

3880023	1466016-1		JACK POST ASSY
3880035	1466008-1		JACKSCREW ASSY
3880047	1495574-1	MCKN1-B-9P6A1-18.0	METAL SHELL PLUG 9 POS
3880059	1495574-2	MCKN1-B-15P6A1-18.0	METAL SHELL PLUG 15 POS
3880060	1495574-4	MCKN1-B-25P6A1-18.0	METAL SHELL PLUG 25 POS
3880072	1495574-6	MCKN1-B-37P6A1-18.0	METAL SHELL PLUG 37 POS
3880084	1495574-7	MCKN1-B-51P6A1-18.0	METAL SHELL PLUG 51 POS
3880096	1495575-1	MCKN1-B-9S6A1-18.0	METAL SHELL SOCKET 9 POS
3880102	1495575-2	MCKN1-B-15S6A1-18.0	METAL SHELL SOCKET 15 POS
3880114	1495575-4	MCKN1-B-25S6A1-18.0	METAL SHELL SOCKET 25 POS
3880126	1495575-6	MCKN1-B-37S6A1-18.0	METAL SHELL SOCKET 37 POS
3880138	1495575-7	MCKN1-B-51S6A1-18.0	METAL SHELL SOCKET 51 POS
3880140	1495546-1	MCDR3-B-9P6A1-18.0	PLASTIC SHELL PLUG 9 POS
3880151	1495547-1	MCDR3-B-15P6A1-18.0	PLASTIC SHELL PLUG 15 POS
3880163	1495549-1	MCDR3-B-25P6A1-18.0	PLASTIC SHELL PLUG 25 POS
3880175	1495551-1	MCDR3-B-37P6A1-18.0	PLASTIC SHELL PLUG 37 POS
3880187	1495553-1	MCDR3-B-9S6A1-18.0	PLASTIC SHELL SOCKET 9 POS
3880199	1495554-1	MCDR3-B-15S6A1-18.0	PLASTIC SHELL SOCKET 15 POS
3880205	1495556-1	MCDR3-B-25S6A1-18.0	PLASTIC SHELL SOCKET 25 POS
3880217	1495558-1	MCDR3-B-37S6A1-18.0	PLASTIC SHELL SOCKET 37 POS
3880229	1466835-1	MCKN1-P-9PRT1	90° PLUG 9 POS
3880230	1495576-1	MCKN1-P-15PRT1	90° PLUG 15 POS
3880242	1466812-1	MCKN1-P-25PRT1	90° PLUG 25 POS
3880254	9-1532011-4	MCKN1-P-37PRT1	90° PLUG 37 POS
3880266	1495578-1	MCKN1-P-51PRT1	90° PLUG 51 POS
3880278	1466840-1	MCKN1-P-9SRT1	90° SOCKET 9 POS
3880280	1466807-1	MCKN1-P-15SRT1	90° SOCKET 15 POS
3880291	1495580-1	MCKN1-P-25SRT1	90° SOCKET 25 POS
3880308	9-1532011-5	MCKN1-P-37SRT1	90° SOCKET 37 POS
3880310	1466833-1	MCKN1-P-51SRT1	90° SOCKET 51 POS
3880321	1466838-1	MCKN1-P-9PST1	STRT PLUG 9 POS
3880333	1466805-1	MCKN1-P-15PST1	STRT PLUG 15 POS
3880345	1495581-1	MCKN1-P-25PST1	STRT PLUG 25 POS
3880357	1466826-1	MCKN1-P-37PST1	STRT PLUG 37 POS
3880369	1467272-1	MCKN1-P-51PST1	STRT PLUG 51 POS
3880370	1466844-1	MCKN1-P-9SST1	STRT SOCKET 9 POS
3880382	1495582-1	MCKN1-P-15SST1	STRT SOCKET 15 POS
3880394	1495584-1	MCKN1-P-25SST1	STRT SOCKET 25 POS
3880400	4-1532012-9	MCKN1-P-37SST1	STRT SOCKET 37 POS
3880412	1467273-1	MCKN1-P-51SST1	STRT SOCKET 51 POS

DATA FOR COMPLETE  
MICRO DOT DRAWING

MICRODOT Connectors MCK and MCD High Density Microminiature "D" Connector is adaptable to a numerous variety of form factors. Low engaging force is achieved by the contacts are designed. By constructing the male contact as a breathing helical spring the periphery of the pin bundle rather than at a few discrete points, as in conventional connectors. 6 ounces typically and 8 ounces maximum. The low force twist pins exhibit an engaging force of 6 ounces typically and 8 ounces maximum. The low force twist pins are standard in MIL-PRF-83513 configurations of MCK and MCD and all other configurations.

The MCK and MCD Series of connectors are designed to meet the applicable requirements for interchangeability, and performance. Designed for both military and commercial applications, they are suited for use in miniaturized airborne and space electronics, computers, and test equipment. MCD's are available with solder cup, and solid or stranded wire terminations. MCK is designed for board mounting. Custom termination configurations for both MCK and MCD can be used in wired harness assemblies.

## Technical and Performance Data

### Electrical

**Contacts** - Pin #24 AWG twist pin, Socket #24 AWG precision machined barrel, Wire is 24 AWG stranded.

**Contact Resistance** - (voltage drop) 25 millivolts max. at 3 amps,  $25^{\circ} \pm 3^{\circ}\text{C}$ .

**Current Rating** - 3 amps max. per contact.

**Dielectric Withstanding Voltage** - Volts RMS 60 Hz at room ambient. At sea level and transition blocks. At 70,000 ft. 150V solder pots, 200V wire terminations & transition blocks.

**Insulation Resistance** - 5,000 megohms min. (@ 500 VDC) at ambient room temperature.

**Magnetic Permeability** - 2 mu max.

### Mechanical

**Contact Spacing** - .050 [1.27mm] centers.

**Contact Engagement & Separation** - Standard contact engaging force is 6.0 oz. (8.0 oz. max.). Separation force for both is 0.5 oz. min.

**Mating Force Maximum** - Calculated as 10 oz. times the number of contacts.

### Environmental

**Temperature Range** -  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  for MCK/MCD.

**Vibration** - No discontinuity in excess of 1  $\mu$  sec. when tested in accordance with MIL-STD-202, Method 204.

**Solderability** - Connectors shall pass the test requirements of MIL-STD-202, Method 208.

**Shock** - No discontinuity in excess of 1  $\mu$  sec. when tested in accordance with MIL-STD-202, Method 207.

**Durability** - No mechanical or electrical defects detrimental to the function of the c

**Humidity** - After exposure to humidity as specified by MIL-STD-1344, Method 100 step 7a of Method 1002 and 1000 megohms min. after 24 hours of conditioning per

**Salt Spray** - Connectors shall meet the performance requirements of contact resistance retention after being subjected to the 48-hour 5% solution salt spray test per MIL-S1

**Fluid Immersion** - Unmated connectors after being fully immersed in one of the fo force of 10 oz. times the number of contacts or less: Perchloroethylene, 2 hours; Lut

**Insert Retention** - Inserts will withstand a 50 lb. per square inch load in either direc

**Crimp Termination Tensile Strength** - (Unassembled contacts with crimped stran contacts when the following axial loads are applied: #24 AWG, 5 lbs.; #26 AWG, 4

## Materials and Finishes

**Contacts** - Copper alloy plated with .000050 [.00127] gold over copper flash per M

### MCK-Metal Shell -

Insulator - Ryton R4, Polyphenylene Sulfide per MIL-M-24519

Interfacial Seal - Fluorosilicone Rubber per MIL-R-25988 (socket side only)

Body Shell - Aluminum alloy-high grade plated

Cadmium - Per QQ-P-416

Nickel - Electroless per AMS 2404

### Transition Block Shell -

Ryton R4, Polyphenylene Sulfide - Per MIL-M-24519

Potting Material - Epoxy, Black

### MCD-Plastic Shell -

Insulator/Body - Polyester, glass filled per MIL-M-24519, Polyphenylene Sulfide pe

### Wire Terminations -

Solid copper - Per QQ-W-343, gold plated per MIL-G-45204

Stranded Teflon - Insulated per MIL-W-16878

Stranded Teflon - Insulated per MIL-W-22759/11, /33

Solid copper - Per QQ-W-343, solder dipped (Transition block)

## TWIST/CON-24 Pins and Sockets

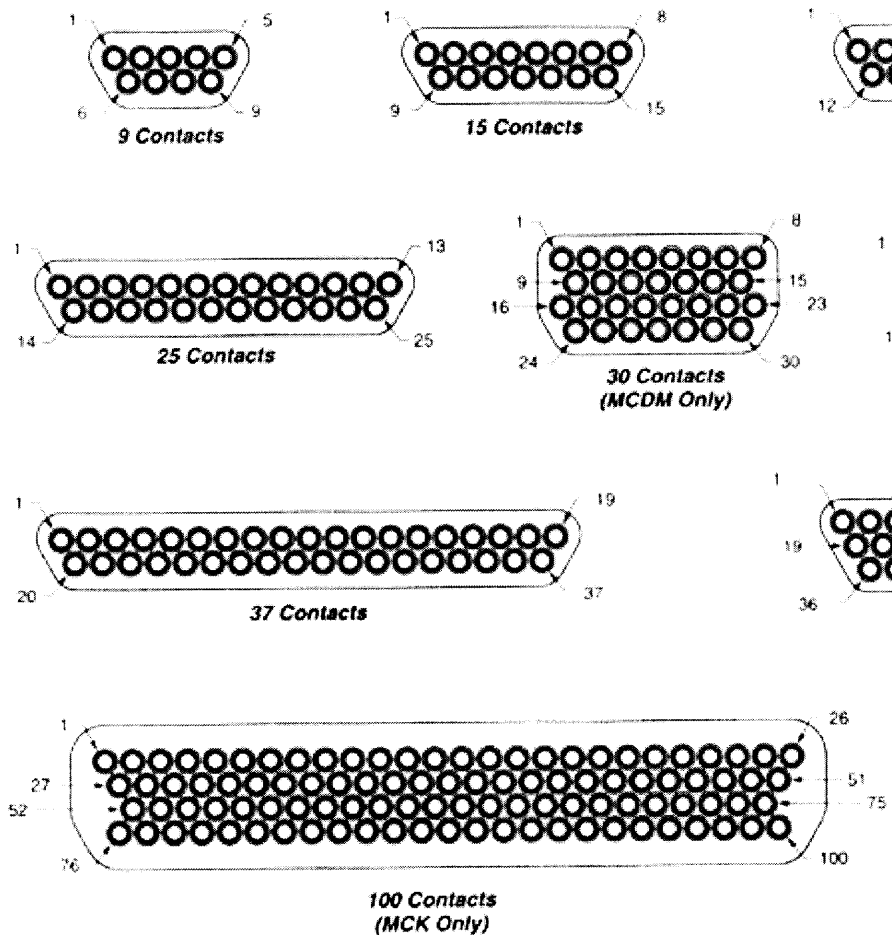


Wire range 24-36 AWG solid and stranded.

The contact spring member normally found in socket contacts has been eliminated b pin contact - smaller, more durable contacts can be manufactured economically.

## Contact Arrangements

### Face View of Pin Insert (Socket Side is Mirror Image)

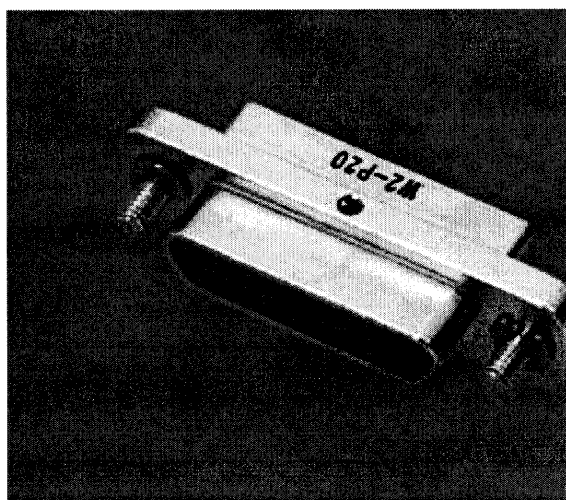


**Note:** MCK metal shells are not designed to intermate or interchange with MCD plug

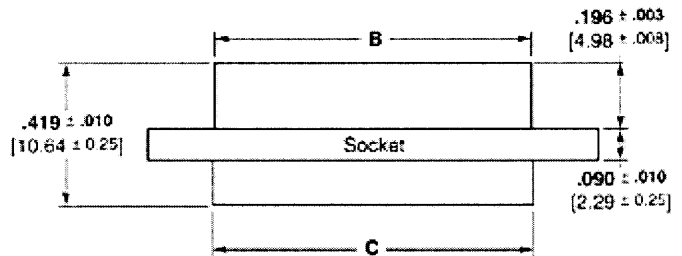
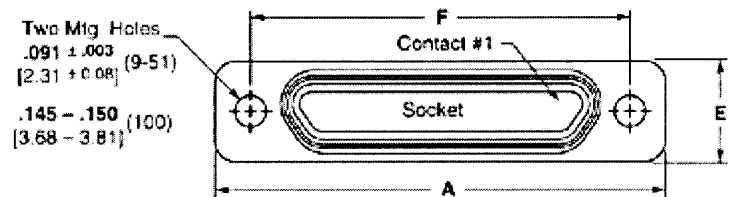
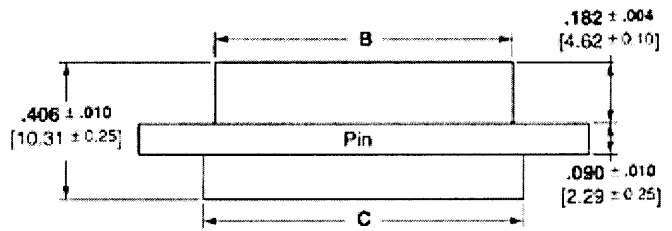
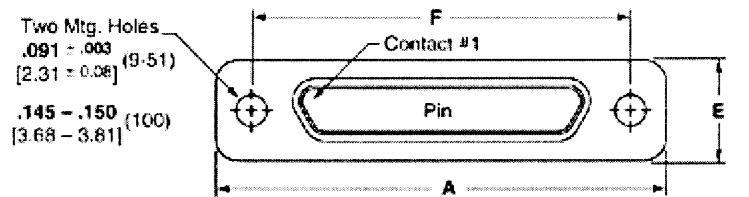
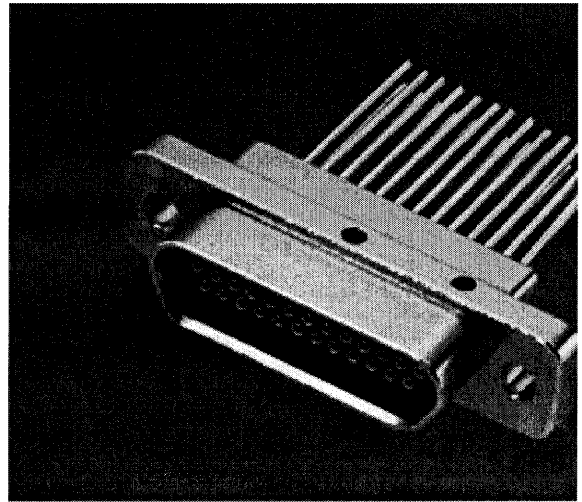
### MCK Series Metal Shell Connectors

Dimensions per MIL-PRF-83513

#### Plug (Pin Side)



Receptacle (Socket Side)

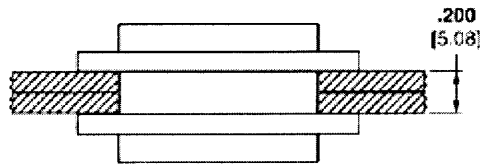


Part Number	A $\pm .010$ [.254]	B Max.	C $+.010$ [.254] $-.018$ [.457]	D
MCK*** 9P***	.775 19.68	.333 8.46	.390 9.91	
MCK*** 9S***	.775 19.68	.402 10.22	.390 9.91	
MCK** 15P***	.925 23.50	.483 12.27	.540 13.72	
MCK** 15S***	.925 23.50	.552 14.02	.540 13.72	

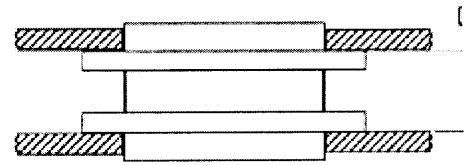
	23.30	14.03	13.72
MCK** - 21P***	1.075 27.30	.633 16.08	.690 17.53
MCK** - 21S***	1.075 27.30	.702 17.84	.690 17.53
MCK** - 25P***	1.175 29.84	.733 18.62	.790 20.07
MCK** - 25S***	1.175 29.84	.802 20.38	.790 20.07
MCK** - 31P***	1.325 33.66	.883 22.43	.940 23.88
MCK** - 31S***	1.325 33.66	.952 24.19	.940 23.88
MCK** - 37P***	1.475 37.46	1.033 26.24	1.090 27.69
MCK** - 37S***	1.475 37.46	1.102 28.00	1.090 27.69
MCK** - 51P***	1.425 36.20	.983 24.97	1.040 26.42
MCK** - 51S***	1.425 36.20	1.052 26.73	1.040 26.42
MCK** - 100P***	2.160 54.86	1.383 35.13	1.432 36.37
MCK** - 100S***	2.160 54.86	1.508 38.31	1.432 36.37

P = Pin, S = Socket

### Panel Mounting Dimensions - MCK



Plug and Receptacle  
Rear Mounted



Plug and Receptacle  
Front Mounted

### Panel Cutout Dimensions - MCK

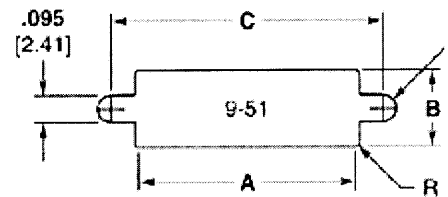


Figure 1  
Front Mounting

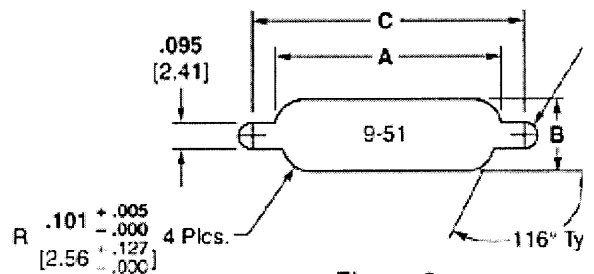
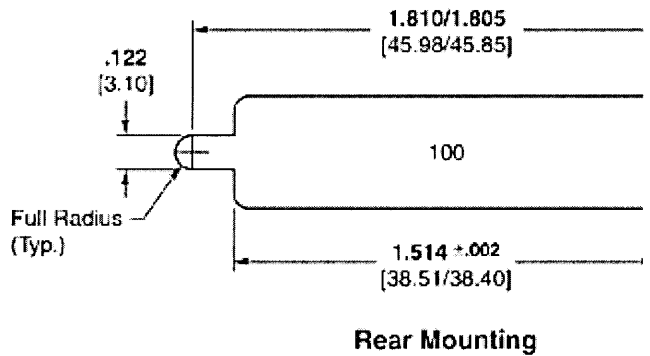
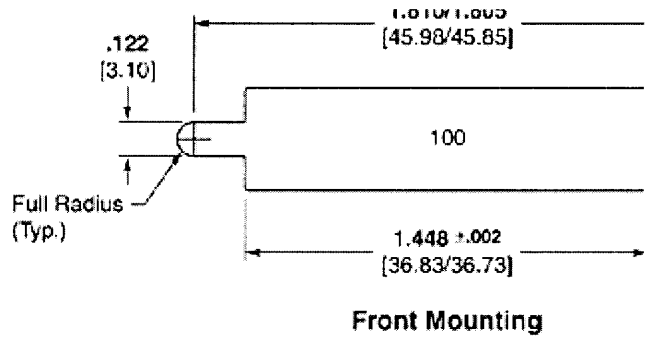


Figure 2  
Rear Mounting

1 2104 005



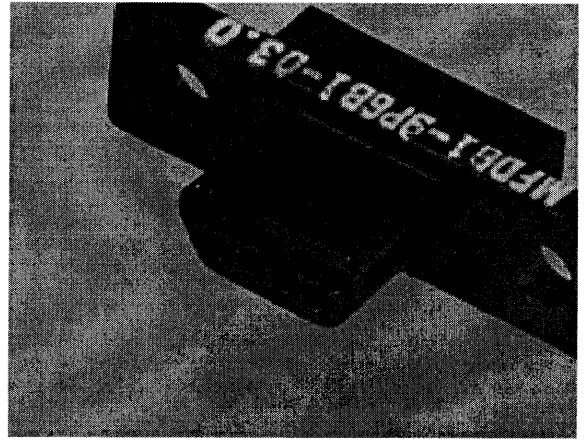
Number of Contacts	Fig.	A		B	
		+ .004 [.102] - .000 [.000]		+ .004 [.102] - .000 [.000]	
9	1	.404 10.26		.274 6.96	
	2	.406 10.31		.257 6.53	
15	1	.554 14.07		.274 6.96	
	2	.556 14.12		.257 6.53	
21	1	.704 17.88		.274 6.96	
	2	.706 17.93		.257 6.53	
25	1	.804 20.42		.274 6.96	
	2	.806 20.47		.257 6.53	
31	1	.954 24.23		.274 6.96	
	2	.956 24.28		.257 6.53	
37	1	1.104 28.04		.274 6.96	
	2	1.106 28.09		.257 6.53	
51	1	1.054 26.77		.314 7.98	
	2	1.056 26.82		.300 7.62	

**MCD Series Plastic Shell Connectors**

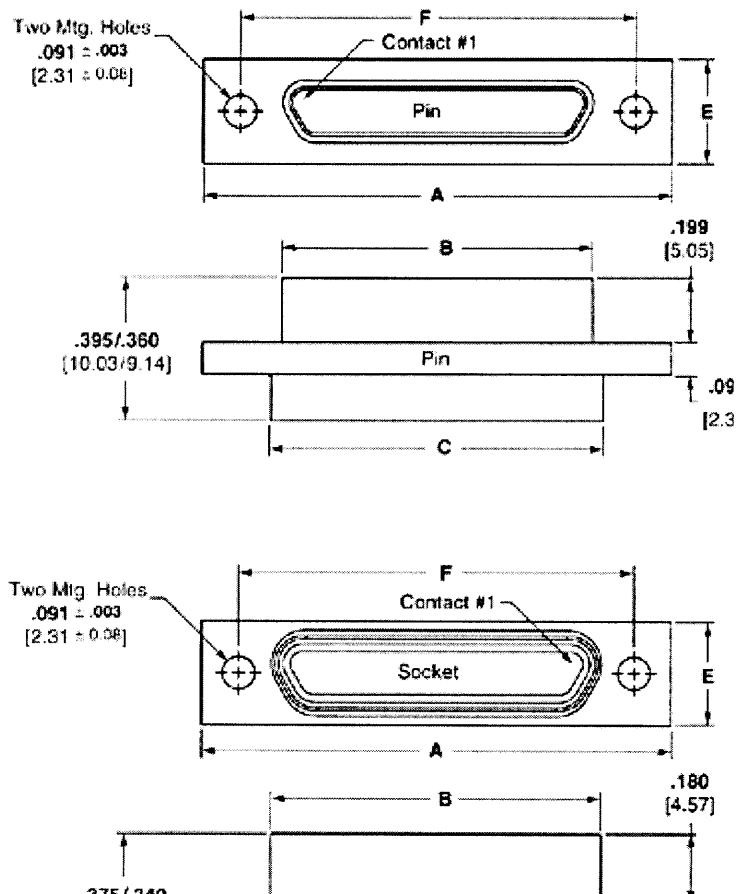
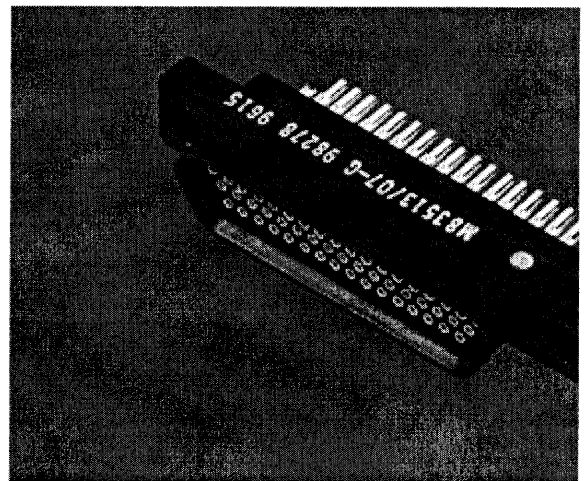
**Screw Mount Dimensions per MIL-PRF-83513**

**Plug (Pin Side)**

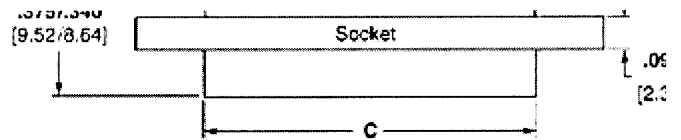




**Receptacle (Socket Side)**





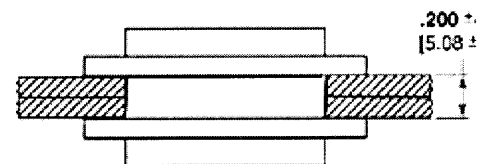


Part Number	A ± .010 [.254]	B Max.	C +.010 [.254] -.018 [.457]	D Max	±.010
MCD**-9P***	.788 20.02	.2918 7.412	.398 10.11	.173 4.39	
MCD**-9S***	.788 20.02	.3798 9.647	.398 10.11	.173 4.39	
MCD**-15P***	.938 23.83	.4418 11.222	.548 13.92	.173 4.39	
MCD**-15S***	.938 23.83	.5298 13.457	.548 13.92	.173 4.39	
MCD**-21P***	1.088 27.64	.5918 15.032	.698 17.73	.173 4.39	
MCD**-21S***	1.088 27.64	.6798 17.267	.698 17.73	.173 4.39	
MCD**-25P***	1.188 30.18	.6918 17.572	.798 20.27	.173 4.39	
MCD**-25S***	1.188 30.18	.7798 19.807	.798 20.27	.173 4.39	
MCD**-31P***	1.338 33.99	.8418 21.382	.948 24.08	.173 4.39	
MCD**-31S***	1.338 33.99	.9298 23.617	.948 24.08	.173 4.39	
MCD**-37P***	1.488 37.80	.9918 25.192	1.098 27.89	.173 4.39	
MCD**-37S***	1.488 37.80	1.0798 27.427	1.098 27.89	.173 4.39	
MCD**-51P***	1.438 36.53	.9418 23.922	1.048 26.62	.220 5.59	
MCD**-51S***	1.438 36.53	1.0298 26.157	1.048 26.62	.220 5.59	

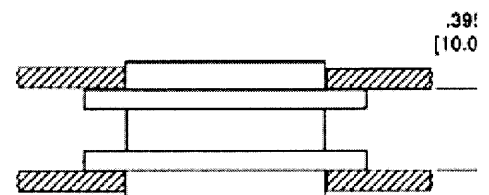
P = Pin, S = Socket

Weight given is with 1/2" uninsulated, solid, #24 AWG gold plated copper pigtailed

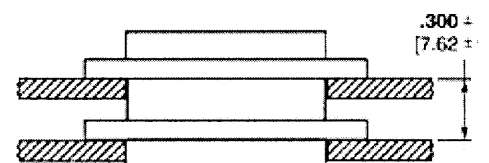
### Panel Mounting Dimensions - MCD Screw Mount



Plug and Receptacle  
Rear Mounted



Plug and Receptacle  
Front Mounted



**Plug Front Mounted  
Receptacle Rear Mounted**

**Panel Cutout Dimensions - MCD Screw Mount**

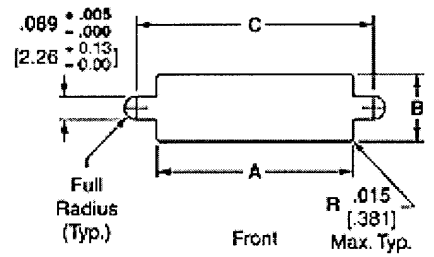


Figure 2

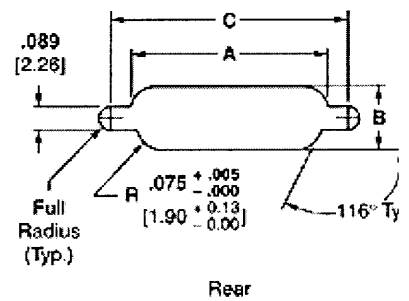
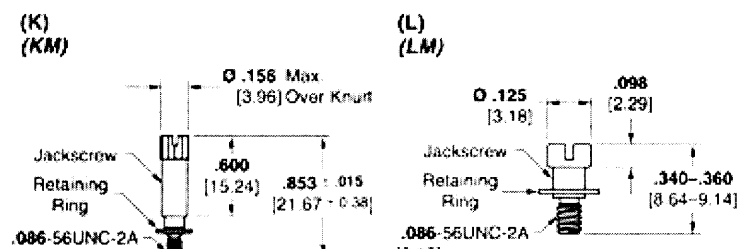


Figure 4

Number of Contacts	Fig.	A + .004 [.102] - .000 [.000]	B + .004 [.102] - .000 [.000]
9	2	.412 [10.46]	.177 [4.50]
	4	.384 [9.75]	.222 [5.64]
15	2	.562 [14.27]	.177 [4.50]
	4	.534 [13.56]	.222 [5.64]
21	2	.712 [18.08]	.177 [4.50]
	4	.684 [17.37]	.222 [5.64]
25	2	.812 [20.62]	.177 [4.50]
	4	.784 [19.91]	.222 [5.64]
31	2	.962 [24.43]	.177 [4.50]
	4	.934 [23.72]	.222 [5.64]
37	2	1.112 [28.24]	.177 [4.50]
	4	1.084 [27.53]	.222 [5.64]
51	2	1.062 [26.97]	.224 [5.69]
	4	1.034 [26.26]	.264 [6.71]

**Mounting and Coupling Hardware for Screw Mount MCK and MCD**

**9-51 Contacts - Slot Head**



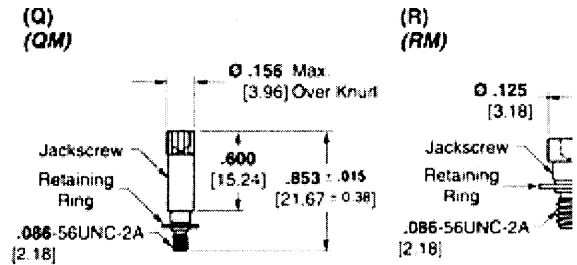
[2.18]

[4.19]

**Jackscrew Assembly  
High Profile**  
(K) 096-0002-0010  
**M83513/5-06**  
(KM) 096-0002-0084

**Jackscrew Assembly  
Low Profile**  
(L) 096-0002-0011  
**M83513/5-05**  
(LM) 096-0002-0085

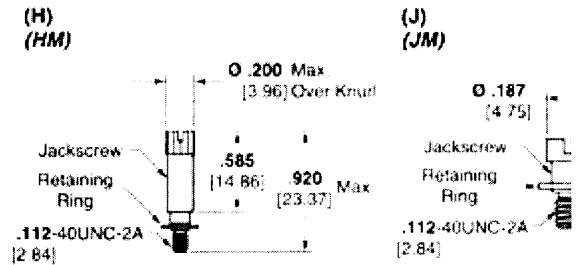
**9-51 Contacts - 1/16" Allen Head**



**Jackscrew Assembly  
High Profile**  
(Q) 096-0002-0014  
**M83513/5-03**  
(QM) 096-0002-0086

**Jackscrew  
Low P**  
(R) 096-0002-0015  
**M83513/5-04**  
(RM) 096-0002-0087

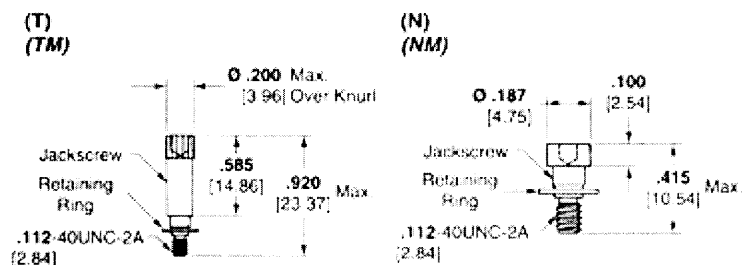
**100 Contacts - Slot Head**



**Jackscrew Assembly  
High Profile**  
(H) 096-0002-0061  
**M83513/5-16**  
(HM) 096-0002-0088

**Jackscrew  
Low P**  
(J) 096-0002-0062  
**M83513/5-17**  
(JM) 096-0002-0089

**100 Contacts - 1/16" Allen Head**

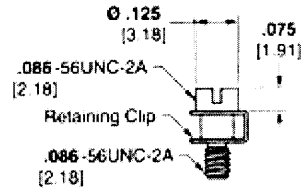


**Jackscrew Assembly  
High Profile**  
(T) 096-0002-0064  
**M83513/5-13**  
(TM) 096-0002-0090

**Jackscrew Assembly  
Low Profile**  
(N) 096-0002-0065  
**M83513/5-12**  
(NM) 096-0002-0091

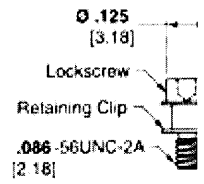
**Slot Head**

**Slot Head  
(X)**



**Lockscrew Assembly  
096-0002-0008**

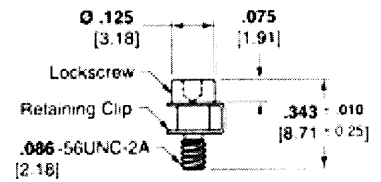
**1/16" Allen Head  
(Y)**



**Lockscrew  
096-0002-0009**

**1/16" Allen Head**

(Y)



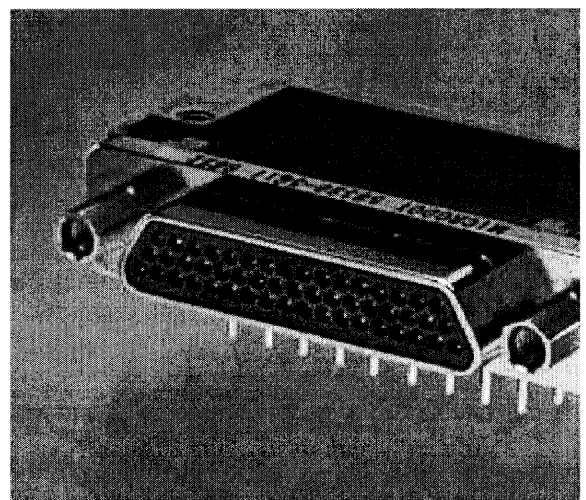
**Lockscrew Assembly  
096-0002-0013**

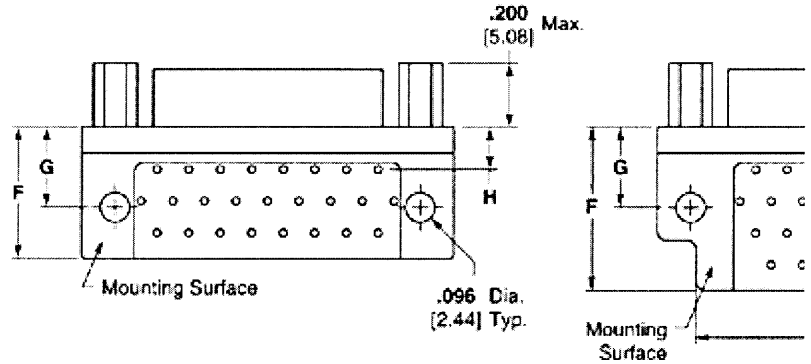
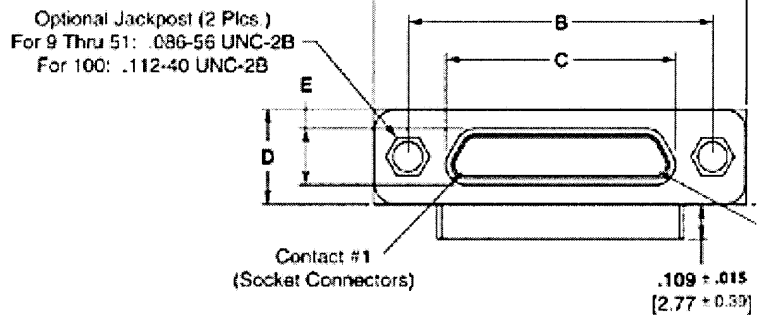
**Notes:**

1. Jackpost Assemblies will accommodate 3/32" max. thickness panel.
2. Letter(s) in parentheses is to assist in ordering hardware with the connector.
3. Single letters (e.g. K) designate hardware that meets M83513/5 requirements except magnetic.
4. Add M suffix (e.g. KM) to designate hardware that meets all M83513/5 requirements except magnetic, 125,000 PSI tensile strength minimum (Applies to jackscrews only).
5. Hardware ordered separately should be ordered in pairs; i.e. 2 pcs. P/N 096-0002-0008.
6. Items in bold italic are qualified to MIL-PRF-83513

**MCK Transition Blocks (PCB Connectors)**

**RT-1 - Right Angle Termination Configurations**





9, 15, 21 & 25 Contacts

31, 37,

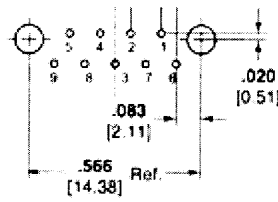
Part Number	A Max.	B ± .005 [.127]	C Max.	D Max.	E Max.
MCK-**-*. 9PRTI	.785 19.94	.565 14.35	.333 8.46	.308 7.83	.184 4.68
MCK-**-*. 9SRTI	.785 19.94	.565 14.35	.402 10.22	.308 7.83	.250 6.35
MCK-**-*. 15PRTI	.935 23.75	.715 18.16	.483 12.27	.308 7.83	.184 4.68
MCK-**-*. 15SRTI	.935 23.75	.715 18.16	.552 14.03	.308 7.83	.250 6.35
MCK-**-*. 21PRTI	1.085 27.56	.865 21.97	.633 16.08	.308 7.83	.184 4.68
MCK-**-*. 21SRTI	1.085 27.56	.865 21.97	.702 17.84	.308 7.83	.250 6.35
MCK-**-*. 25PRTI	1.185 30.10	.965 24.51	.733 18.62	.308 7.83	.184 4.68
MCK-**-*. 25SRTI	1.185 30.10	.965 24.51	.802 20.38	.308 7.83	.250 6.35
MCK-**-*. 31PRTI	1.335 33.91	1.115 28.32	.883 22.43	.308 7.83	.184 4.68
MCK-**-*. 31SRTI	1.335 33.91	1.115 28.32	.952 24.19	.308 7.83	.250 6.35
MCK-**-*. 37PRTI	1.485 37.72	1.265 32.13	1.033 26.24	.308 7.83	.184 4.68
MCK-**-*. 37SRTI	1.485 37.72	1.265 32.13	1.102 28.00	.308 7.83	.250 6.35
MCK-**-*. 51PRTI	1.435 36.45	1.215 30.86	.983 24.97	.351 8.92	.227 5.77
MCK-**-*. 51SRTI	1.435 36.45	1.215 30.86	1.052 26.73	.351 8.92	.295 7.50
MCK-**-*. 100PRTI	2.170 55.12	1.800 45.72	1.383 35.13	.394 10.01	.270 6.86
MCK-**-*. 100SRTI	2.170 55.12	1.800 45.72	1.508 38.31	.394 10.01	.394 10.01

P = Pin, S = Socket

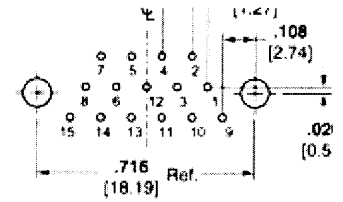
**RT-1 - Right Angle Termination Configurations**

View is from mounting surface of connector. Plug configuration shown. For recepta

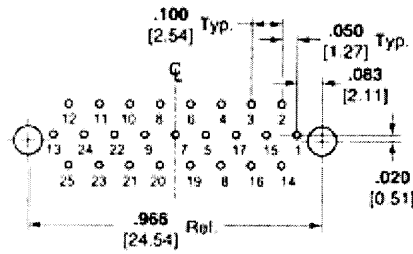




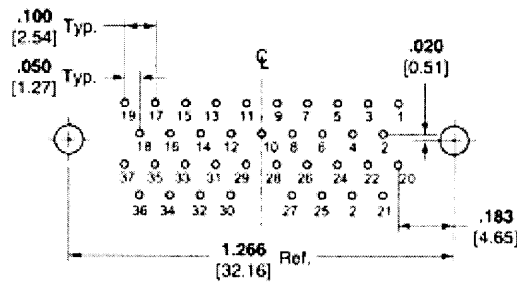
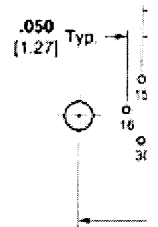
9 Contacts



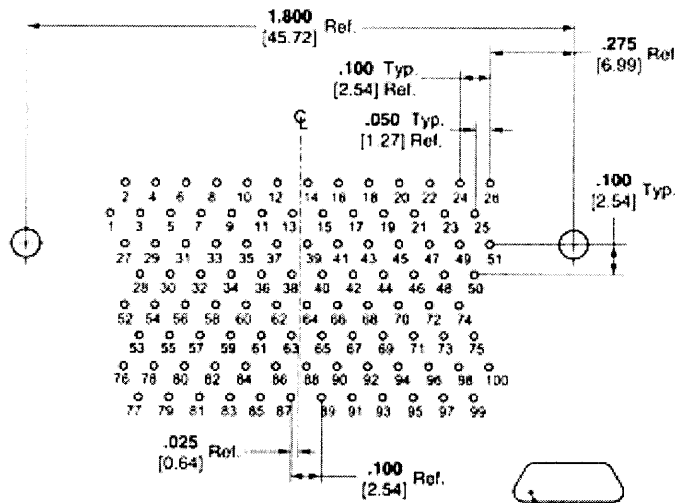
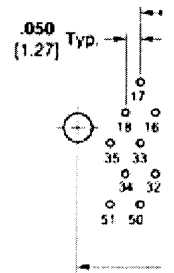
15 Contacts



25 Contacts



37 Contacts

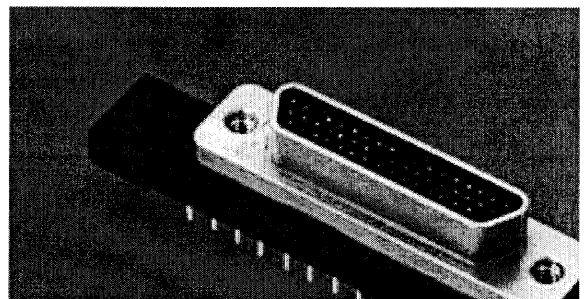


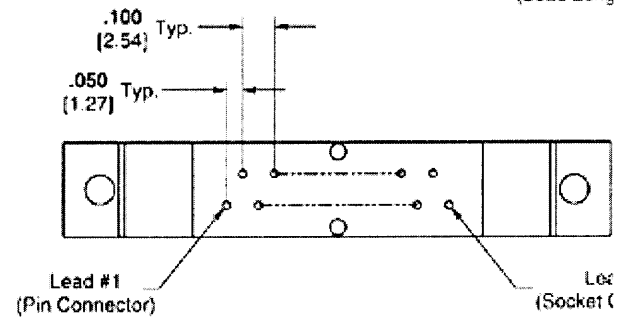
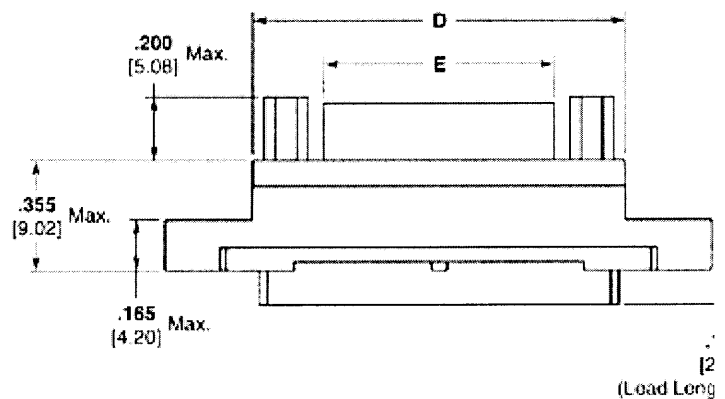
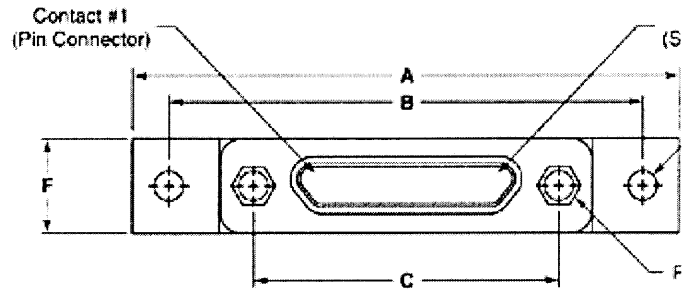
100 Contacts  
(Socket Connector)



Socket #1 Ref.  
(Receptacle Connector)

ST-1 - Straight Termination





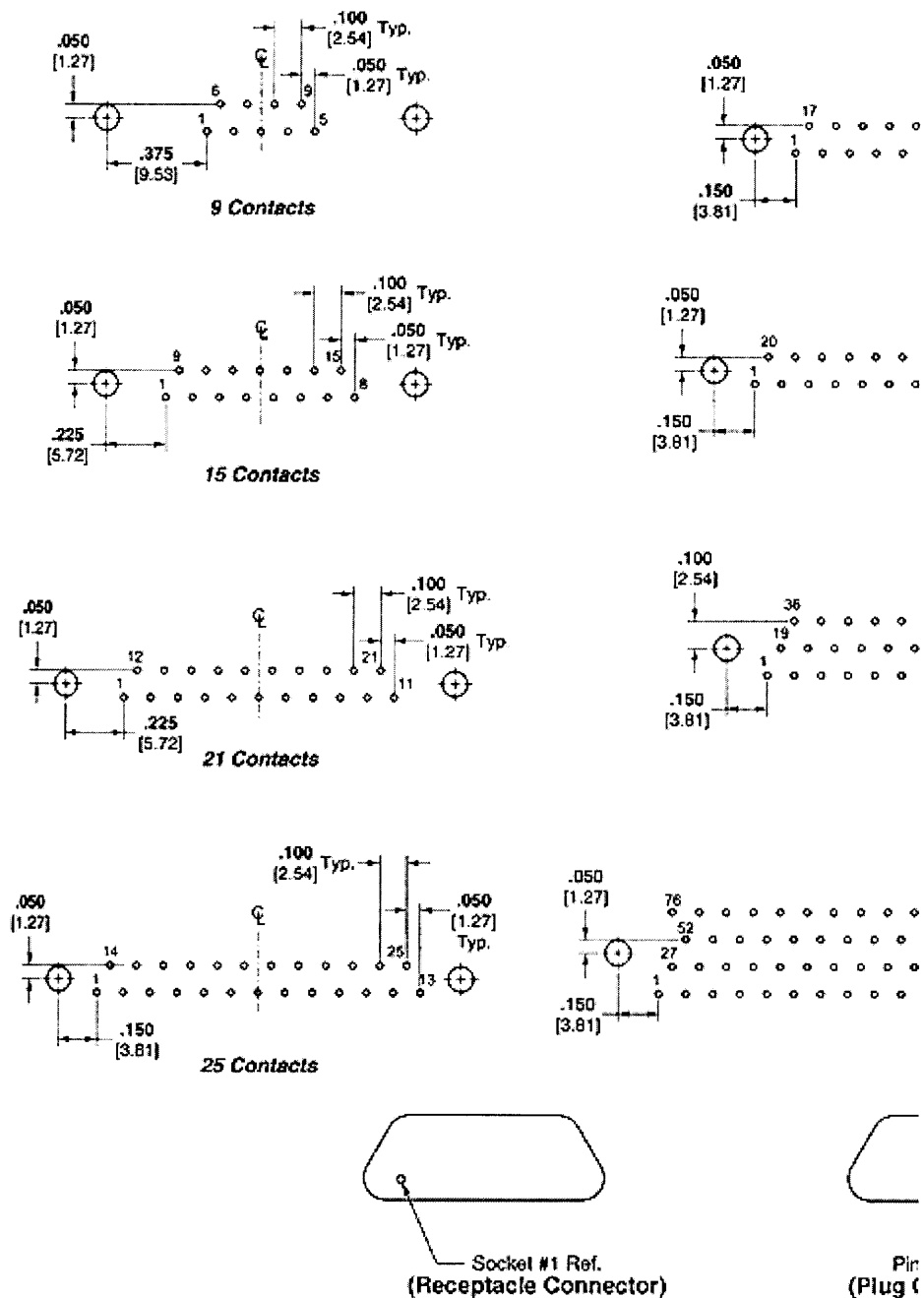
Part Number	A Max.	B ± .005 [.127]	C ± .005 [.127]	D Max.
MCK-**-**- 9PSTI	1.390 35.31	1.150 29.21	.565 14.35	.785 19.94
MCK-**-**- 9SSTI	1.390 35.31	1.150 29.21	.565 14.35	.785 19.94
MCK-**-**- 15PSTI	1.390 35.31	1.150 29.21	.715 18.16	.935 23.75
MCK-**-**- 15SSTI	1.390 35.31	1.150 29.21	.715 18.16	.935 23.75
MCK-**-**- 21PSTI	1.690 42.93	1.450 36.83	.865 21.97	1.085 27.56
MCK-**-**- 21SSTI	1.690 42.93	1.450 36.83	.865 21.97	1.085 27.56
MCK-**-**- 25PSTI	1.740 44.20	1.500 38.10	.965 24.51	1.185 30.10
MCK-**-**- 25SSTI	1.740 44.20	1.500 38.10	.965 24.51	1.185 30.10
MCK-**-**- 31PSTI	2.040 51.82	1.800 45.72	1.115 28.32	1.335 33.91
MCK-**-**- 31SSTI	2.040 51.82	1.800 45.72	1.115 28.32	1.335 33.91
MCK-**-**- 37PSTI	2.340 59.44	2.100 53.34	1.265 32.13	1.485 37.72

<i>MCK-***- 37SSTI</i>	<b>2.340</b> 59.44	<b>2.100</b> 53.34	<b>1.265</b> 32.13	<b>1.485</b> 37.72
<i>MCK-***- 51PSTI</i>	<b>2.270</b> 57.66	<b>2.000</b> 50.80	<b>1.215</b> 30.86	<b>1.435</b> 36.45
<i>MCK-***- 51SSTI</i>	<b>2.270</b> 57.66	<b>2.000</b> 50.80	<b>1.215</b> 30.86	<b>1.435</b> 36.45
<i>MCK-***- 100PSTI</i>	<b>3.070</b> 77.98	<b>2.800</b> 71.12	<b>1.800</b> 45.72	<b>2.170</b> 55.12
<i>MCK-***- 100SSTI</i>	<b>3.070</b> 77.98	<b>2.800</b> 71.12	<b>1.800</b> 45.72	<b>2.170</b> 55.12

P = Pin, S = Socket

### ST-1 - Straight Termination Configurations

View is from mounting surface of connector. Plug configuration shown. For recepta



- **AMPLIMITE - General Information**



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