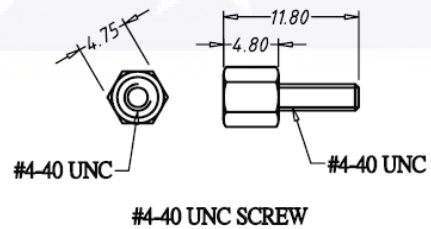
Contact current rating: 3 AMP  
 Dielectric withstanding voltage: AC 1000/ 60sec rms  
 Insulation resistance: 5000m ohms Min. at 500V DC  
 Contact resistance: 25m ohms Max.  
 Operating temperature: -55°C ~ 105°C



**PCB LAYOUT**



NUMBER OF CONTACTS	DIMENSIONS(mm)		
	A±0.25	B±0.13	C±0.38
9	16.92	24.99	30.85
15	25.25	33.32	39.14
25	38.96	47.04	53.04
37	55.42	63.50	69.32



**#4-40 UNC SCREW**

Series-	Type-	NO. Pins-	Angle-	Screw-	Color-	Plating-	Edge	Option-
DBM-	1- [1] PCB TYPE	9	[R] 90°	[0] W/O	[0] BLACK	[T1] SELECTIVE GOLD PLATED 1u"	508	
		15		[1] LOCKED	[4] BLUE	[T15] SELECTIVE GOLD PLATED 15u"	808	
		25		[2] UNLOCKED		[G1] FULL GOLD PLATED 1u"	889	
		37				[G3] FULL GOLD PLATED 3u"	1030	
							1348	
							1490	

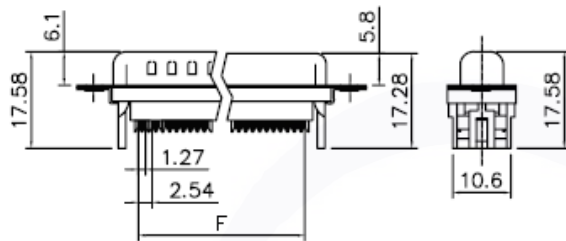
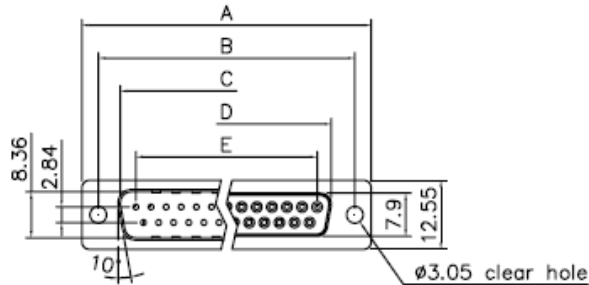
## D-SUB CONNECTOR, IDC TYPE, STRAIGHT, WITHOUT SCREW

### Material

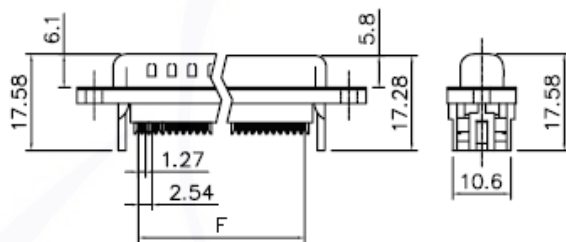
Insulator: Glass-Filled Thermoplastic PBT, UL94V-0  
 Contact: Brass  
 Shell: Steel, 100u" Tin Over 50u" min Copper  
 Clinch Nut: Brass, Nickel Plated  
 Screwlock: Brass, Nickel Plated

### Electrical

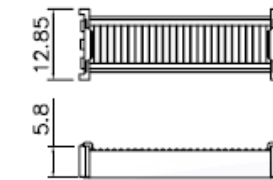
Contact Resistance: 20 milliohms, Max at 1 AMP DC.  
 Insulation Resistance: 1000, magohms at 500V DC  
 Dielectric Withstanding Voltage: 1000V AC/rms 60Hz for 1 minute  
 Current Rating: 3.0 AMP  
 Volatge Rating: 250V AC/rms 60Hz



Without Insulator Support



With Insulator Support



Cover



Strain Relief

### Dimensions

Positions	A	B	C	D	E	F
9	30.81	24.99	16.92	16.33	11.08	10.16
15	39.20	33.30	25.25	24.66	19.39	17.78
25	53.05	47.04	38.96	38.38	33.24	30.48
37	69.40	63.50	55.42	54.84	49.86	45.72

Series-	Type-	NO. Pins-	Angle-	Screw-	Color-	Plating-	Packing-	Option-	Status-
DBM- (Male)	1-	[3] IDC TYPE	[S] 180°	[0] W/O	[0] BLACK [T1] SELECTIVE GOLD PLATED 1u"	[4] BLUE [T15] SELECTIVE GOLD PLATED 15u"	[G] BAG	[X] BOX [R] REEL [U] TUBE [Y] TRAY	[R]RoHS
		15		[1] LOCKED					
		25		[2] UNLOCKED					
DBF- (Female)	1-	37							
		50							

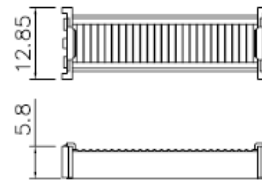
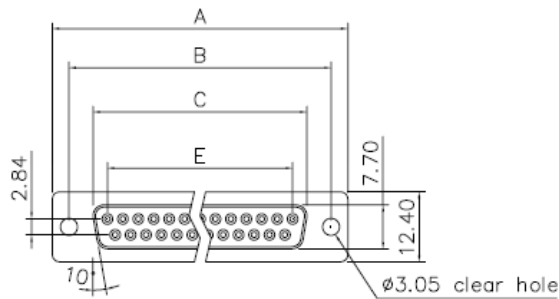
## D-SUB CONNECTOR, IDC TYPE, FEMALE, STRAIGHT, WITHOUT SCREW

### Material

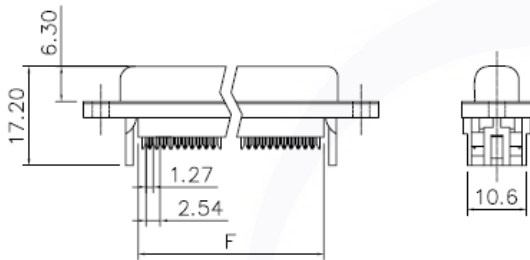
Insulator: Glass-Filled Thermoplastic PBT, UL94V-0  
 Contact: Copper Alloy

### Electrical

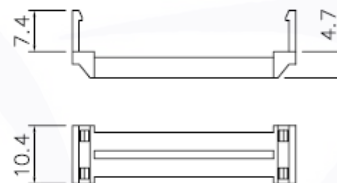
Contact Resistance: 20 milliohms, Max at 1 AMP DC.  
 Insulation Resistance: 1000, magohms at 500V DC  
 Dielectric Withstanding Voltage: 1000V AC/rms 60Hz for 1 minute  
 Current Rating: 3.0 AMP  
 Volatge Rating: 250V AC/rms 60Hz



Cover



With Insulator Support



Strain Relief

### Dimensions

Positions	A	B	C	E	F
9	30.50	25.00	16.00	11.08	10.16
15	39.00	33.32	24.27	19.39	17.78
25	53.08	47.04	38.22	33.24	30.48
37	69.40	63.50	54.65	49.86	52.06

Series-	Type-	NO. Pins-	Angle-	Screw-	Color-	Plating-	Packing-	Option-	Status-
DBF- (Female)	2- [3] IDC TYPE	9	[S] 180°	[0] W/O	[0] BLACK	[T1] SELECTIVE GOLD PLATED 1u"	[G] BAG		[R]RoHS
		15		[1] LOCKED	[4] BLUE	[T15] SELECTIVE GOLD PLATED 15u"	[X] BOX		
		25		[2] UNLOCKED			[R] REEL		
		37					[U] TUBE		
		50					[Y] TRAY		

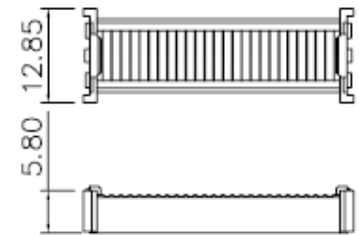
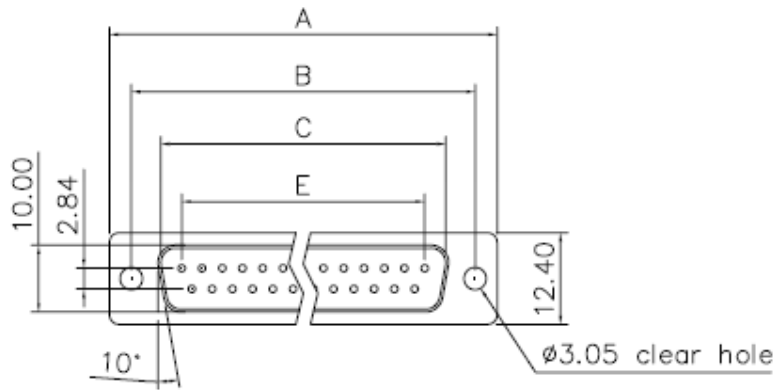
## D-SUB CONNECTOR, IDC TYPE, MALE, STRAIGHT, WITHOUT SCREW

### Material

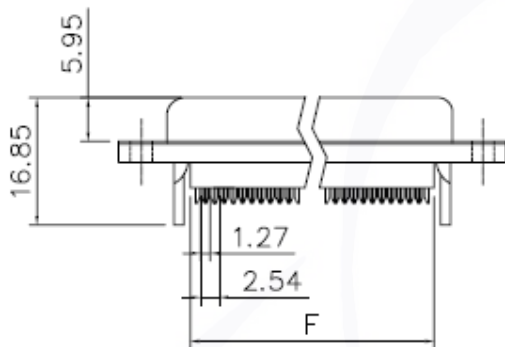
Insulator: Glass-Filled Thermoplastic PBT, UL94V-0  
 Contact: Copper Alloy

### Electrical

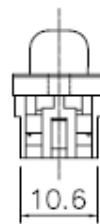
Contact Resistance: 20 milliohms, Max at 1 AMP DC.  
 Insulation Resistance: 1000, megohms at 500V DC  
 Dielectric Withstanding Voltage: 1000V AC/rms 60Hz for 1 minute  
 Current Rating: 3.0 AMP  
 Voltage Rating: 250V AC/rms 60Hz



Cover



With Insulator Support



Strain Relief

### Dimensions

Positions	A	B	C	E	F
9	30.50	25.00	18.05	11.08	13.10
15	39.00	33.32	26.35	19.39	20.70
25	53.08	47.04	40.95	33.24	33.68
37	69.25	63.50	55.60	49.86	50.30

Series-	Type-	NO. Pins-	Angle-	Screw-	Color-	Plating-	Packing-	Option-	Status-
DBM-	2-	[3] IDC TYPE	9	[0] W/O	[0] BLACK	[T1] SELECTIVE GOLD PLATED 1u"	[G] BAG		[R]RoHS
(Male)			[S] 180°	[1] LOCKED	[4] BLUE	[T15] SELECTIVE GOLD PLATED 15u"	[X] BOX		
				[2] UNLOCKED			[R] REEL		
							[U] TUBE		
							[Y] TRAY		

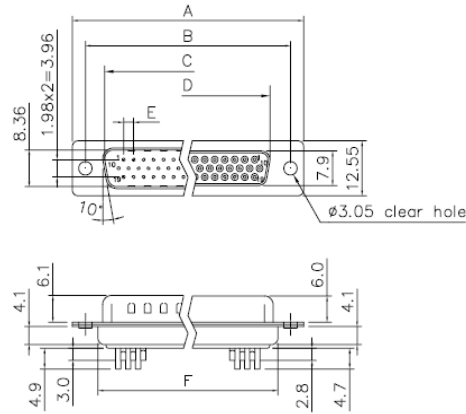
**D-SUB CONNECTOR, HIGH DENSITY, SOLDER TYPE, STRAIGHT, WITHOUT SCREW**

**Material**

Insulator: Glass-Filled Thermoplastic PBT, UL94V-0  
 Contact: Brass  
 Shell: Steel, 100u" Tin Over 50u" min Copper  
 Clinch Nut: Brass, Nickel Plated  
 Screwlock: Brass, Nickel Plated

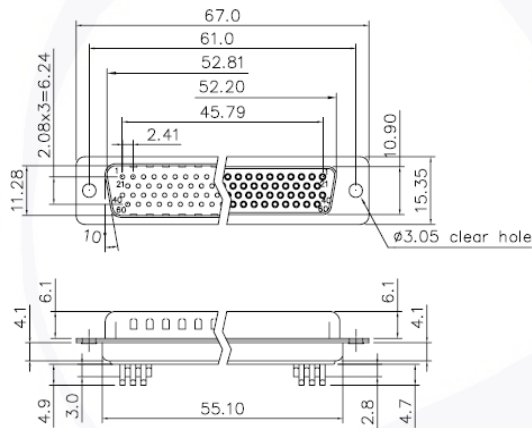
**Electrical**

Contact Resistance: 20 milliohms, Max at 1 AMP DC.  
 Insulation Resistance: 1000, magohms at 500V DC  
 Dielectric Withstanding Voltage: 1000V AC/rms 60Hz for 1 minute  
 Current Rating: 3.0 AMP  
 Volatge Rating: 250V AC/rms 60Hz



DIMENSION TABLE

POSITIONS	A	B	C	D	E	F
15	30.81	24.99	16.92	16.33	2.29	19.20
26	39.20	33.30	25.25	24.70	2.29	27.70
44	53.05	47.04	38.96	38.40	2.29	41.10
62	69.40	63.50	55.42	54.80	2.41	57.30



Series-	Type-	NO. Pins-	Angle-	Screw-	Color-	Plating-	Packing-	Option-	Status-
<b>DHM--</b> (High-Density, MALE)	1- [2] SOLDER TYPE	15 26 44	[S] 180°	[0] W/O [1] LOCKED [2] UNLOCKED	[0] BLACK [4] BLUE	[T1] SELECTIVE GOLD PLATED 1u" [T15] SELECTIVE GOLD PLATED 15u"	[G] BAG [X] BOX [R] REEL		[R]RoHS
<b>DHF--</b> (High-Density, FEMALE)		62					[U] TUBE [Y] TRAY		

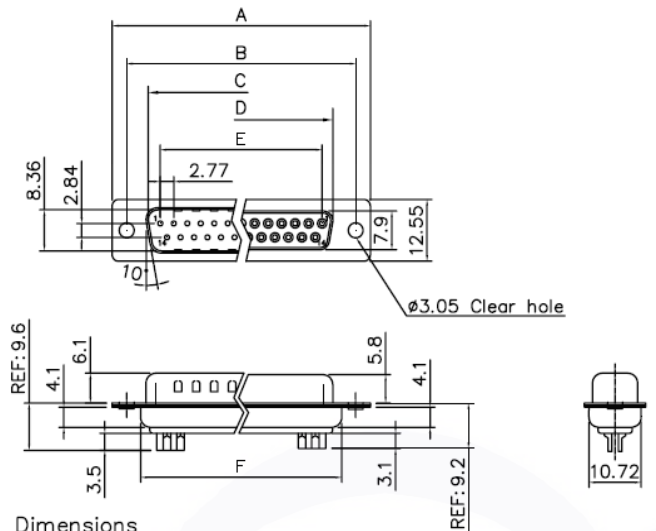
## D-SUB CONNECTOR, SOLDER TYPE, STRAIGHT, WITHOUT SCREW

### Material

Insulator: Glass-Filled Thermoplastic PBT, UL94V-0  
 Contact: Brass  
 Shell: Steel, 100u" Tin Over 50u" min Copper  
 Clinch Nut: Brass, Nickel Plated  
 Boardlock: Brass, Tin Plated  
 Screwlock: Brass, Nickel Plated

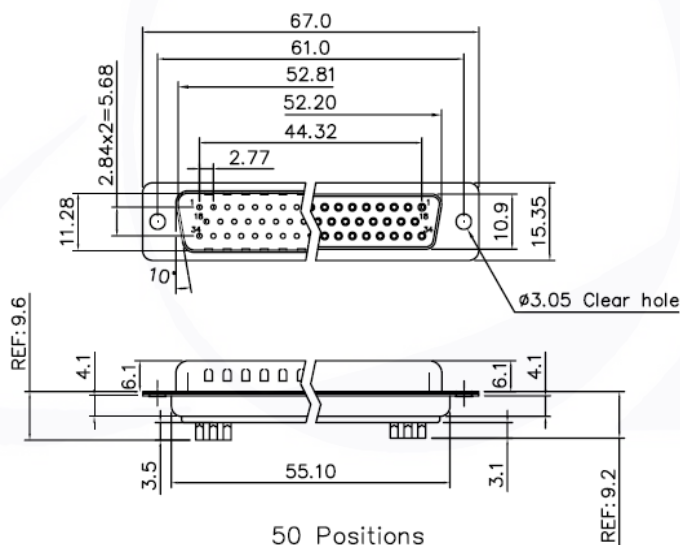
### Electrical

Contact Resistance: 20 milliohms, Max at 1 AMP DC.  
 Insulation Resistance: 1000, magohms at 500V DC  
 Dielectric Withstanding Voltage: 1000V AC/rms 60Hz for 1 minute  
 Current Rating: 3.0 AMP  
 Volatge Rating: 250V AC/rms 60Hz



Dimensions

Positions	A	B	C	D	E	F
9	30.81	24.99	16.92	16.33	11.08	19.20
15	39.20	33.30	25.25	24.70	19.39	27.70
25	53.05	47.04	38.96	38.40	33.24	41.10
37	69.40	63.50	55.42	54.80	49.86	57.30



50 Positions

Series-	Type-	NO. Pins-	Angle-	Screw-	Color-	Plating-	Packing-	Option-	Status-
DBM- (Male)	1- [2] SOLDER TYPE	9	[S] 180°	[0] W/O	[0] BLACK	[T1] SELECTIVE GOLD PLATED 1u"	[G] BAG		[R]RoHS
		15		[1] LOCKED	[4] BLUE	[T15] SELECTIVE GOLD PLATED 15u"	[X] BOX		
		25		[2] UNLOCKED			[R] REEL		
		37					[U] TUBE		
DBF- (Female)		50					[Y] TRAY		