



# **M-Series: High-Temperature Connectors**



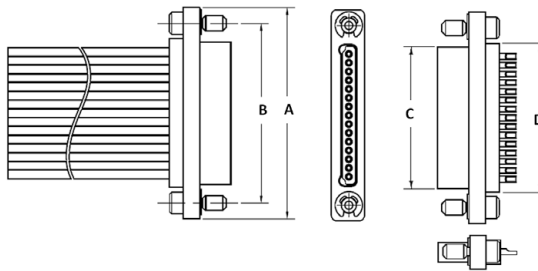
M

**MICRO**  
0.050"  
(1.27 mm)

## MMHT – Single-Row I/O Cable (Male)

MMHT interconnects are used in rigorous, high-temperature applications and have a variety of termination, hardware and wiring options. Custom lengths are available on wire termination products.

## DIMENSIONS



DIMENSIONS				
SIZE	A	B	C (MAX)	D
4	.655	.475	.260	.297
5	.705	.525	.310	.347
6	.755	.575	.360	.397
9	.905	.725	.510	.547
12	1.055	.875	.660	.697
15	1.205	1.025	.810	.847
21	1.505	1.325	1.110	1.147
25	1.705	1.525	1.310	1.347

## ORDER FORM

Sample Part Number Format: **MMHT-112-015-161-41WQ**

MMHT	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE
<b>SERIES</b> 0.050" Rugged Metal I/O Connector (Male)	<b>ROWS</b> 1 – 1-Row (4-25 contacts)	<b>BODY STYLE</b> 1 – Plug, straight	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 5 – High-temp with stainless steel shell	<b>SIZE</b> 004 – 4 Contacts 005 – 5 Contacts 006 – 6 Contacts 009 – 9 Contacts 012 – 12 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts	<b>PLATING</b> 1 – 50 μ" Au contacts 3 – 50 μ" Au contacts; Au terminations	<b>CONTACT/TERMINATION TYPE</b> 1A – Pin, straight, 24 awg solder cup 11 – Pin, straight, 26 awg solder cup 1E – Pin, straight, 0.125" lead length* 13 – Pin, straight, 0.250" lead length* 14 – Pin, straight, 0.500" lead length* 16 – Pin, straight, crimped wire	<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies 41 – Two turning jackscrews, allen head 45 – Two turning jackscrews, allen head, captivated**	<b>WIRING</b> 00 – None XX – See Wiring Codes

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

- \* 0.018 diameter
- \*\* Captivated hardware is factory-installed and non-removable

### MMHT-112-015-161-41WQ

High-Reliability Contact

MIL-DTL-83513

## MATERIALS and FINISHES

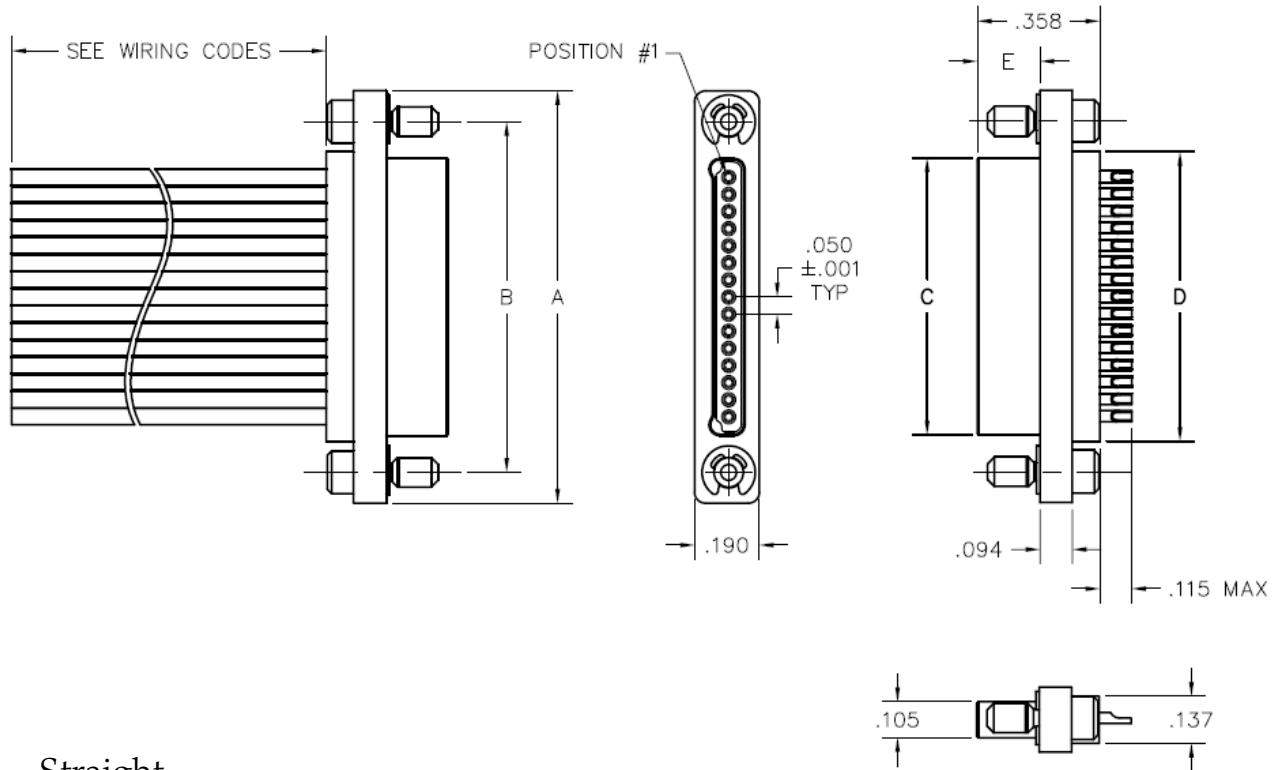
Pin Contacts: ..... Copper-based alloy strip  
 Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
 Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: ..... High-temp thermoplastic  
 Embedment: ..... High-temp epoxy  
 Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Tolerances: ..... Angles: ±5° (unless otherwise specified)  
 Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0" un-insulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

Contact Rating: ..... 3 amperes maximum  
 Operating Temperature: ..... -55° C to 205° C  
 Test Voltage: ..... 600V, RMS, 60Hz  
 Insulation Resistance: ..... 5,000 megohms minimum @ 500 VDC  
 Durability: ..... 500 connector mating cycles  
 Contact Engaging Force: ..... 6.0 ounces maximum/contact  
 Contact Separating Force: ..... 0.5 ounces minimum/contact  
 Mating and Unmating Force: ..... 10 ounces maximum/contact

## MMHT SINGLE-ROW MALE DRAWINGS



Straight  
 Single-Row  
 Cable-to-Cable

DIMENSIONS						
SIZE	A	B	C (MAX)	D	E (MAX)	HW
4	.655	.475	.260	.297	.186	#2-56 UNC THD (Ø.092 THRU)
5	.705	.525	.310	.347		
6	.755	.575	.360	.397		
9	.905	.725	.510	.547		
12	1.055	.875	.660	.697		
15	1.205	1.025	.810	.847		
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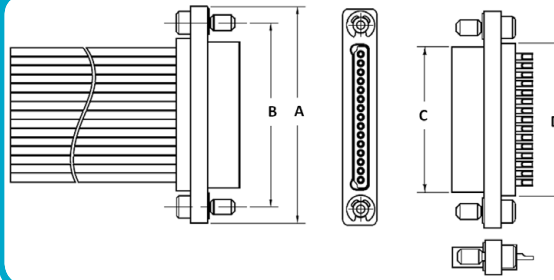
**M** **MICRO**  
 0.050"  
 (1.27 mm)



## MMHT – Single-Row I/O Cable (Female)

MMHT interconnects are used in rigorous, high-temperature applications and have a variety of termination, hardware and wiring options. Custom lengths are available on wire termination products.

## DIMENSIONS



DIMENSIONS				
SIZE	A	B	C (MAX)	D
4	.655	.475	.260	.297
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12	1.055	.875	.660	.697
15	1.205	1.025	.810	.847
21	1.505	1.325	1.110	1.147
25	1.705	1.525	1.310	1.347

## ORDER FORM

Sample Part Number Format: **MMHT-122-015-261-22WQ**

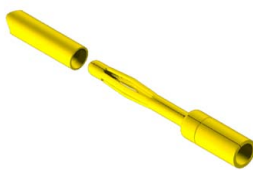
<b>MMHT</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>
<b>SERIES</b> 0.050" Rugged Metal I/O Connector (Female)	<b>ROWS</b> 1 – 1-Row (4-25 contacts)	<b>BODY STYLE</b> 2 – Receptacle, straight	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 5 – High-temp with stainless steel shell	<b>SIZE</b> 004 – 4 Contacts 005 – 5 Contacts 006 – 6 Contacts 009 – 9 Contacts 012 – 12 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts	<b>PLATING</b> 1 – 50 μ" Au contacts 3 – 50 μ" Au contacts; Au terminations	<b>CONTACT/TERMINATION TYPE</b> 2A – Socket, straight, 24 awg solder cup 21 – Socket, straight, 26 awg solder cup 2E – Socket, straight, 0.125" lead length* 23 – Socket, straight, 0.250" lead length* 24 – Socket, straight, 0.500" lead length* 26 – Socket, straight, crimped wire	<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies 41 – Two turning jackscrews, allen head 45 – Two turning jackscrews, allen head, captivated**	<b>WIRING</b> 00 – None XX – See Wiring Codes

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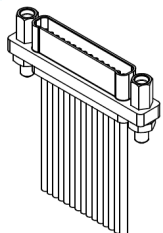
## NOTES

- \* 0.018 diameter
- \*\* Captivated hardware is factory-installed and non-removable

**MMHT-122-015-261-22WQ**



**High-Reliability Contact**  
 MIL-DTL-83513



## MATERIALS and FINISHES

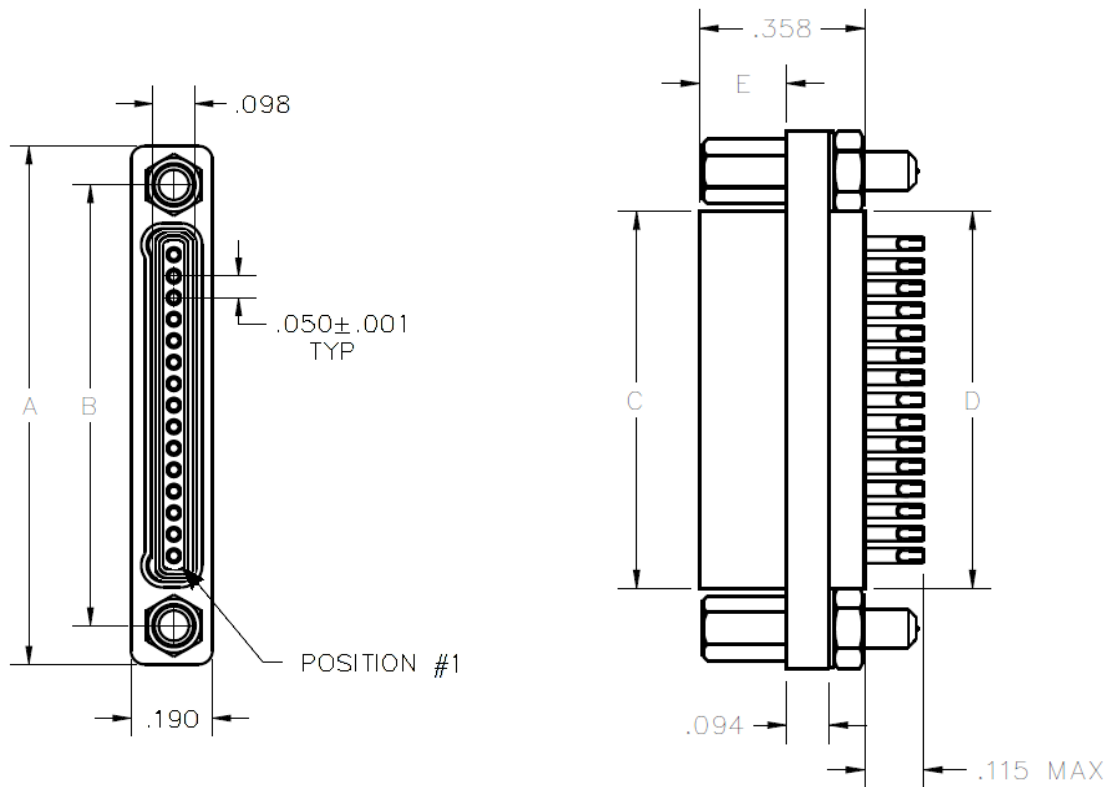
Socket Contact: ..... Brass per ASTM B121/B121M or ASTM B16/B16M or ASTM B453  
 Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
 Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: ..... High-temp thermoplastic  
 Embedment: ..... High-temp epoxy  
 Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Interfacial Seal Gaskets: ..... Fluorosilicone per SAE AMS-R-25988  
 Tolerances: ..... Angles: ±5°  
 (unless otherwise specified) Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0" un-insulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

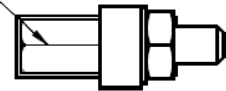
Contact Rating: ..... 3 amperes maximum  
 Operating Temperature: ..... -55° C to 205° C  
 Test Voltage: ..... 600V, RMS, 60Hz  
 Insulation Resistance ..... 5,000 megohms minimum @ 500 VDC  
 Durability: ..... 500 connector mating cycles  
 Contact Engaging Force: ..... 6.0 ounces maximum/contact  
 Contact Separating Force: ..... 0.5 ounces minimum/contact  
 Mating and Unmating Force: ..... 10 ounces maximum/contact

## MMHT SINGLE-ROW FEMALE DRAWINGS



Straight  
 Single-Row  
 Cable-to-Cable

#2-56 JACKPOST  
 (2 PLCS)



DIMENSIONS						
SIZE	A	B	C (MAX)	D	E (MAX)	HW
4	.655	.475	.263	.297	.198	#2-56 UNC THD (Ø.092 THRU)
5	.705	.525	.313	.347		
6	.755	.575	.363	.397		
9	.905	.725	.513	.547		
12	1.055	.875	.663	.697		
15	1.205	1.025	.813	.847		
21	1.505	1.325	1.113	1.147		
25	1.705	1.525	1.313	1.347		

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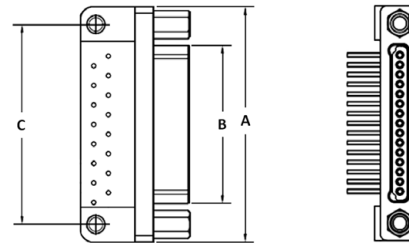
**M** **MICRO**  
 0.050"  
 (1.27 mm)



## MKHT – Single-Row, Right Angle Board-Mount (Male)

MKHT interconnects are used in rugged, high-temperature applications where a right angle, plated thru-hole termination is desired for mounting. The narrow footprint on this connector helps save space on the board.

## DIMENSIONS



Please reference MKHTM-DIM-1 for more detail.

SIZE	DIMENSIONS			MOUNTING HOLE
	A	B (MAX)	C	
4	.655	.260	.475	#2-56 UNC THREADED INSERT
5	.705	.310	.525	
6	.755	.360	.575	
9	.905	.510	.725	
12	1.055	.660	.875	
15	1.205	.810	1.025	
21	1.505	1.110	1.325	
25	1.705	1.310	1.525	

## ORDER FORM

Sample Part Number Format: **MKHT-152-015-325-220S**

<b>MKHT</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>
<b>SERIES</b> 0.050" Rugged Metal Right Angle PTH Connector (Male)	<b>ROWS</b> 1 – 1-Row (4-25 contacts)	<b>BODY STYLE</b> 5 – Plug, right angle, standard footprint with thread insert	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 5 – High-temp with stainless steel shell	<b>SIZE</b> 004 – 4 Contacts 005 – 5 Contacts 006 – 6 Contacts 009 – 9 Contacts 012 – 12 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts	<b>PLATING</b> 3 – 50 μ" Au contacts; Au terminations	<b>CONTACT/TERMINATION TYPE</b> 32 – Pin, right angle, 0.109" x 0.020" dia 33 – Pin, right angle, 0.140" x 0.020" dia 34 – Pin, right angle, 0.172" x 0.020" dia A2 – Pin, right angle, 0.109" x 0.020" dia with ground pin option A3 – Pin, right angle, 0.140" x 0.020" dia with ground pin option A4 – Pin, right angle, 0.172" x 0.020" dia with ground pin option	<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies	<b>WIRING</b> 0S – Standard body polarization

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## NOTES

## MATERIALS and FINISHES

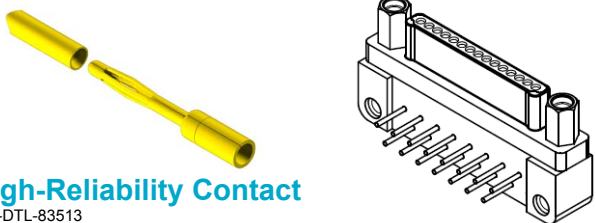
Pin Contacts: ..... Copper-based alloy strip  
 Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
 Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: ..... High-temp thermoplastic  
 Embedment: ..... High-temp epoxy  
 Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Tolerances: ..... Angles: ±5° (unless otherwise specified)  
 Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0" insulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

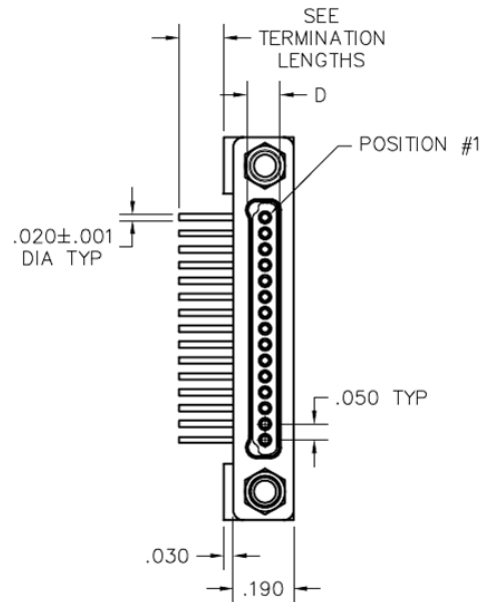
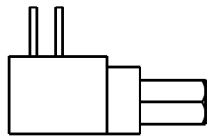
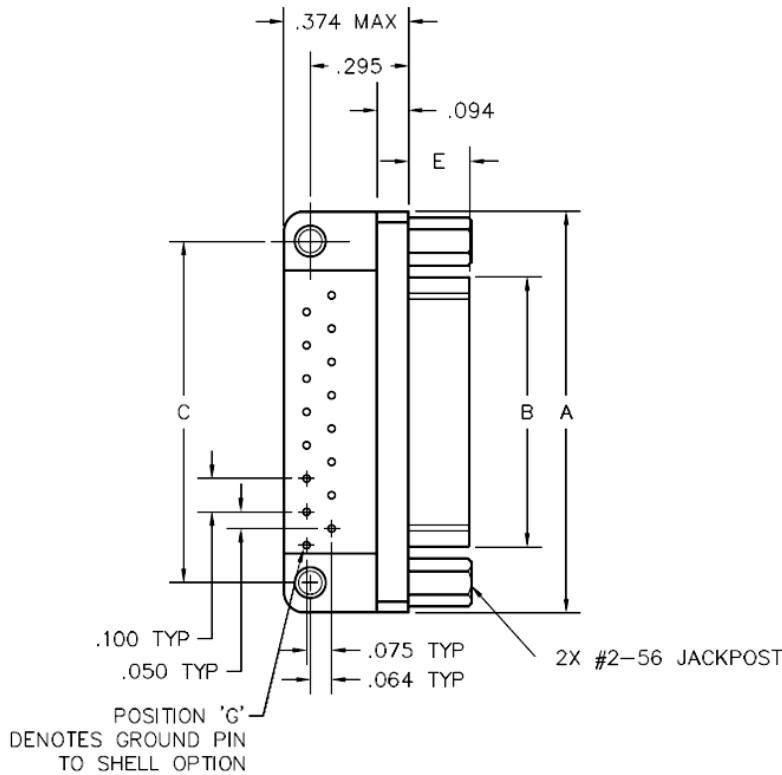
Contact Rating: ..... 3 amperes maximum  
 Operating Temperature: ..... -55° C to 205° C  
 Test Voltage: ..... 600V, RMS, 60Hz  
 Insulation Resistance ..... 5,000 megohms minimum @ 500 VDC  
 Durability: ..... 500 connector mating cycles  
 Contact Engaging Force: ..... 6.0 ounces maximum/contact  
 Contact Separating Force: ..... 0.5 ounces minimum/contact  
 Mating and Unmating Force: ..... 10 ounces maximum/contact

**MKHT-152-015-325-220S**



**High-Reliability Contact**  
 MIL-DTL-83513

## MKHT SINGLE-ROW MALE DRAWINGS



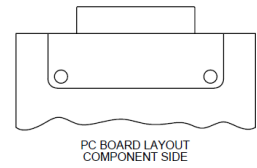
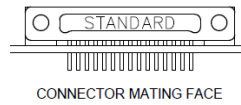
Right Angle  
 Narrow Footprint  
 Threaded Inserts  
 Interfacial Seal

DIMENSIONS						
SIZE	A	B (MAX)	C	D (MAX)	E (MAX)	MOUNTING HOLE
4	.655	.260	.475	.110	.186	#2-56 UNC THREADED INSERT
5	.705	.310	.525			
6	.755	.360	.575			
9	.905	.510	.725			
12	1.055	.660	.875			
15	1.205	.810	1.025			
21	1.505	1.110	1.325			
25	1.705	1.310	1.525			

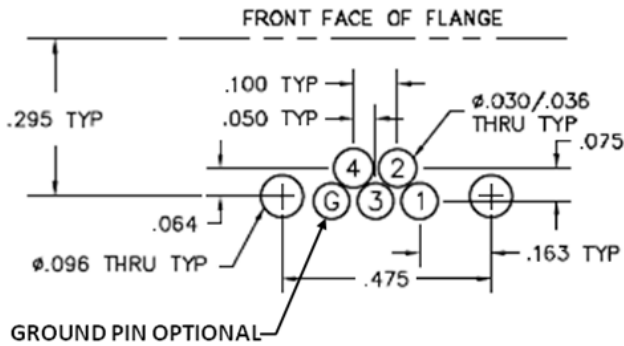
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

**Recommended PC Board Layouts – MKHT Male**

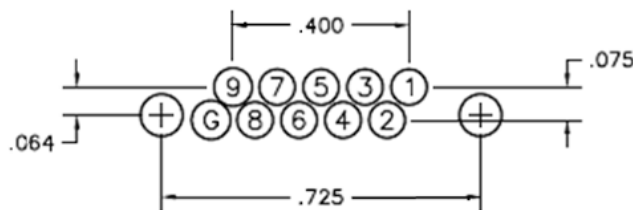
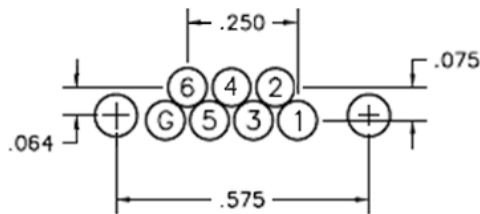
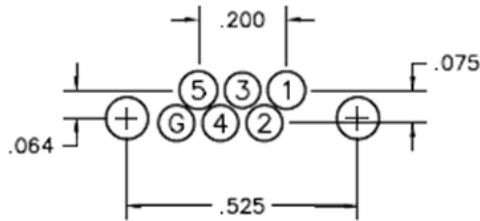
Right Angle  
 Single Row  
 Standard Polarization  
 Sizes 4–9



**PC BOARD LAYOUT  
 COMPONENT SIDE**



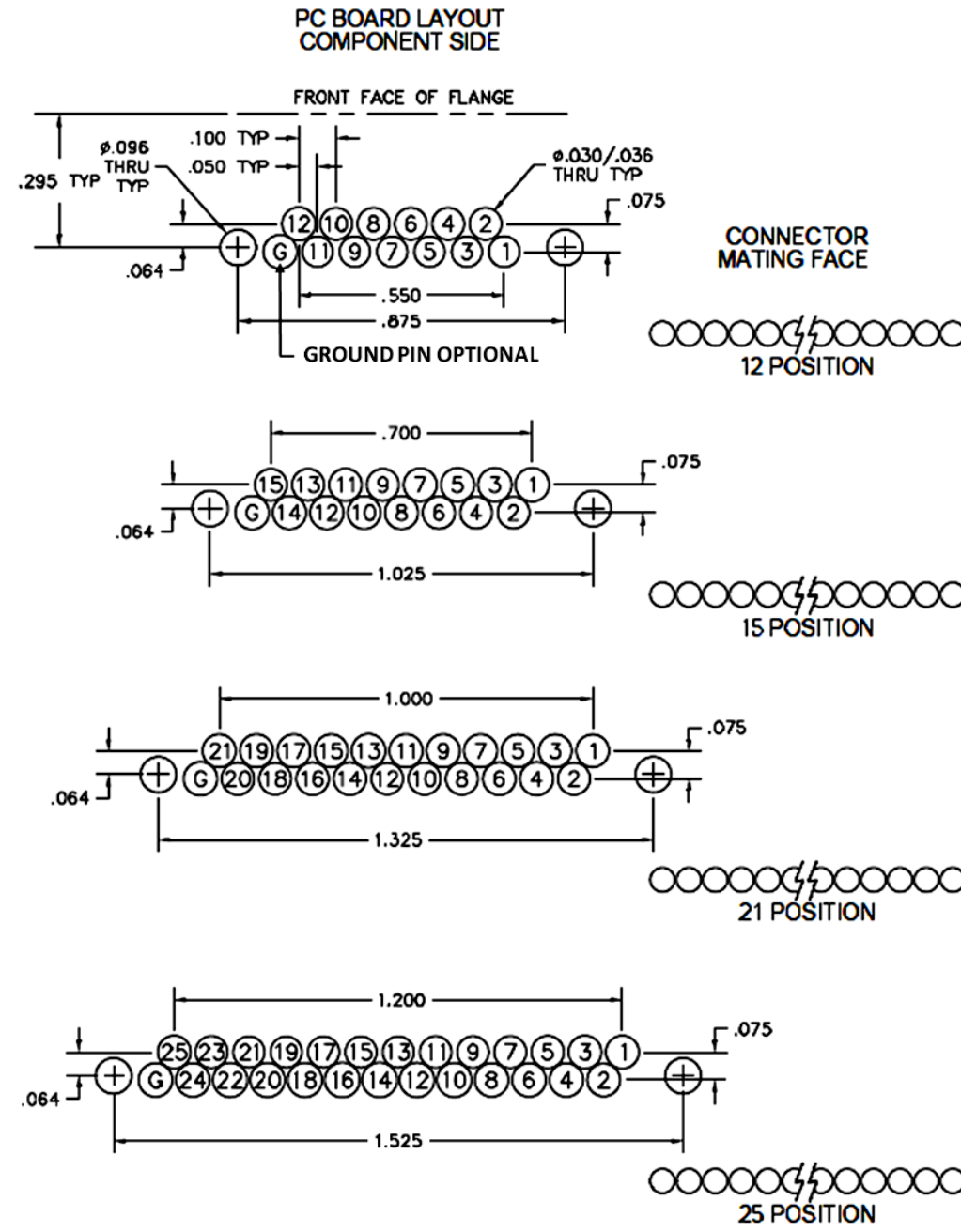
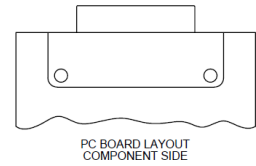
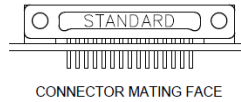
**CONNECTOR  
 MATING FACE**





**Recommended PC Board Layouts – MKHT Male**

Right Angle  
 Single Row  
 Standard Polarization  
 Sizes 12–25

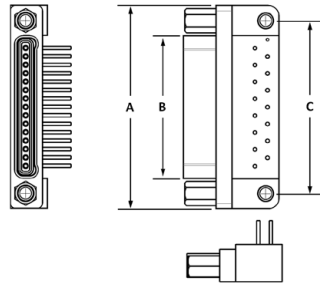




## MKHT – Single-Row, Right Angle Board-Mount (Female)

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## DIMENSIONS



DIMENSIONS				
SIZE	A	B (MAX)	C	MOUNTING HOLE
4	.655	.297	.475	#2-56 UNC THREADED INSERT
5	.705	.347	.525	
6	.755	.397	.575	
9	.905	.547	.725	
12	1.055	.697	.875	
15	1.205	.847	1.025	
21	1.505	1.147	1.325	
25	1.705	1.347	1.525	

Please reference MKHTF-DIM-1 for more detail.

## ORDER FORM

Sample Part Number Format: **MKHT-162-015-435-220S**

<b>MKHT</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>
<b>SERIES</b> 0.050" Rugged Metal Right Angle PTH Connector (Female)	<b>ROWS</b> 1 – 1-Row (4-25 contacts)	<b>BODY STYLE</b> 6 – Receptacle, right angle, standard footprint with thread inserts and interfacial seal	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 5 – High-temp with stainless steel shell	<b>SIZE</b> 004 – 4 Contacts 005 – 5 Contacts 006 – 6 Contacts 009 – 9 Contacts 012 – 12 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts	<b>CONTACT/TERMINATION TYPE</b> 43 – Socket, right angle, 0.109" x 0.020" dia 44 – Socket, right angle, 0.140" x 0.020" dia 45 – Socket, right angle, 0.172" x 0.020" dia B3 – Socket, right angle, 0.109" x 0.020" dia with ground pin option B4 – Socket, right angle, 0.140" x 0.020" dia with ground pin option B5 – Socket, right angle, 0.172" x 0.020" dia with ground pin option	<b>PLATING</b> 3 – 50 μ" Au contacts; Au terminations	<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies	<b>WIRING</b> 0S – Standard body polarization

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## NOTES

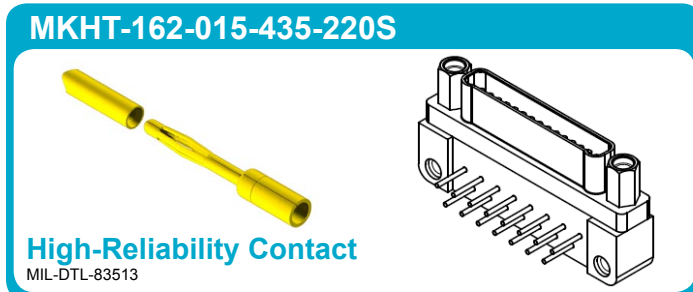
## MATERIALS and FINISHES

Socket Contact: Brass per ASTM B121/B121M or ASTM B16/B16M or ASTM B453  
 Contact Finish: Gold plate per ASTM B488, SAE AMS-2422  
 Shells: Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: High-temp thermoplastic  
 Embedment: High-temp epoxy  
 Hardware: Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Interfacial Seal Gaskets: Fluorosilicone per SAE AMS-R-25988  
 Tolerances: Angles: ±5°  
 Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0"  
 uninsulated/solid: +0.02"/-0.0"

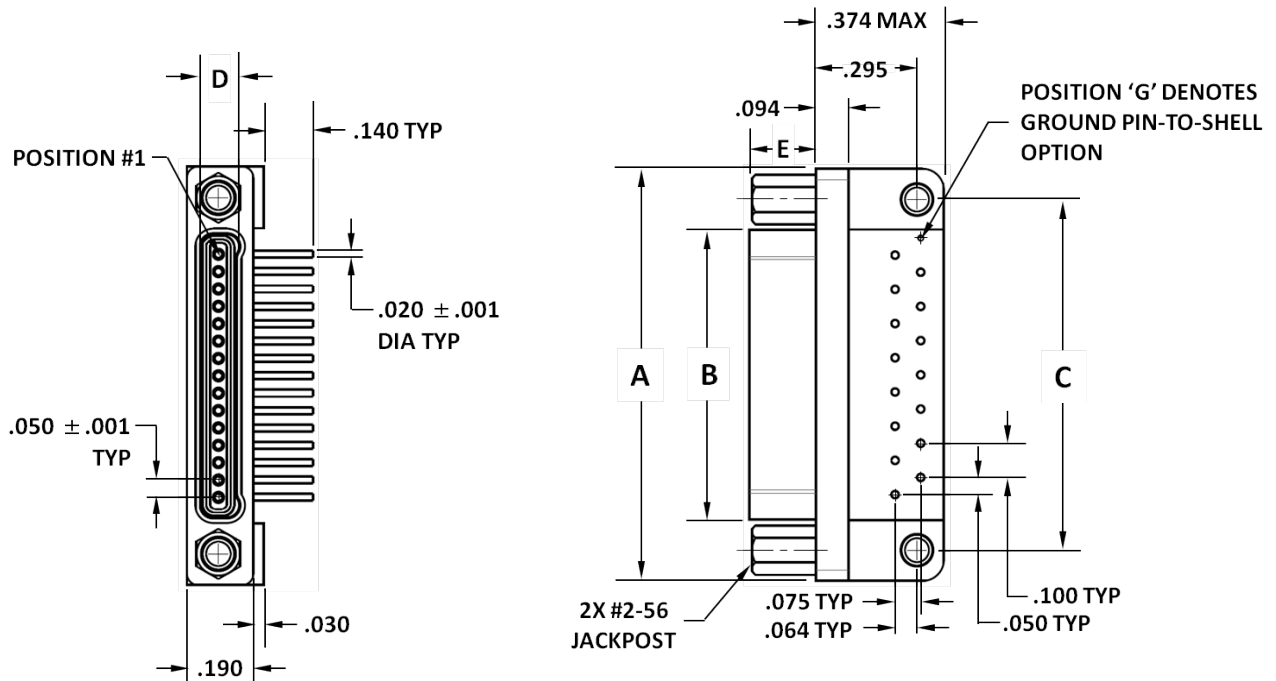
**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

Contact Rating: 3 amperes maximum  
 Operating Temperature: -55° C to 205° C  
 Test Voltage: 600V, RMS, 60Hz  
 Insulation Resistance: 5,000 megohms minimum @ 500 VDC  
 Durability: 500 connector mating cycles  
 Contact Engaging Force: 6.0 ounces maximum/contact  
 Contact Separating Force: 0.5 ounces minimum/contact  
 Mating and Unmating Force: 10 ounces maximum/contact



## MKHT SINGLE-ROW FEMALE DRAWINGS



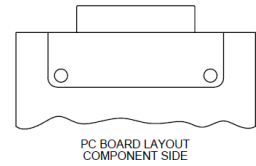
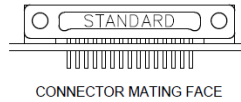
Right Angle  
 Narrow Footprint  
 Threaded Inserts  
 Interfacial Seal

DIMENSIONS						
SIZE	A	B (MAX)	C	D (MAX)	E (MAX)	MOUNTING HOLE
4	.655	.297	.475	.142	.198	#2-56 UNC THREADED INSERT
5	.705	.347	.525			
6	.755	.397	.575			
9	.905	.547	.725			
12	1.055	.697	.875			
15	1.205	.847	1.025			
21	1.505	1.147	1.325			
25	1.705	1.347	1.525			

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

**Recommended PC Board Layouts – MKHT Female**

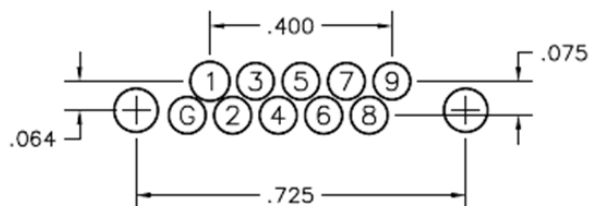
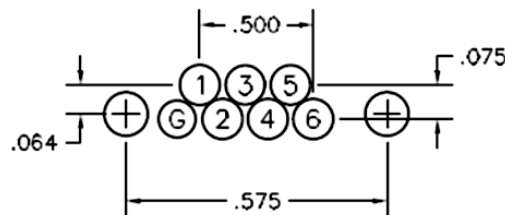
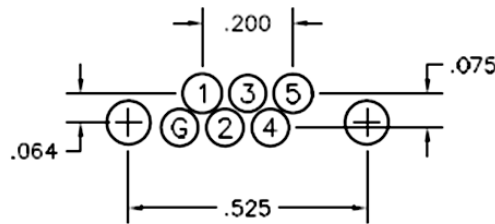
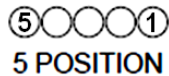
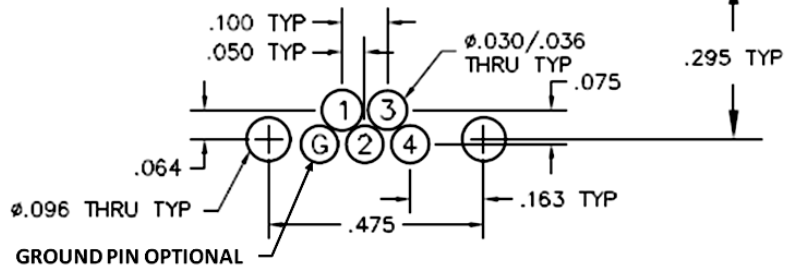
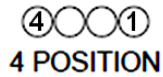
Right Angle  
 Single Row  
 Standard Polarization  
 Sizes 4–9



CONNECTOR  
 MATING FACE

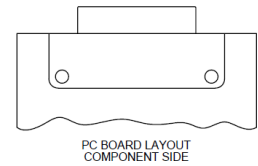
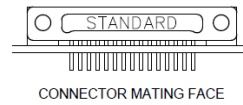
PC BOARD LAYOUT  
 COMPONENT SIDE

FRONT FACE OF FLANGE

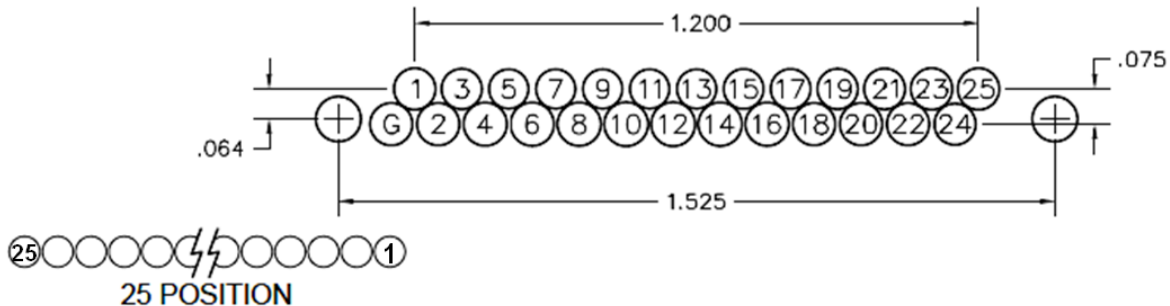
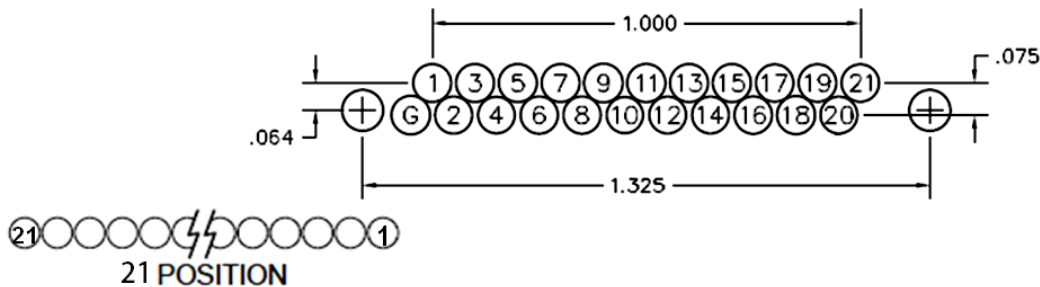
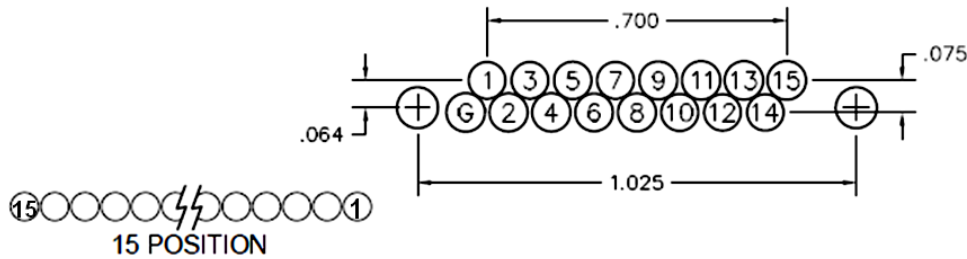
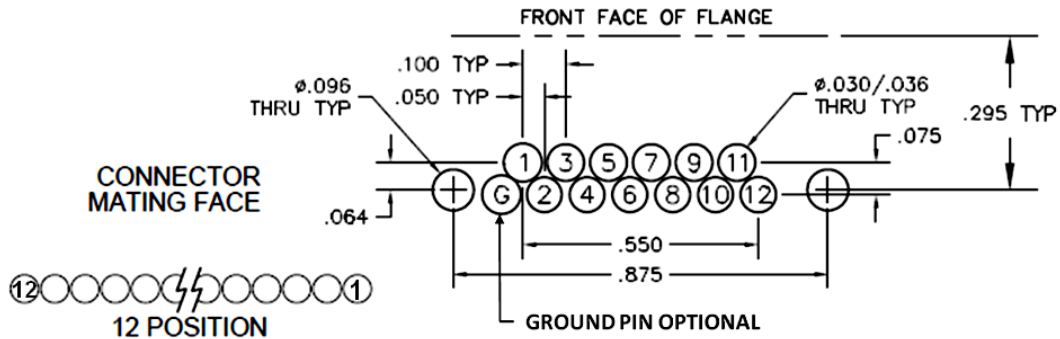


**Recommended PC Board Layouts – MKHT Female**

Right Angle  
 Single Row  
 Standard Polarization  
 Sizes 12–25



**PC BOARD LAYOUT  
 COMPONENT SIDE**





M

**MICRO**  
0.050"  
(1.27 mm)

## MMHT – I/O Cable (Male)

MMHT interconnects are used in high-temperature applications. These rugged cable connectors come with a variety of termination, hardware and wiring options. Custom lengths are available on wire termination products.

### DIMENSIONS

DIMENSIONS					
SIZE	ROWS	A	B (MAX)	C	D
9	2	.755	.334	.390	.565
15		.925	.484	.540	.715
21		1.075	.634	.690	.865
25		1.175	.734	.790	.965
31		1.325	.884	.940	1.115
37		1.475	1.034	1.090	1.265
51	3	1.425	.984	1.040	1.215
100	4	2.160	1.384	1.432	1.800

Please reference MMHTM-DIM-2 for more detail.

### ORDER FORM

Sample Part Number Format: MMHT-212-025-161-41WA

<b>MMHT</b>	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE
<b>SERIES</b> 0.050" Rugged Metal I/O Connector (Male)	<b>ROWS</b> 2 – 2-Row (9-37 contacts) 3 – 3-Row (51 & 69 contacts) 4 – 4-Row (100 contacts)	<b>BODY STYLE</b> 1 – Plug	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 4 – High-temp thermoplastic with hard black anodized shell 5 – High-temp with stainless steel shell	<b>SIZE</b> 009 – 9 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts 031 – 31 Contacts 037 – 37 Contacts 051 – 51 Contacts 069 – 69 Contacts 100 – 100 Contacts	<b>PLATING</b> 1 – 50 μ" Au contacts (crimp wire) 3 – 50 μ" Au contacts; Au terminations (solder cup, pigtail)	<b>CONTACT/TERMINATION TYPE</b> 11 – Pin, straight, 26 awg solder cup 1A – Pin, straight, 24 awg solder cup 1E – Pin, straight, 0.125" lead length†† 13 – Pin, straight, 0.250" lead length†† 14 – Pin, straight, 0.500" lead length†† 16 – Pin, straight, crimped wire	<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies (62)*** 41 – Two turning jackscrews, allen head, retaining ring (81)*** 42 – Two long turning jackscrews, allen head, retaining ring (82)*** 43 – Two turning jackscrews, slot head, retaining ring (83)*** 44 – Two long turning jackscrews, slot head, retaining ring (84)*** 45 – Two turning jackscrews, allen head, captivated** (85)*** FF – Float-mount: front panel mounting FR – Float-mount: rear panel mounting	<b>WIRING</b> 00 – None XX – See Wiring Codes

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

- \* 0.018 diameter
- \*\* Captivated hardware is factory-installed and non-removable
- \*\*\* Numbers in parentheses are to be used when ordering size 100
- † Leads are soft copper, suitable for forming.

### MMHT-212-025-161-41WA

High-Reliability Contact

MIL-DTL-83513

## MATERIALS and FINISHES

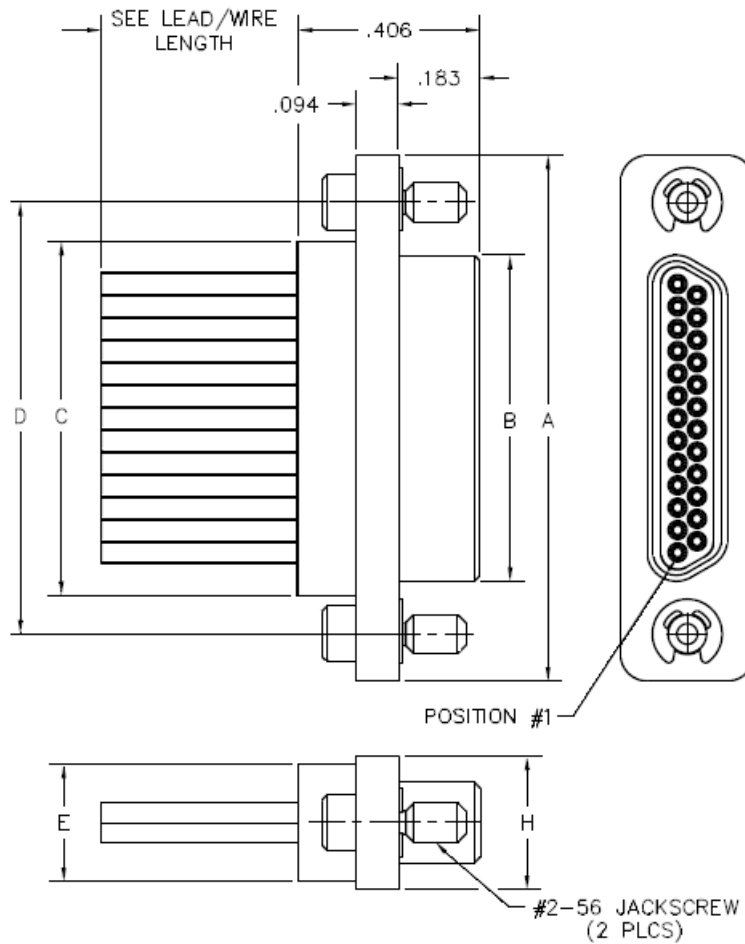
Pin Contacts: ..... Copper-based alloy strip  
 Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
 Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or black anodized per MIL-A-8625, Type III Class 2, or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: ..... High-temp thermoplastic  
 Embedment: ..... High-temp epoxy  
 Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Tolerances: ..... Angles: ±5° (unless otherwise specified)  
 Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0"  
 – insulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

Contact Rating: ..... 3 amperes maximum  
 Operating Temperature: ..... -55° C to 205° C  
 Test Voltage: ..... 600V, RMS, 60Hz  
 Insulation Resistance: ..... 5,000 megohms minimum @ 500 VDC  
 Durability: ..... 500 connector mating cycles  
 Contact Engaging Force: ..... 6.0 ounces maximum/contact  
 Contact Separating Force: ..... 0.5 ounces minimum/contact  
 Mating and Unmating Force: ..... 10 ounces maximum/contact

## MMHT MALE DRAWINGS



Straight  
 Multi-Row  
 Cable-to-Cable

DIMENSIONS								
SIZE	ROWS	A	B (MAX)	C	D	E (MAX)	H	HARDWARE
9	2	.755	.334	.390	.565	.270	.298	#2-56 UNC THD (Ø.092 THRU)
15		.925	.484	.540	.715			
21		1.075	.634	.690	.865			
25		1.175	.734	.790	.965			
31		1.325	.884	.940	1.115			
37		1.475	1.034	1.090	1.265			
51	3	1.425	.984	1.040	1.215	.310	.341	#4-40 UNC THD (Ø.147 THRU)
100	4	2.160	1.384	1.432	1.800	.360	.384	

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.





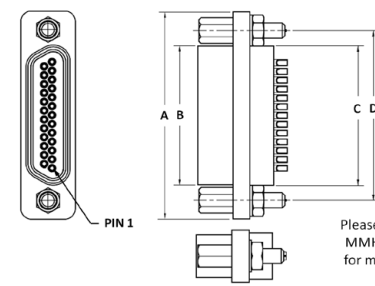
**M** **MICRO**  
**SERIES** 0.050"  
 (1.27 mm)



## MMHT – I/O Cable (Female)

MMHT interconnects are used in high-temperature applications. These rugged cable connectors come with a variety of termination, hardware and wiring options. Custom lengths are available on wire termination products.

### DIMENSIONS



DIMENSIONS					
SIZE	ROWS	A	B (MAX)	C	D
9	2	.755	.400	.390	.565
15		.925	.550	.540	.715
21		1.075	.700	.690	.865
25		1.175	.800	.790	.965
31		1.325	.950	.940	1.115
37		1.475	1.100	1.090	1.265
51	3	1.425	1.050	1.040	1.215
100	4	2.160	1.508	1.432	1.800

Please reference MMHTF-DIM-2 for more detail.

### ORDER FORM

**Sample Part Number Format: MMHT-222-025-2A3-2200**

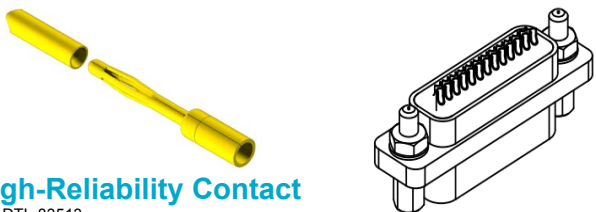
ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE
<b>MMHT</b>								
<b>SERIES</b> 0.050" Rugged Metal I/O Connector (Female)	<b>ROWS</b> 2 – 2-Row (9-37 contacts) 3 – 3-Row (51 & 69 contacts) 4 – 4-Row (100 contacts)	<b>BODY STYLE</b> 2 – Receptacle	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 4 – High-temp thermoplastic with hard black anodized shell 5 – High-temp with stainless steel shell	<b>SIZE</b> 009 – 9 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts 031 – 31 Contacts 037 – 37 Contacts 051 – 51 Contacts 069 – 69 Contacts 100 – 100 Contacts	<b>PLATING</b> 1 – 50 μ" Au contacts (crimp wire) 3 – 50 μ" Au contacts; Au terminations (solder cup, pigtail)	<b>CONTACT/TERMINATION TYPE</b> 21 – Socket, straight, 26 awg solder cup 2A – Socket, straight, 24 awg solder cup 2E – Socket, straight, 0.125" lead length* 23 – Socket, straight, 0.250" lead length* 24 – Socket, straight, 0.500" lead length*† 26 – Socket, straight, crimped wire	<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies (62)*** 41 – Two turning jackscrews, allen head, retaining ring (81)*** 42 – Two long turning jackscrews, allen head, retaining ring (82)*** 43 – Two turning jackscrews, slot head, retaining ring (83)*** 44 – Two long turning jackscrews, slot head, retaining ring (84)*** 45 – Two turning jackscrews, allen head, captivated** (85)*** FF – Float-mount: front panel mounting FR – Float-mount: rear panel mounting	<b>WIRING</b> 00 – None XX – See Wiring Codes

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

- \* 0.018 diameter
- \*\* Captivated hardware is factory-installed and non-removable
- \*\*\* Numbers in parentheses are to be used when ordering size 100
- † Leads are soft copper, suitable for forming.

### MMHT-222-025-2A3-2200



**High-Reliability Contact**  
 MIL-DTL-83513

## MATERIALS and FINISHES

- Socket Contact: Brass per ASTM B121/B121M or ASTM B16/B16M or ASTM B453
- Contact Finish: Gold plate per ASTM B488, SAE AMS-2422
- Shells: Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8
- Shell Finishes: Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or black anodized per MIL-A-8625, Type III Class 2, or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700
- Molded Insulators: High-temp thermoplastic
- Embedment: High-temp epoxy
- Hardware: Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35
- Interfacial Seal Gaskets: Fluorosilicone per SAE AMS-R-25988
- Tolerances: Angles: ±5°  
Decimals: ±0.010"; Fractions: ±1/64"  
Wire lengths – insulated/stranded: +1.0"/-0.0"  
uninsulated/solid: +0.02"/-0.0"

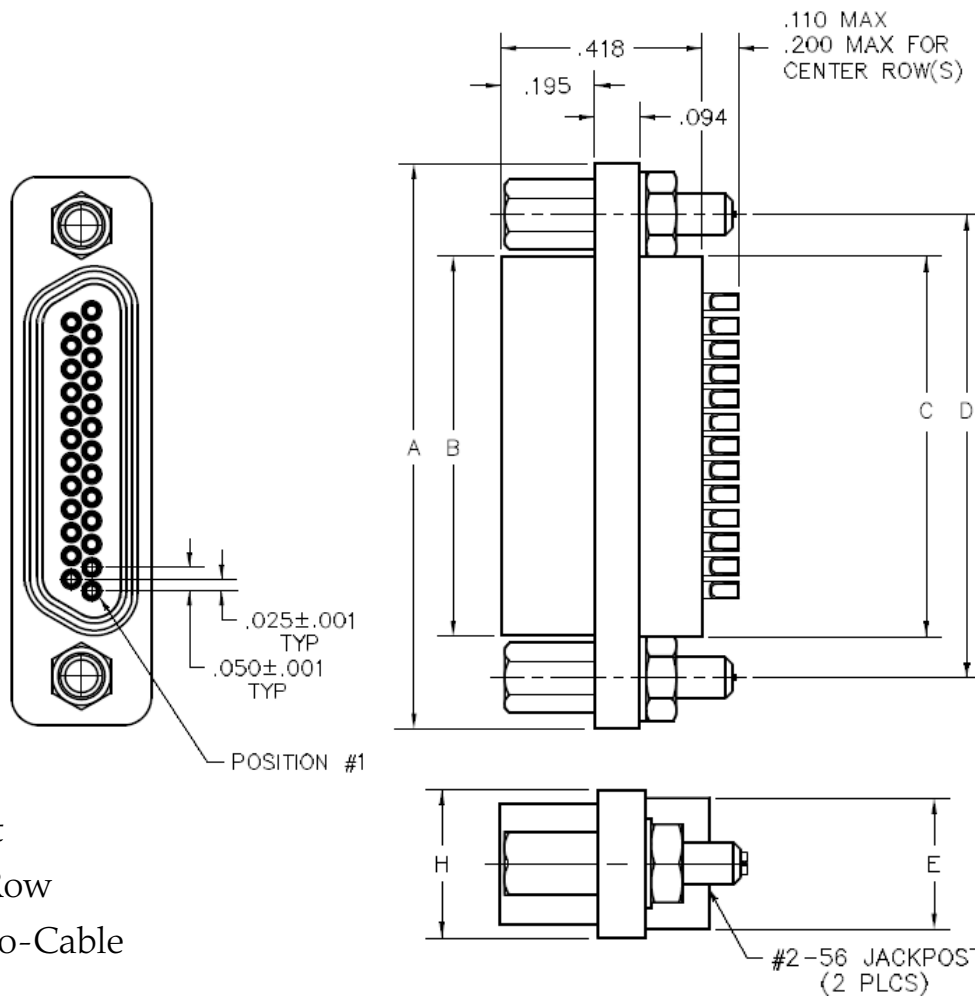
**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

- Contact Rating: 3 amperes maximum
- Operating Temperature: -55° C to 205° C
- Test Voltage: 600V, RMS, 60Hz
- Insulation Resistance: 5,000 megohms minimum @ 500 VDC
- Durability: 500 connector mating cycles
- Contact Engaging Force: 6.0 ounces maximum/contact
- Contact Separating Force: 0.5 ounces minimum/contact
- Mating and Unmating Force: 10 ounces maximum/contact



## MMHT FEMALE DRAWINGS



Straight  
 Multi-Row  
 Cable-to-Cable

DIMENSIONS								
SIZE	ROWS	A	B (MAX)	C	D	E (MAX)	H	HARDWARE
9	2	.755	.400	.390	.565	.270	.298	#2-56 UNC THD (Ø.092 THRU)
15		.925	.550	.540	.715			
21		1.075	.700	.690	.865			
25		1.175	.800	.790	.965			
31		1.325	.950	.940	1.115			
37		1.475	1.100	1.090	1.265			
51	3	1.425	1.050	1.040	1.215	.310	.341	#4-40 UNC THD (Ø.147 THRU)
100	4	2.160	1.508	1.432	1.800	.360	.384	

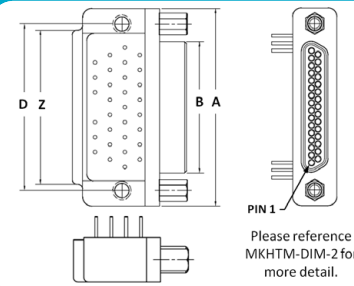
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.



## MKHT – Right Angle Board-Mount (Male)

MKHT interconnects are used in high-temperature applications where a right angle, plated thru-hole termination is desired for mounting. The narrow footprint on this connector helps save board space.

## DIMENSIONS



DIMENSIONS						
SIZE	ROWS	A	B (MAX)	D	Z	HARDWARE
9	2	.755	.334	.565	.775	#2-56 UNC THREADED INSERT
15		.925	.484	.715	.925	
21		1.075	.634	.865	1.075	
25		1.175	.734	.965	1.175	
31		1.325	.884	1.115	1.080	
37	3	1.475	1.034	1.265	1.180	#4-40 UNC THREADED INSERT
51		1.425	0.984	1.215	1.220	
69		1.725	1.284	1.515	1.450	
100	4	2.160	1.384	1.800	1.810	

PIN 1  
 Please reference MKHTM-DIM-2 for more detail.

## ORDER FORM

Sample Part Number Format: **MKHT-252-031-323-220S**

ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE
<b>MKHT</b>							
<b>SERIES</b> 0.050" Rugged Metal PC Board-Mount Connector (Male)	<b>ROWS</b> 2 – 2-Row (9-37 contacts) 3 – 3-Row (51 & 69 contacts) 4 – 4-Row (100 contacts)	<b>BODY STYLE</b> 5 – Plug, right angle, narrow footprint with threaded inserts	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 4 – High-temp thermoplastic with hard black anodized shell 5 – High-temp with stainless steel shell	<b>SIZE</b> 009 – 9 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts 031 – 31 Contacts 037 – 37 Contacts 051 – 51 Contacts 069 – 69 Contacts 100 – 100 Contacts	<b>PLATING</b> 3 – 50 μ" Au contacts; Au terminations	<b>CONTACT/TERMINATION TYPE</b> 32 – Pin, right angle, 0.109" x 0.020" dia 33 – Pin, right angle, 0.140" x 0.020" dia 34 – Pin, right angle, 0.172" x 0.020" dia	<b>WIRING</b> 0S – Standard body polarization
						<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies (62)*	

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

\* Number in parentheses to be used when ordering size 100

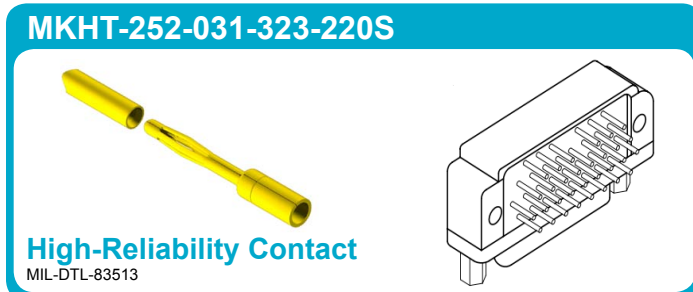
## MATERIALS and FINISHES

Pin Contacts: ..... Copper-based alloy strip  
 Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
 Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or black anodized per MIL-A-8625, Type III Class 2, or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: ..... High-temp thermoplastic  
 Embedment: ..... High-temp epoxy  
 Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Tolerances: ..... Angles: ±5°  
 (unless otherwise specified) ..... Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0" insulated/solid: +0.02"/-0.0"

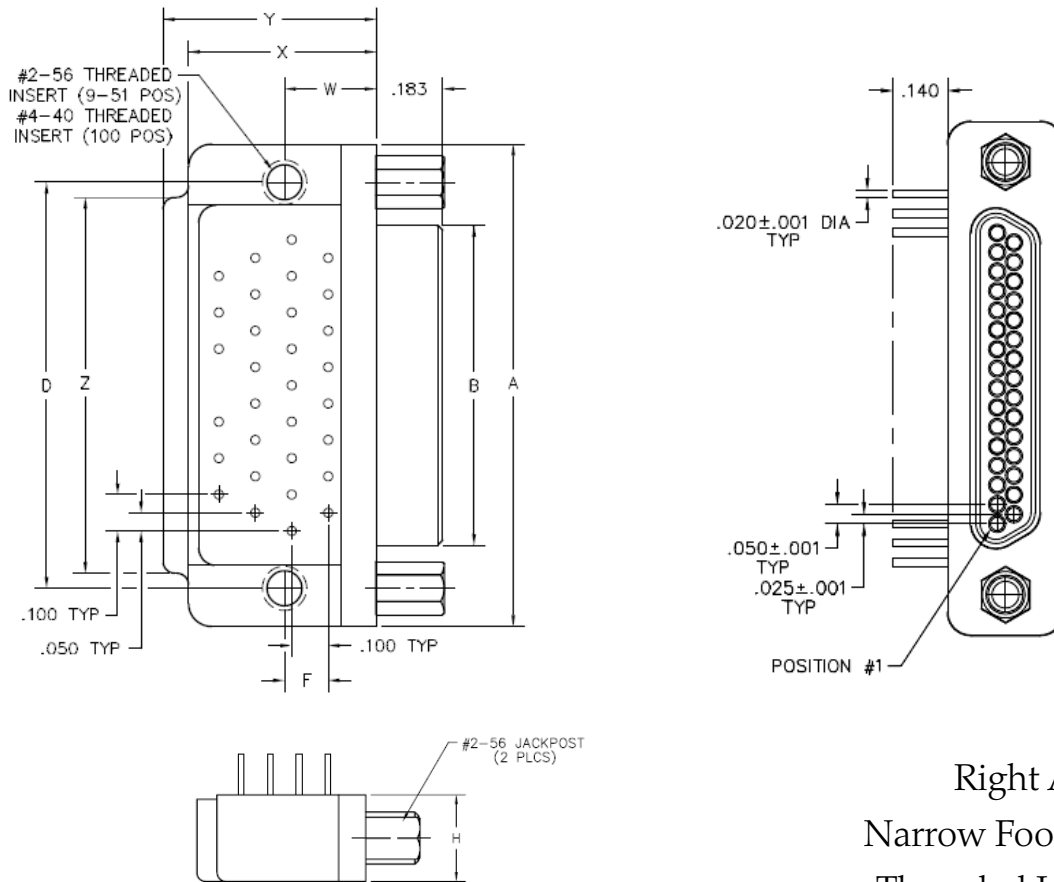
**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

Contact Rating: ..... 3 amperes maximum  
 Operating Temperature: ..... -55° C to 205° C  
 Test Voltage: ..... 600V, RMS, 60Hz  
 Insulation Resistance ..... 5,000 megohms minimum @ 500 VDC  
 Durability: ..... 500 connector mating cycles  
 Contact Engaging Force: ..... 6.0 ounces maximum/contact  
 Contact Separating Force: ..... 0.5 ounces minimum/contact  
 Mating and Unmating Force: ..... 10 ounces maximum/contact



## MKHT MALE DRAWINGS



Right Angle  
 Narrow Footprint  
 Threaded Inserts

DIMENSIONS											
SIZE	ROWS	A	B (MAX)	D	F	H	W	X (MAX)	Y (MAX)	Z	HARDWARE
9	2	.755	.334	.565	.120	.298	.250	.420	.420	.775	#2-56 UNC THD
15		.925	.484	.715						.925	
21		1.075	.634	.865						1.075	
25		1.175	.734	.965						1.175	
31		1.325	.884	1.115						1.080	
37		1.475	1.034	1.265						1.180	
51	3	1.425	.984	1.215	.150	.341	.300	.430	.650	1.220	#2-56 UNC THD
69		1.725	1.284	1.515					.755	1.450	
100	4	2.160	1.384	1.800	.200	.384	.400	.590	1.000	1.810	#4-40 UNC THD

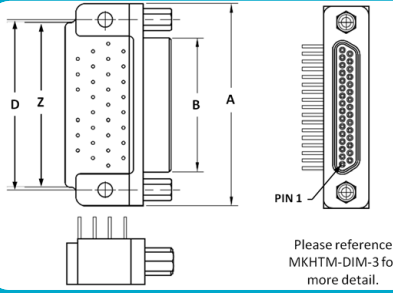
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.



## MKHT – Right Angle Board-Mount with Blind Clearance Cut (Male)

MKHT interconnects are used in high-temperature applications where a right angle, plated thru-hole termination is desired for mounting. The narrow footprint on this connector helps save board space.

### DIMENSIONS



DIMENSIONS							
SIZE	ROWS	A	B (MAX)	D	Z	HARDWARE	MOUNTING HOLE
9	2	.755	.334	.565	.775	#2-56 UNC THD	#2-56 UNC THREADED INSERT
15		.925	.484	.715	.925		
21		1.075	.634	.865	1.075		
25		1.175	.734	.965	1.175		
31		1.325	.884	1.115	1.080		
37	3	1.475	1.034	1.265	1.180	#4-40 UNC THD	#4-40 UNC INSERT
51		1.425	.984	1.215	1.220		
69		1.725	1.284	1.515	1.450		
100	4	2.160	1.384	1.800	1.810	#4-40 UNC THD	#4-40 UNC INSERT

### ORDER FORM

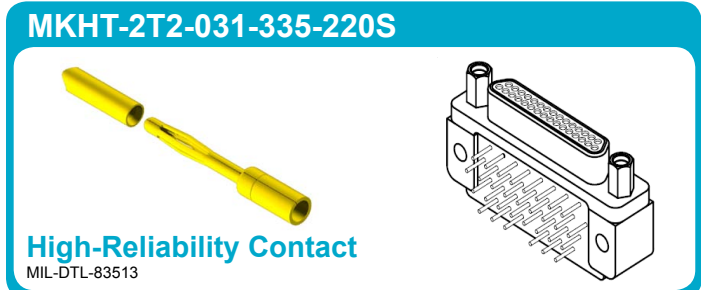
Sample Part Number Format: **MKHT-2T2-031-335-220S**

<b>MKHT</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>
<b>SERIES</b> 0.050" Rugged Metal PC Board-Mount Connector (Male)	<b>ROWS</b> 2 – 2-Row (9-37 contacts) 3 – 3-Row (51 & 69 contacts) 4 – 4-Row (100 contacts)	<b>BODY STYLE</b> T – Plug, right angle (blind clearance cut), narrow footprint with threaded inserts	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 4 – High-temp thermoplastic with hard black anodized shell 5 – High-temp with stainless steel shell	<b>SIZE</b> 009 – 9 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts 031 – 31 Contacts 037 – 37 Contacts 051 – 51 Contacts 069 – 69 Contacts 100 – 100 Contacts	<b>PLATING</b> 3 – 50 μ" Au contacts; Au terminations	<b>CONTACT/TERMINATION TYPE</b> 32 – Pin, right angle, 0.109" 33 – Pin, right angle, 0.140" 34 – Pin, right angle, 0.172"	<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies (62)*	<b>WIRING</b> 0R – Reversed body polarization 0S – Standard body polarization

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

### NOTES

\* Number in parentheses to be used when ordering size 100



### MATERIALS and FINISHES

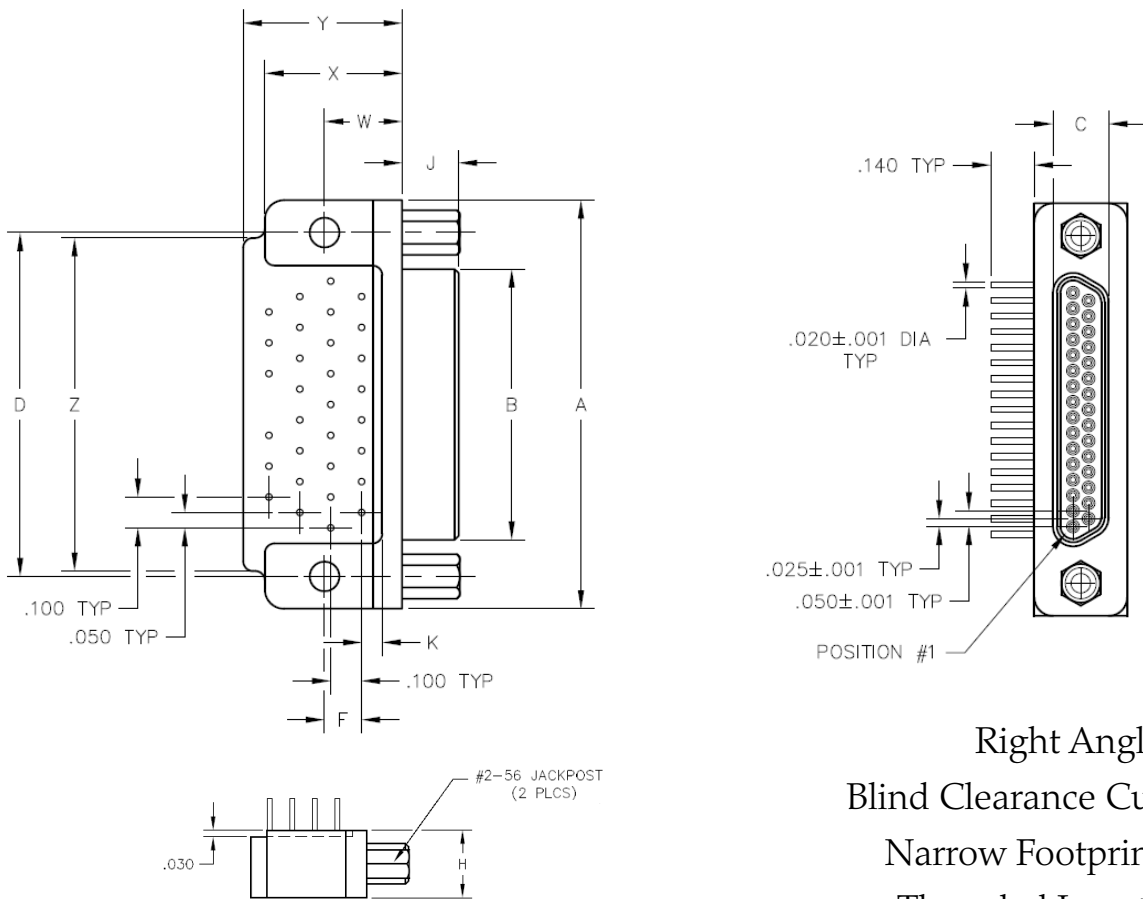
Pin Contacts: ..... Copper-based alloy strip  
 Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
 Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or black anodized per MIL-A-8625, Type III Class 2, or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: ..... High-temp thermoplastic  
 Embedment: ..... High-temp epoxy  
 Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Tolerances: ..... Angles: ±5° (unless otherwise specified)  
 Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0" insulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

### PERFORMANCE

Contact Rating: ..... 3 amperes maximum  
 Operating Temperature: ..... -55° C to 205° C  
 Test Voltage: ..... 600V, RMS, 60Hz  
 Insulation Resistance: ..... 5,000 megohms minimum @ 500 VDC  
 Durability: ..... 500 connector mating cycles  
 Contact Engaging Force: ..... 6.0 ounces maximum/contact  
 Contact Separating Force: ..... 0.5 ounces minimum/contact  
 Mating and Unmating Force: ..... 10 ounces maximum/contact

## MKHT (BLIND CLEARANCE CUT) MALE DRAWINGS



Right Angle  
 Blind Clearance Cut  
 Narrow Footprint  
 Threaded Inserts

DIMENSIONS															
SIZE	ROWS	A	B (MAX)	C	D	F	H	J	K	W	X (MAX)	Y (MAX)	Z	HARDWARE	MOUNTING HOLE
9	2	.755	.334	.185	.565	.020	.298	.183	.067	.250	.420	.420	.775	#2-56 UNC THD	#2-56 UNC THREADED INSERT
15		.925	.484		.715	.925									
21		1.075	.634		.865	1.075									
25		1.175	.734		.965	1.175									
31		1.325	.884		1.115	1.080									
37		1.475	1.034		1.265	1.180									
51	3	1.425	.984	.228	1.215	.150	.341	.087	.300	.430	.650	1.220	#4-40 UNC THD	#4-40 UNC INSERT	
69		1.725	1.284		1.515							1.450			
100	4	2.160	1.384	.271	1.800	.200	.384		.137	.400	.590	1.000	1.810		

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.



**MKHT – Right Angle Board-Mount with Thru Clearance Cut (Male)**  
 MKHT interconnects are used in high-temperature applications where a right angle, plated thru-hole termination is desired for mounting. The narrow footprint on this connector helps save board space.

### DIMENSIONS

DIMENSIONS						
SIZE	ROWS	A	B (MAX)	D	Z	HARDWARE
9	2	.755	.334	.565	.775	#2-56 UNC THREADED INSERT
15		.925	.484	.715	.925	
21		1.075	.634	.865	1.075	
25		1.175	.734	.965	1.175	
31		1.325	.884	1.115	1.080	
37	1.475	1.034	1.265	1.180		
51	3	1.425	0.984	1.215	1.220	
69		1.725	1.284	1.515	1.450	

Please reference MKHTM-DIM-4 for more detail.

### ORDER FORM

Sample Part Number Format: **MKHT-2R2-031-335-220S**

ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE
<b>MKHT</b>							
<b>SERIES</b> 0.050" Rugged Metal PC Board-Mount Connector (Male)	<b>ROWS</b> 2 – 2-Row (9-37 contacts) 3 – 3-Row (51 & 69 contacts)	<b>BODY STYLE</b> R – Plug, right angle (thru clearance cut), narrow footprint with threaded insert	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 4 – High-temp thermoplastic with hard black anodized shell 5 – High-temp with stainless steel shell	<b>SIZE</b> 009 – 9 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts 031 – 31 Contacts 037 – 37 Contacts 051 – 51 Contacts 069 – 69 Contacts	<b>PLATING</b> 3 – 50 μ" Au contacts; Au terminations	<b>CONTACT/TERMINATION TYPE</b> 32 – Pin, right angle, 0.109" 33 – Pin, right angle, 0.140" 34 – Pin, right angle, 0.172" x 0.020" dia	<b>WIRING</b> 0S – Standard body polarization
					<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies		

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

### MKHT-2R2-031-335-220S

**High-Reliability Contact**  
 MIL-DTL-83513

## MATERIALS and FINISHES

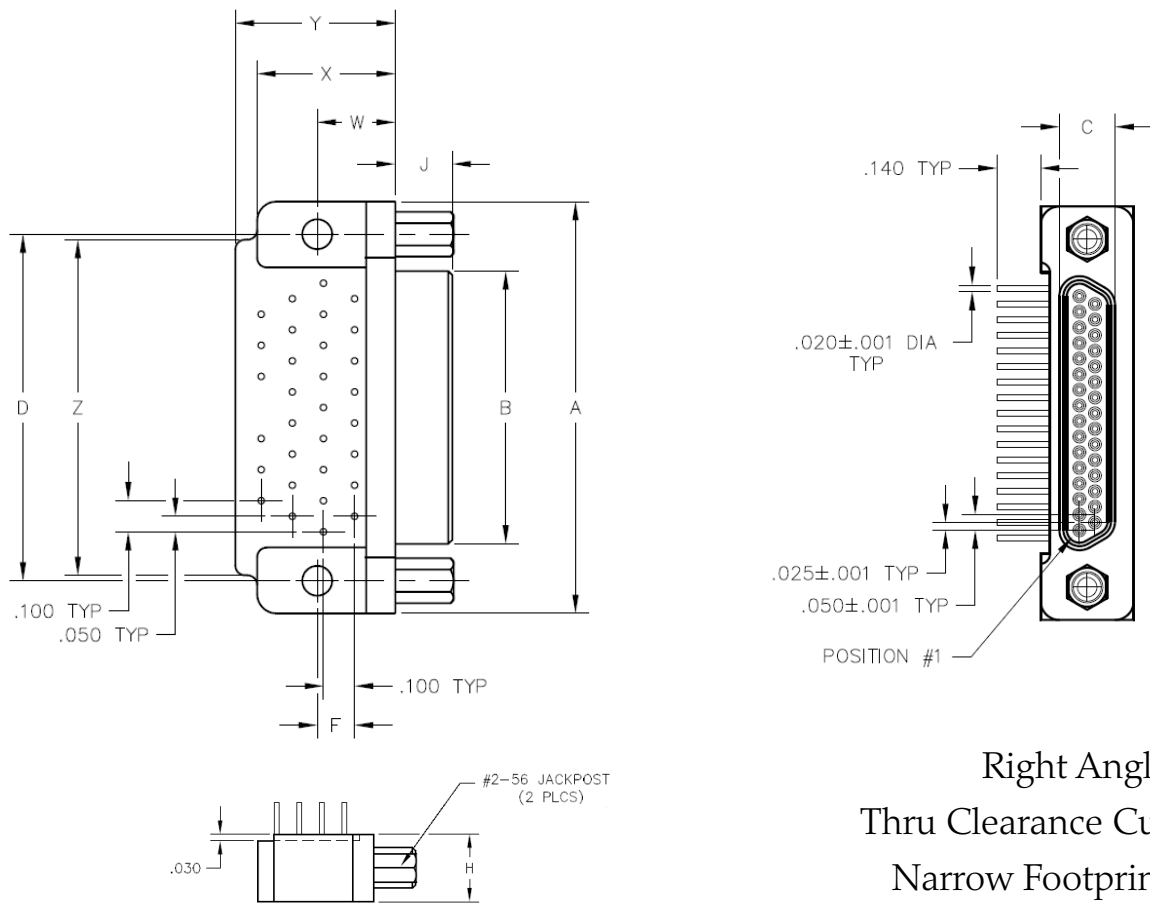
Pin Contacts: ..... Copper-based alloy strip  
 Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
 Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or black anodized per MIL-A-8625, Type III Class 2, or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: ..... High-temp thermoplastic  
 Embedment: ..... High-temp epoxy  
 Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Tolerances: ..... Angles: ±5° (unless otherwise specified)  
 Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0" insulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

Contact Rating: ..... 3 amperes maximum  
 Operating Temperature: ..... -55° C to 205° C  
 Test Voltage: ..... 600V, RMS, 60Hz  
 Insulation Resistance: ..... 5,000 megohms minimum @ 500 VDC  
 Durability: ..... 500 connector mating cycles  
 Contact Engaging Force: ..... 6.0 ounces maximum/contact  
 Contact Separating Force: ..... 0.5 ounces minimum/contact  
 Mating and Unmating Force: ..... 10 ounces maximum/contact

## MKHT (THRU CLEARANCE CUT) MALE DRAWINGS



Right Angle  
 Thru Clearance Cut  
 Narrow Footprint  
 Threaded Inserts

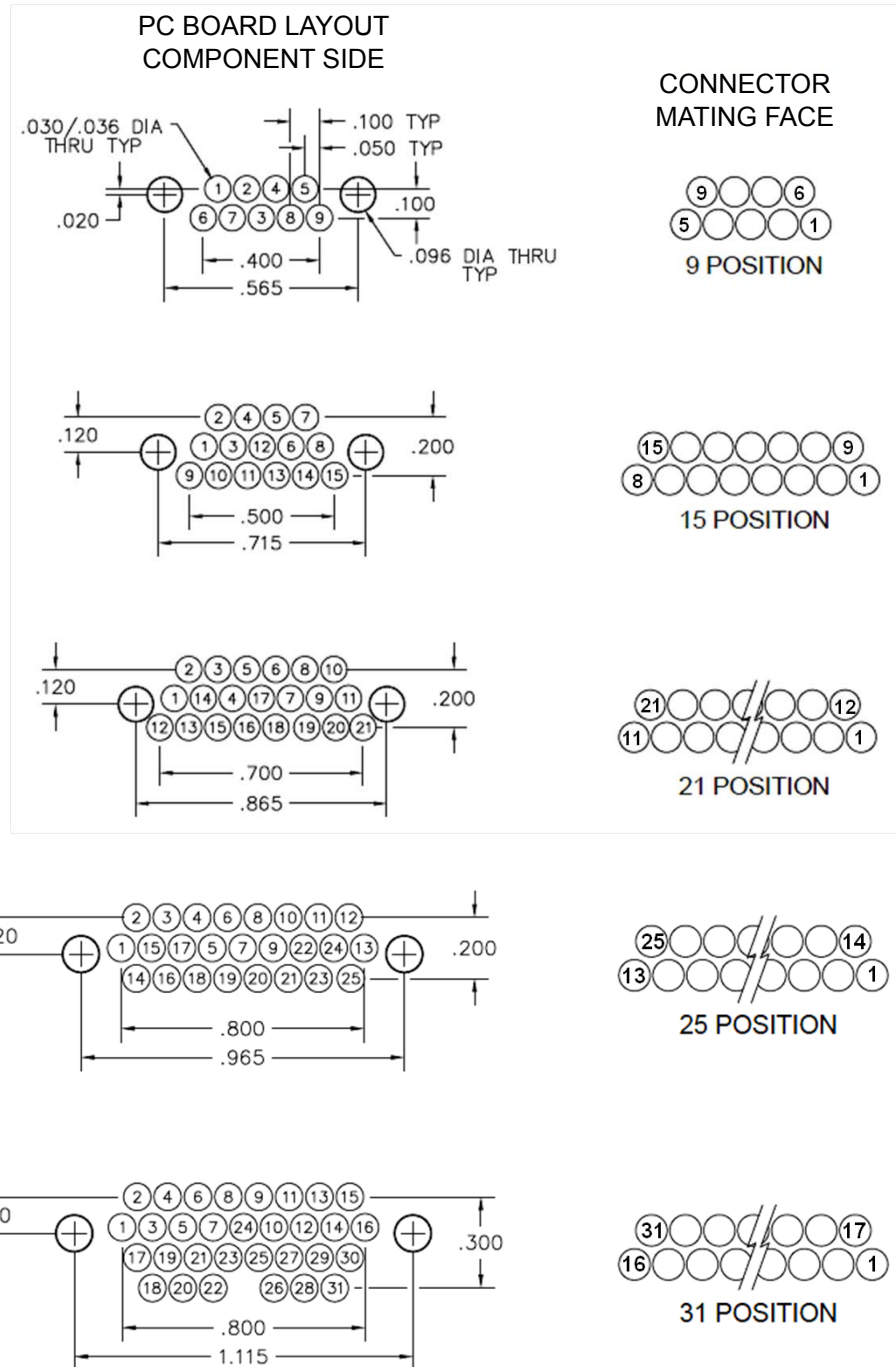
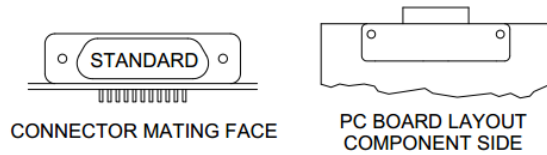
DIMENSIONS															
SIZE	ROWS	A	B (MAX)	C	D	F	H	J	K	W	X (MAX)	Y (MAX)	Z	HARDWARE	MOUNTING HOLE
9	2	.755	.334	.185	.565	.020	.298	.183	.067	.250	.420	.420	.775	#2-56 UNC THD	#2-56 UNC THREADED INSERT
15		.925	.484		.715	.925									
21		1.075	.634		.865	1.075									
25		1.175	.734		.965	1.175									
31		1.325	.884		1.115	1.080									
37		1.475	1.034		1.265	1.180									
51	3	1.425	.984	.228	1.215	.150	.341	.087	.300	.430	.650	1.220	#2-56 UNC THD	#2-56 UNC THREADED INSERT	
69		1.725	1.284		1.515							1.450			

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.



## Recommended PC Board Layouts – MKHT Male

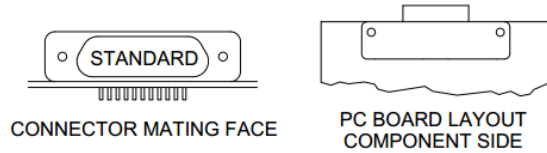
Right Angle  
 Narrow Footprint  
 Standard Polarization  
 Sizes 9–31



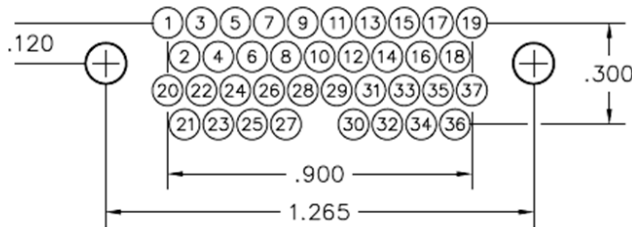


## Recommended PC Board Layouts – MKHT Male

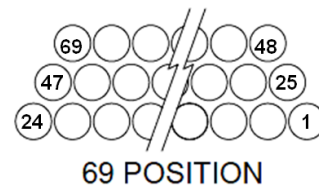
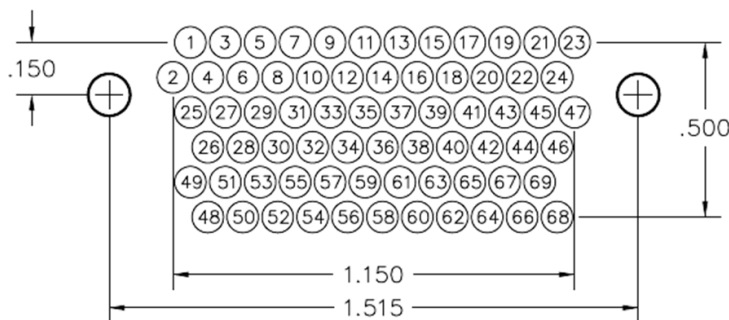
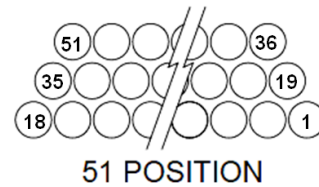
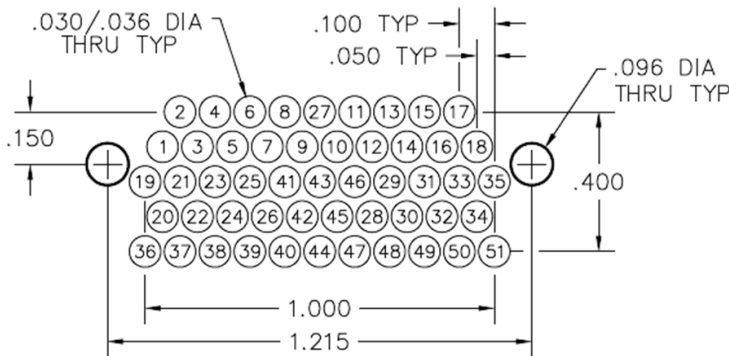
Right Angle  
 Narrow Footprint  
 Standard Polarization  
 Sizes 37–69



PC BOARD LAYOUT COMPONENT SIDE



CONNECTOR MATING FACE



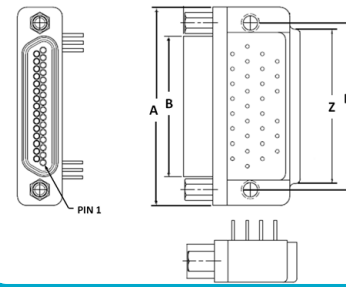


**M** **MICRO**  
 0.050"  
 (1.27 mm)

## MKHT – Right Angle Board-Mount (Female)

MKHT interconnects are used in high-temperature applications where a right angle, plated thru-hole termination is desired for mounting. The narrow footprint on this connector helps save board space.

## DIMENSIONS



DIMENSIONS						
SIZE	ROWS	A	B (MAX)	D	Z	HARDWARE
9	2	.755	.400	.565	.775	#2-56 UNC THD (Ø.092 THRU)
15		.925	.550	.715	.925	
21		1.075	.700	.865	1.075	
25		1.175	.800	.965	1.175	
31		1.325	.950	1.115	1.080	
37		1.475	1.100	1.265	1.180	

Please reference MKHTF-DIM-2 for more detail.

## ORDER FORM

Sample Part Number Format: **MKHT-262-031-443-220S**

ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE
<b>MKHT</b>								
<b>SERIES</b> 0.050" Rugged Metal PC Board-Mount Connector (Female)	<b>ROWS</b> 2 – 2-Row (9-37 contacts) 3 – 3-Row (51 & 69 contacts) 4 – 4-Row (100 contacts)	<b>BODY STYLE</b> 6 – Receptacle, right angle, narrow footprint with threaded inserts and interfacial seal.	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 4 – High-temp thermoplastic with hard black anodized shell 5 – High-temp with stainless steel shell	<b>SIZE</b> 009 – 9 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts 031 – 31 Contacts 037 – 37 Contacts 051 – 51 Contacts 069 – 69 Contacts 100 – 100 Contacts	<b>CONTACT/TERMINATION TYPE</b> 43 – Socket, right angle, 0.109" x 0.020" dia 44 – Socket, right angle, 0.140" x 0.020" dia 45 – Socket, right angle, 0.172" x 0.020" dia	<b>PLATING</b> 3 – 50 µ" Au contacts; Au terminations	<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies (62)*	<b>POLARIZATION</b> 0S – Standard body polarization

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

\* Number in parentheses to be used when ordering size 100

## MATERIALS and FINISHES

Socket Contact: ..... Brass per ASTM B121M or ASTM B16/B16M or ASTM B453  
 Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
 Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 µ" minimum or black anodized per MIL-A-8625, Type III Class 2, or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: ..... High-temp thermoplastic  
 Embedment: ..... High-temp epoxy  
 Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Interfacial Seal Gaskets: ..... Fluorosilicone per SAE AMS-R-25988  
 Tolerances: ..... Angles: ±5°  
 (unless otherwise specified) Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0"  
 uninsulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

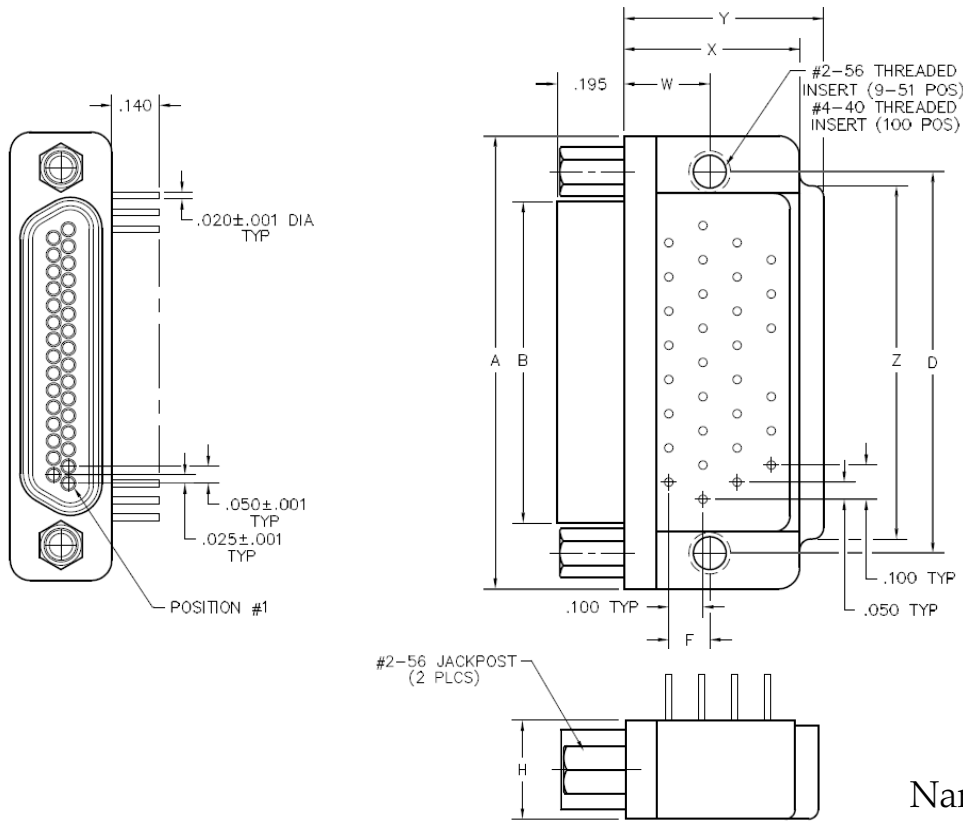
## PERFORMANCE

Contact Rating: ..... 3 amperes maximum  
 Operating Temperature: ..... -55° C to 205° C  
 Test Voltage: ..... 600V, RMS, 60Hz  
 Insulation Resistance: ..... 5,000 megohms minimum @ 500 VDC  
 Durability: ..... 500 connector mating cycles  
 Contact Engaging Force: ..... 6.0 ounces maximum/contact  
 Contact Separating Force: ..... 0.5 ounces minimum/contact  
 Mating and Unmating Force: ..... 10 ounces maximum/contact

**MKHT-262-031-443-220S**

**High-Reliability Contact**  
 MIL-DTL-83513

## MKHT FEMALE DRAWINGS



Right Angle  
 Narrow Footprint  
 Threaded Inserts  
 Interfacial Seal

DIMENSIONS											
SIZE	ROWS	A	B (MAX)	D	F	H	W	X (MAX)	Y (MAX)	Z	HARDWARE
9	2	.755	.400	.565	.020	.298	.250	.420	.420	.775	#2-56 UNC THD
15		.925	.550	.715	.120					.925	
21		1.075	.700	.865						1.075	
25		1.175	.800	.965				1.175			
31		1.325	.950	1.115	.450			.520	1.080		
37		1.475	1.100	1.265					1.180		
51	3	1.425	1.050	1.215	.150	.341	.300	.430	.650	1.220	#2-56 UNC THD
69		1.725	1.350	1.515					.755	1.450	
100	4	2.160	1.508	1.800	.200	.384	.400	.590	1.000	1.810	#4-40 UNC THD

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

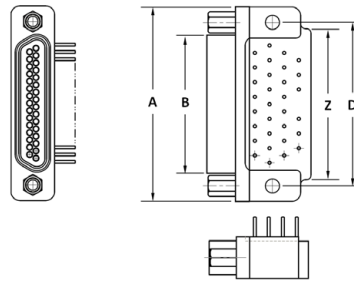
**M** **MICRO**  
**SERIES** 0.050"  
 (1.27 mm)



## MKHT – Right Angle Board-Mount with Blind Clearance Cut (Female)

MKHT interconnects are used in high-temperature applications where a right angle, plated thru-hole termination is desired for mounting. The narrow footprint on this connector helps save board space.

## DIMENSIONS



DIMENSIONS					
SIZE	ROWS	A	B (MAX)	D	Z
9	2	.755	.334	.565	.775
15		.925	.484	.715	.925
21		1.075	.634	.865	1.075
25		1.175	.734	.965	1.175
31		1.325	.884	1.115	1.080
37	3	1.475	1.034	1.265	1.180
51		1.425	0.984	1.215	1.220
69		1.725	1.284	1.515	1.450
100	4	2.160	1.384	1.800	1.810

Please reference MKHT-DIM-3 for more detail.

## ORDER FORM

Sample Part Number Format: **MKHT-2V2-031-445-220S**

ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE
<b>MKHT</b>								
<b>SERIES</b> 0.050" Rugged Metal PC Board-Mount Connector (Female)	<b>ROWS</b> 2 – 2-Row (9-37 contacts) 3 – 3-Row (51 & 69 contacts) 4 – 4-Row (100 contacts)	<b>BODY STYLE</b> V – Receptacle, right angle (blind clearance cut), narrow footprint with threaded inserts and interfacial seal	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 4 – High-temp thermoplastic with hard black anodized shell 5 – High-temp with stainless steel shell	<b>SIZE</b> 009 – 9 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts 031 – 31 Contacts 037 – 37 Contacts 051 – 51 Contacts 069 – 69 Contacts 100 – 100 Contacts	<b>PLATING</b> 3 – 50 μ" Au contacts; Au terminations	<b>CONTACT/TERMINATION TYPE</b> 43 – Socket, right angle, 0.109" x 0.020" dia 44 – Socket, right angle, 0.140" x 0.020" dia 45 – Socket, right angle, 0.172" x 0.020" dia	<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies (62)*	<b>WIRING</b> 0R – Reversed body polarization 0S – Standard body polarization

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

\* Number in parentheses to be used when ordering size 100

## MATERIALS and FINISHES

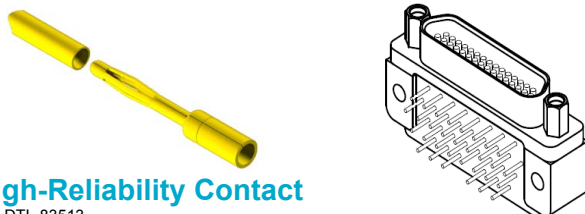
Pin Contacts: ..... Copper-based alloy strip  
 Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
 Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or black anodized per MIL-A-8625, Type III Class 2, or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: ..... High-temp thermoplastic  
 Embedment: ..... High-temp epoxy  
 Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Tolerances: ..... Angles: ±5°  
 (unless otherwise specified) Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0"  
 uninsulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

Contact Rating: ..... 3 amperes maximum  
 Operating Temperature: ..... -55° C to 205° C  
 Test Voltage: ..... 600V, RMS, 60Hz  
 Insulation Resistance: ..... 5,000 megohms minimum @ 500 VDC  
 Durability: ..... 500 connector mating cycles  
 Contact Engaging Force: ..... 6.0 ounces maximum/contact  
 Contact Separating Force: ..... 0.5 ounces minimum/contact  
 Mating and Unmating Force: ..... 10 ounces maximum/contact

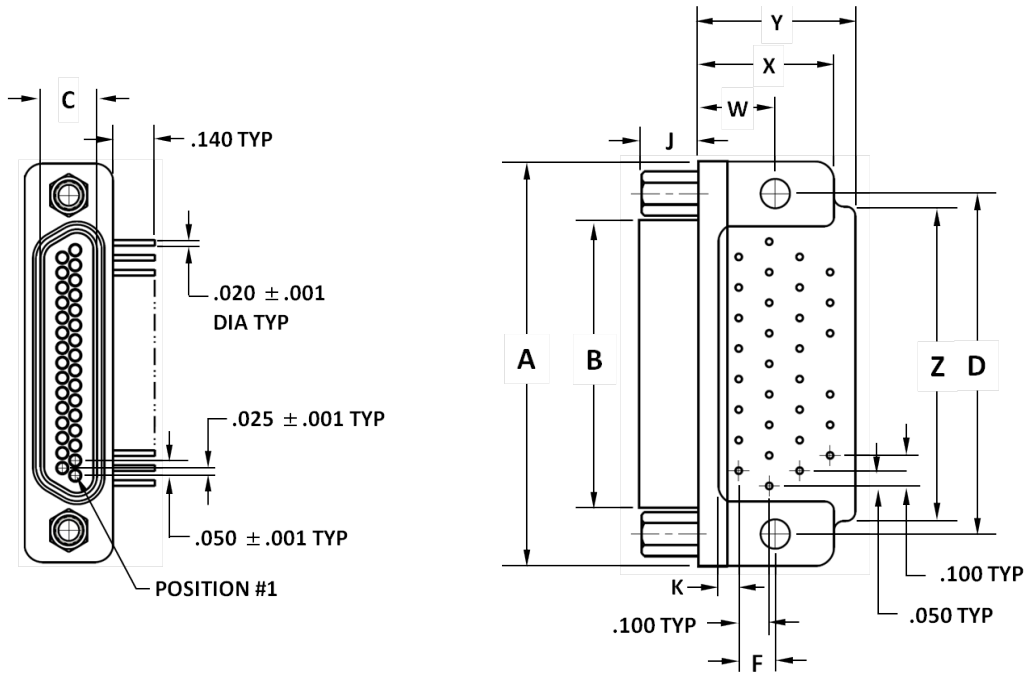
## MKHT-2V2-031-445-220S



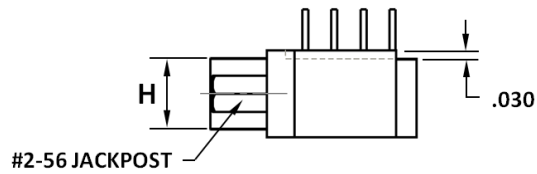
### High-Reliability Contact

MIL-DTL-83513

## MKHT (BLIND CLEARANCE CUT) FEMALE DRAWINGS



Right Angle  
 Blind Clearance Cut  
 Narrow Footprint  
 Threaded Inserts



DIMENSIONS															
SIZE	ROWS	A	B (MAX)	C	D	F	H	J	K	W	X (MAX)	Y (MAX)	Z	HARDWARE	MOUNTING HOLE
9	2	.755	.400	.251	.565	.120	.298	.195	.067	.250	.420	.420	.775	#2-56 UNC THD	#2-56 UNC THREADED INSERT
15		.925	.550		.715								.925		
21		1.075	.700		.865								1.075		
25		1.175	.800		.965								1.175		
31		1.325	.950		1.115								1.080		
37		1.475	1.100		1.265								1.180		
51	3	1.425	1.050	.294	1.215	.150	.341	.087	.300	.430	.650	1.220	#2-56 UNC THD	#2-56 UNC THREADED INSERT	
69		1.725	1.350		1.515							.755			1.450
100	4	2.160	1.508	.394	1.800	.200	.384	.137	.400	.590	1.000	1.810	#4-40 UNC THD	#4-40 UNC INSERT	

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

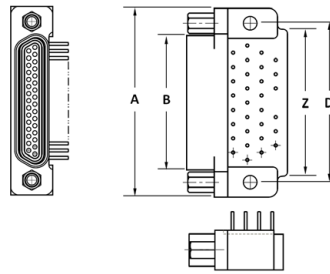
**M** **MICRO**  
 0.050"  
 (1.27 mm)



## MKHT – Right Angle Board-Mount with Thru Clearance Cut (Female)

MKHT interconnects are used in high-temperature applications where a right angle, plated thru-hole termination is desired for mounting. The narrow footprint on this connector helps save board space.

## DIMENSIONS



DIMENSIONS					
SIZE	ROWS	A	B (MAX)	D	Z
9	2	.755	.334	.565	.775
15		.925	.484	.715	.925
21		1.075	.634	.865	1.075
25		1.175	.734	.965	1.175
31		1.325	.884	1.115	1.080
37	3	1.475	1.034	1.265	1.180
51		1.425	0.984	1.215	1.220
69		1.725	1.284	1.515	1.450

Please reference MKHT-DIM-4 for more detail.

## ORDER FORM

Sample Part Number Format: **MKHT-2S2-031-445-220S**

ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE
<b>MKHT</b>								
<b>SERIES</b> 0.050" Rugged Metal PC Board-Mount Connector (Female)	<b>ROWS</b> 2 – 2-Row (9-37 contacts) 3 – 3-Row (51 & 69 contacts)	<b>BODY STYLE</b> S – Receptacle, right angle (thru clearance cut), narrow footprint with threaded inserts and interfacial seal	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 4 – High-temp thermoplastic with hard black anodized shell 5 – High-temp with stainless steel shell	<b>SIZE</b> 009 – 9 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts 031 – 31 Contacts 037 – 37 Contacts 051 – 51 Contacts 069 – 69 Contacts	<b>CONTACT/TERMINATION TYPE</b> 43 – Socket, right angle, 0.109" x 0.020" dia 44 – Socket, right angle, 0.140" x 0.020" dia 45 – Socket, right angle, 0.172" x 0.020" dia	<b>PLATING</b> 3 – 50 μ" Au contacts; Au terminations	<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies	<b>WIRING</b> 0S – Standard body polarization

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

## MATERIALS and FINISHES

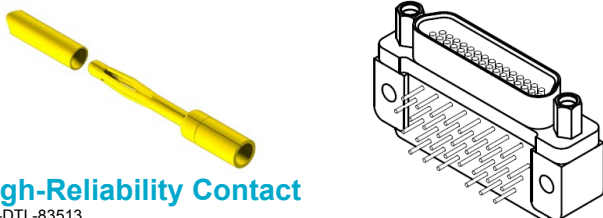
Pin Contacts: ..... Copper-based alloy strip  
 Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
 Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or black anodized per MIL-A-8625, Type III Class 2, or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: ..... High-temp thermoplastic  
 Embedment: ..... High-temp epoxy  
 Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Tolerances: ..... Angles: ±5° (unless otherwise specified)  
 Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0" un-insulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

Contact Rating: ..... 3 amperes maximum  
 Operating Temperature: ..... -55° C to 205° C  
 Test Voltage: ..... 600V, RMS, 60Hz  
 Insulation Resistance: ..... 5,000 megohms minimum @ 500 VDC  
 Durability: ..... 500 connector mating cycles  
 Contact Engaging Force: ..... 6.0 ounces maximum/contact  
 Contact Separating Force: ..... 0.5 ounces minimum/contact  
 Mating and Unmating Force: ..... 10 ounces maximum/contact

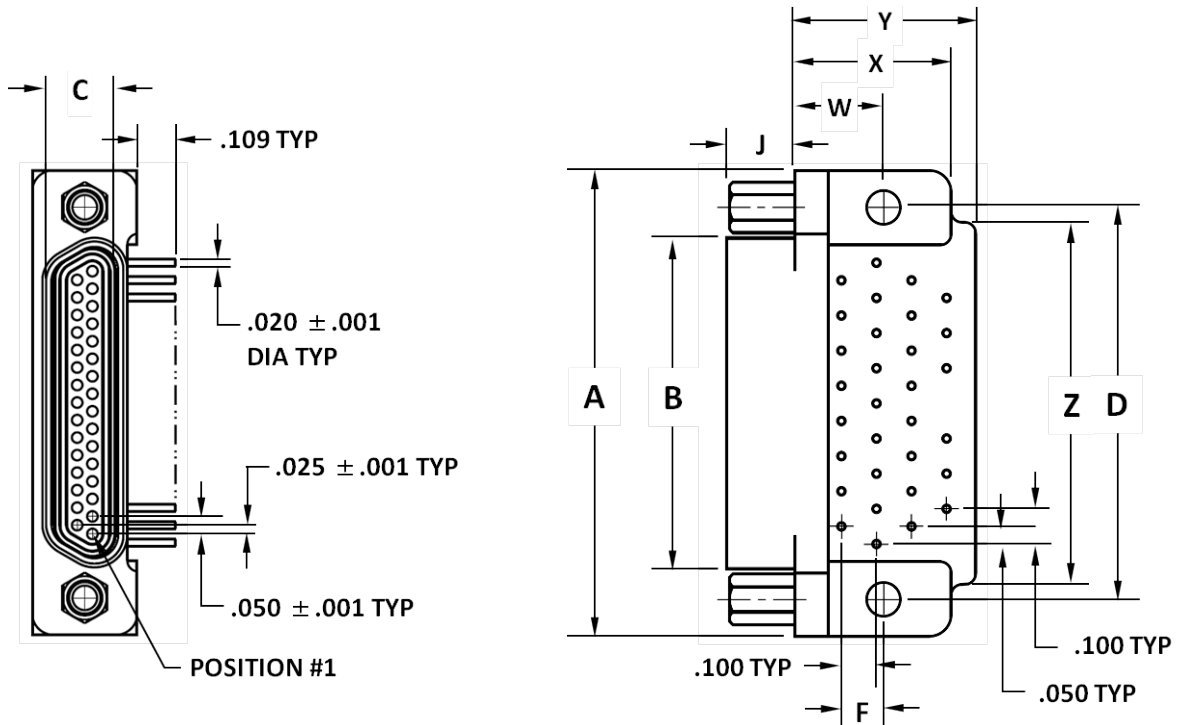
## MKHT-2S2-031-445-220S



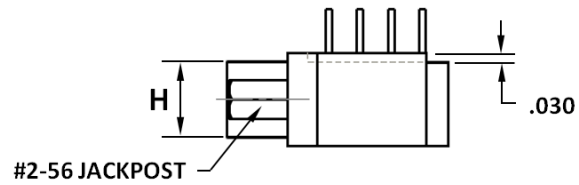
### High-Reliability Contact

MIL-DTL-83513

## MKHT (THRU CLEARANCE CUT) FEMALE DRAWINGS



Right Angle  
 Thru Clearance Cut  
 Narrow Footprint  
 Threaded Inserts



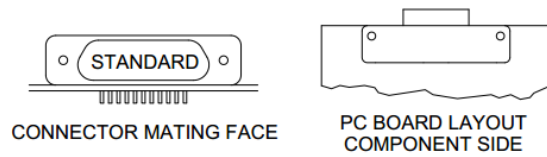
DIMENSIONS															
SIZE	ROWS	A	B (MAX)	C	D	F	H	J	K	W	X (MAX)	Y (MAX)	Z	HARDWARE	MOUNTING HOLE
9	2	.755	.400	.251	.565	.020	.298	.195	.067	.250	.420	.420	.775	#2-56 UNC THD	#2-56 UNC THREADED INSERT
15		.925	.550		.715	.925									
21		1.075	.700		.865	1.075									
25		1.175	.800		.965	1.175									
31		1.325	.950		1.115	1.080									
37		1.475	1.100		1.265	1.180									
51	3	1.425	1.050	.294	1.215	.150	.341	.087	.300	.430	.650	1.220	#2-56 UNC THD	#2-56 UNC THREADED INSERT	
69		1.725	1.350		1.515							.755			1.450

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

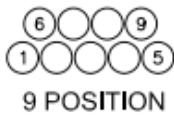


**Recommended PC Board Layouts – MKHT Female**

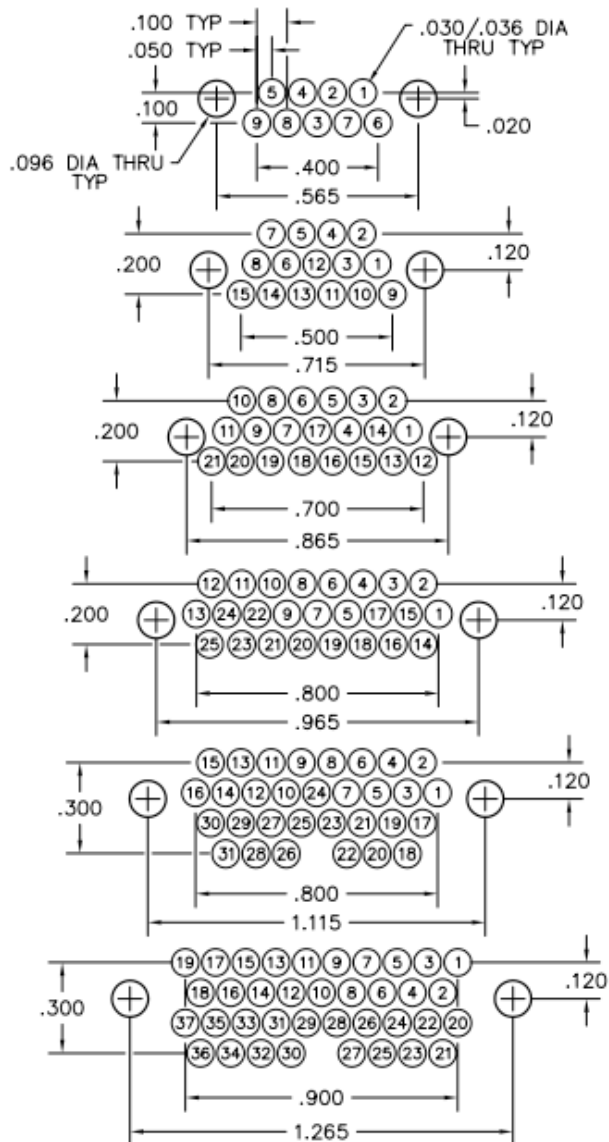
Right Angle  
 Narrow Footprint  
 Standard Polarization  
 Sizes 9–37



CONNECTOR MATING FACE



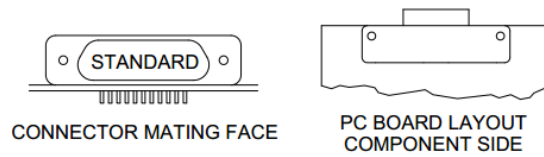
PC BOARD LAYOUT COMPONENT SIDE



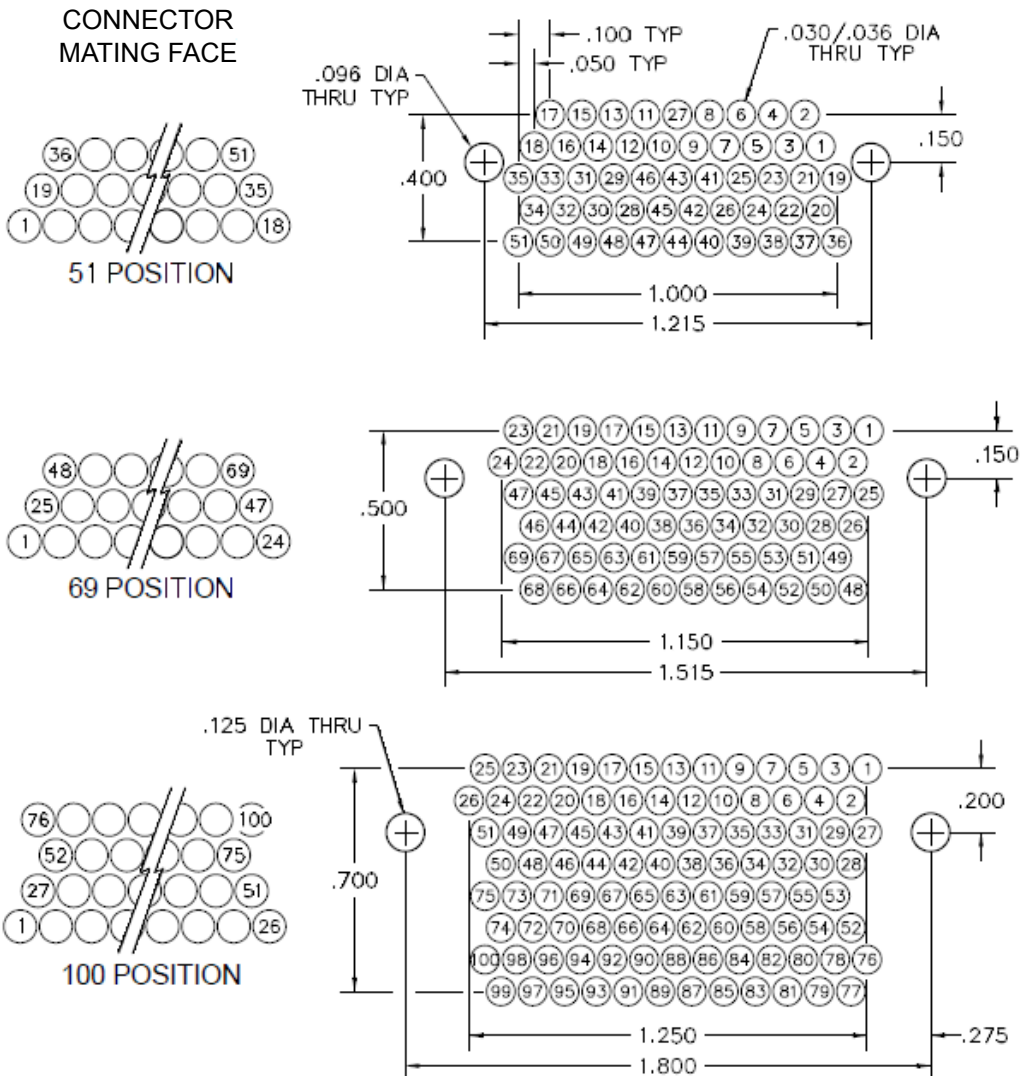


## Recommended PC Board Layouts – MKHT Female

Right Angle  
 Narrow Footprint  
 Standard Polarization  
 Sizes 51–100



### PC BOARD LAYOUT COMPONENT SIDE



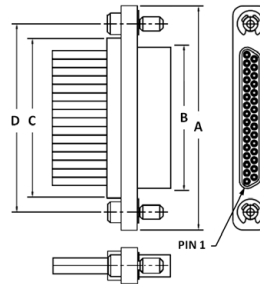


**M** **MICRO**  
 0.050"  
 (1.27 mm)

## MQHT – Low-Profile I/O Cable (Male)

MQHT interconnects are used in high-temperature applications. These low-profile connectors come with a variety of termination, hardware and wiring options. Custom lengths are available on wire termination products.

## DIMENSIONS



DIMENSIONS					
SIZE	ROWS	A	B (MAX)	C	D
9	2	.778	.292	.398	.565
15		.928	.442	.548	.715
21		1.078	.592	.698	.865
25		1.178	.692	.798	.965
31		1.328	.842	.948	1.115
37	3	1.478	.992	1.098	1.265
51		1.428	.942	1.048	1.215

Please reference MQHTM-DIM-1 for more detail.

## ORDER FORM

Sample Part Number Format: MQHT-212-031-161-41WS

-  -  -  -  -  -  -  -

**SERIES**  
 0.050" Low-Profile  
 Metal I/O Connector  
 (Male)

**ENTER CODE**  
**ROWS**  
 2 – 2-Row  
 (9-37 contacts)  
 3 – 3-Row  
 (51 contacts)

**ENTER CODE**  
**BODY STYLE**  
 1 – Plug

**ENTER CODE**  
**BODY MATERIAL**  
 2 – High-temp  
 thermoplastic  
 with electroless  
 nickel shell  
 4 – High-temp  
 thermoplastic  
 with hard black  
 anodized shell  
 5 – High-temp  
 with stainless  
 steel shell

**ENTER CODE**  
**SIZE**  
 009 – 9 Contacts  
 015 – 15 Contacts  
 021 – 21 Contacts  
 025 – 25 Contacts  
 031 – 31 Contacts  
 037 – 37 Contacts  
 051 – 51 Contacts

**ENTER CODE**  
**PLATING**  
 1 – 50 μ" Au contacts  
 (crimp wire)  
 3 – 50 μ" Au contacts;  
 Au terminations  
 (solder cup, pigtail)

**CONTACT/TERMINATION TYPE**  
 11 – Pin, straight, 26 awg solder cup  
 1A – Pin, straight, 24 awg solder cup  
 1E – Pin, straight, 0.125" lead length††  
 13 – Pin, straight, 0.250" lead length††  
 14 – Pin, straight, 0.500" lead length††  
 16 – Pin, straight, crimped wire

**ENTER CODE**  
**WIRING**  
 00 – None  
 XX – See Wiring  
 Codes

**HARDWARE**  
 00 – No hardware  
 22 – Two fixed jacknut assemblies  
 41 – Two turning jackscrews, allen  
 head, retaining ring  
 42 – Two long turning jackscrews,  
 allen head, retaining ring  
 43 – Two turning jackscrews, slot  
 head, retaining ring  
 44 – Two long turning jackscrews, slot  
 head, retaining ring  
 45 – Two turning jackscrews, allen  
 head, captivated\*\*  
 FF – Float-mount: front panel  
 mounting  
 FR – Float-mount: rear panel  
 mounting

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

- \* 0.018 diameter
- \*\* Captivated hardware is factory-installed and non-removable
- † Leads are soft copper, suitable for forming.

## MATERIALS and FINISHES

Pin Contacts: ..... Copper-based alloy strip  
 Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
 Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11  
 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or black  
 anodized per MIL-A-8625, Type III Class 2, or 303 stainless steel per ASTM  
 A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: ..... High-temp thermoplastic  
 Embedment: ..... High-temp epoxy  
 Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M,  
 passivated per ASTM A967, SAE AMS-QQ-P-35  
 Tolerances: ..... Angles: ±5°  
 (unless otherwise specified) Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0"  
 uninsulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

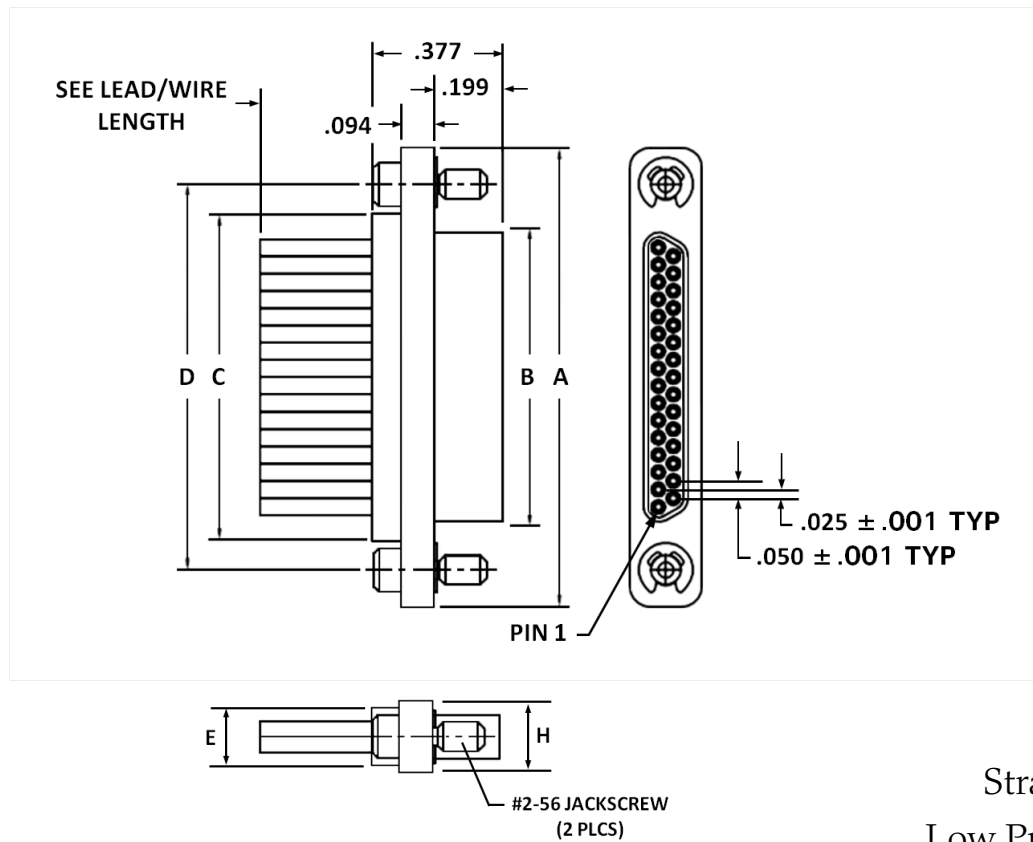
## PERFORMANCE

Contact Rating: ..... 3 amperes maximum  
 Operating Temperature: ..... -55° C to 205° C  
 Test Voltage: ..... 600V, RMS, 60Hz  
 Insulation Resistance ..... 5,000 megohms minimum @ 500 VDC  
 Durability: ..... 500 connector mating cycles  
 Contact Engaging Force: ..... 6.0 ounces maximum/contact  
 Contact Separating Force: ..... 0.5 ounces minimum/contact  
 Mating and Unmating Force: ..... 10 ounces maximum/contact

**MQHT-212-031-161-41WS**

**High-Reliability Contact**  
 MIL-DTL-83513

## MQHT MALE DRAWINGS



Straight  
 Low Profile  
 Cable-to-Cable

DIMENSIONS								
SIZE	ROWS	A	B (MAX)	C	D	E	H	HARDWARE
9	2	.778	.292	.398	.565	.173	.208	#2-56 UNC THD (Ø.092 THRU)
15		.928	.442	.548	.715			
21		1.078	.592	.698	.865			
25		1.178	.692	.798	.965			
31		1.328	.842	.948	1.115			
37	3	1.478	.992	1.098	1.265	.220	.250	
51		1.428	.942	1.048	1.215			

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

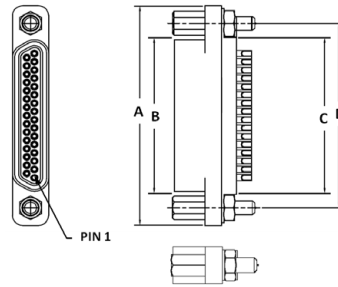


**M** **MICRO**  
**SERIES** 0.050"  
 (1.27 mm)

## MQHT – Low-Profile I/O Cable (Female)

MQHT interconnects are used in high-temperature applications. These low-profile connectors come with a variety of termination, hardware and wiring options. Custom lengths are available on wire termination products.

## DIMENSIONS



DIMENSIONS					
SIZE	ROWS	A	B (MAX)	C	D
9	2	.778	.378	.398	.565
15		.928	.528	.548	.715
21		1.078	.678	.698	.865
25		1.178	.778	.798	.965
31		1.328	.928	.948	1.115
37	3	1.478	1.078	1.098	1.265
51		1.428	1.028	1.048	1.215

Please reference MQHTF-DIM-1 for more detail.

## ORDER FORM

Sample Part Number Format: **MQHT-222-031-2A3-2200**

<b>MQHT</b>								
-------------	--	--	--	--	--	--	--	--

**SERIES**  
 0.050" Low-Profile Metal I/O Connector (Female)

**ROWS**  
 2 – 2-Row (9-37 contacts)  
 3 – 3-Row (51 contacts)

**BODY STYLE**  
 2 – Receptacle

**BODY MATERIAL**  
 2 – High-temp thermoplastic with electroless nickel shell  
 4 – High-temp thermoplastic with hard black anodized shell  
 5 – High-temp with stainless steel shell

**SIZE**  
 009 – 9 Contacts  
 015 – 15 Contacts  
 021 – 21 Contacts  
 025 – 25 Contacts  
 031 – 31 Contacts  
 037 – 37 Contacts  
 051 – 51 Contacts

**PLATING**  
 1 – 50 μ" Au contacts (crimp wire)  
 3 – 50 μ" Au contacts; Au terminations (solder cup, pigtail)

**WIRING**  
 00 – None  
 XX – See Wiring Codes

**CONTACT/TERMINATION TYPE**  
 21 – Socket, straight, 26 awg solder cup  
 2A – Socket, straight, 24 awg solder cup  
 2E – Socket, straight, 0.125" lead length\*  
 23 – Socket, straight, 0.250" lead length\*  
 24 – Socket, straight, 0.500" lead length\*†  
 26 – Socket, straight, crimped wire

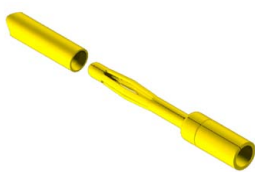
**HARDWARE**  
 00 – No hardware  
 22 – Two fixed jacknut assemblies  
 41 – Two turning jackscrews, allen head, retaining ring  
 42 – Two long turning jackscrews, allen head, retaining ring  
 43 – Two turning jackscrews, slot head, retaining ring  
 44 – Two long turning jackscrews, slot head, retaining ring  
 45 – Two turning jackscrews, allen head, captivated\*\*  
 FF – Float-mount: front panel mounting  
 FR – Float-mount: rear panel mounting

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

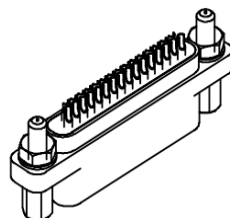
- \* 0.018 diameter
- \*\* Captivated hardware is factory-installed and non-removable
- † Leads are soft copper, suitable for forming.

## MQHT-222-031-2A3-2200



**High-Reliability Contact**

MIL-DTL-83513



## MATERIALS and FINISHES

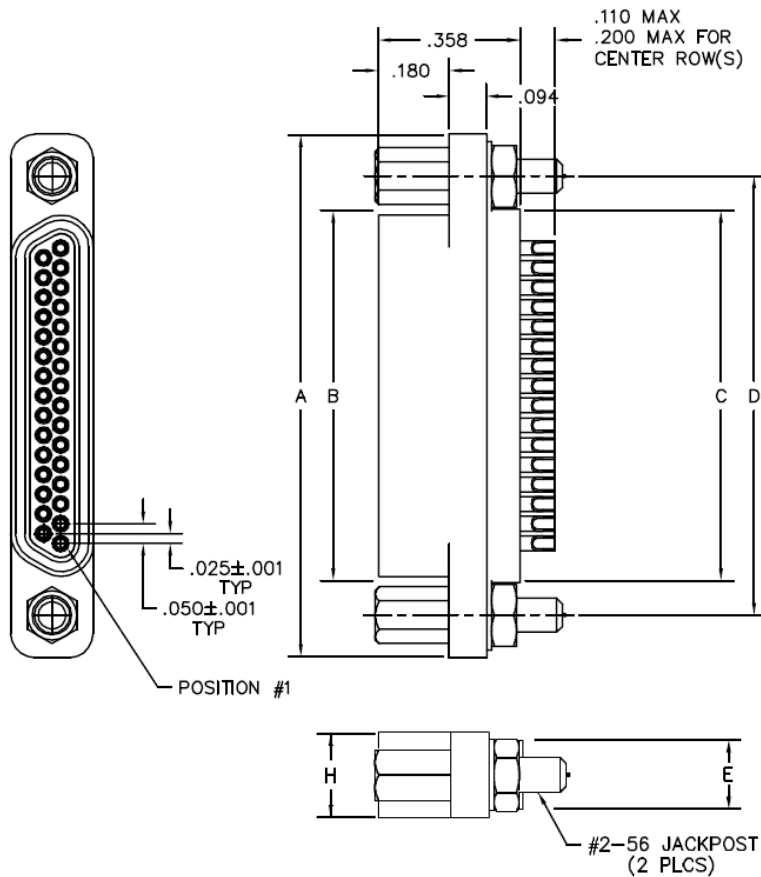
Socket Contact: ..... Brass per ASTM B121/B121M or ASTM B16/B16M or ASTM B453  
 Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
 Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or black anodized per MIL-A-8625, Type III Class 2, or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: ..... High-temp thermoplastic  
 Embedment: ..... High-temp epoxy  
 Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Interfacial Seal Gaskets: ..... Fluorosilicone per SAE AMS-R-25988  
 Tolerances: ..... Angles: ±5°  
 Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0"  
 uninsulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

Contact Rating: ..... 3 amperes maximum  
 Operating Temperature: ..... -55° C to 205° C  
 Test Voltage: ..... 600V, RMS, 60Hz  
 Insulation Resistance ..... 5,000 megohms minimum @ 500 VDC  
 Durability: ..... 500 connector mating cycles  
 Contact Engaging Force: ..... 6.0 ounces maximum/contact  
 Contact Separating Force: ..... 0.5 ounces minimum/contact  
 Mating and Unmating Force: ..... 10 ounces maximum/contact

## MQHT FEMALE DRAWINGS



Straight  
 Low Profile  
 Cable-to-Cable

DIMENSIONS								
SIZE	ROWS	A	B (MAX)	C	D	E	H	HARDWARE
9	2	.778	.378	.398	.565	.173	.208	#2-56 UNC THD (Ø.092 THRU)
15		.928	.528	.548	.715			
21		1.078	.678	.698	.865			
25		1.178	.778	.798	.965			
31		1.328	.928	.948	1.115			
37		1.478	1.078	1.098	1.265			
51	3	1.428	1.028	1.048	1.215	.220	.250	

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.



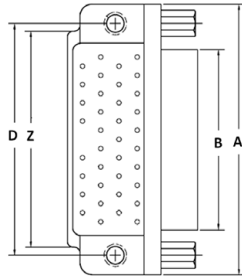
**M** **MICRO**  
**0.050"**  
**(1.27 mm)**



## MSHT – Low-Profile, Right Angle Board-Mount (Male)

MSHT interconnects are used in high-temperature applications where a right angle, plated thru-hole termination is desired for mounting. The narrow footprint on this connector helps save board space.

## DIMENSIONS



DIMENSIONS					
SIZE	ROWS	A	B (MAX)	D	Z
9	2	.778	.292	.565	.775
15		.928	.442	.715	.925
21		1.078	.592	.865	1.075
25		1.178	.692	.965	1.175
31		1.328	.842	1.115	1.080
37		1.478	.992	1.265	1.180
51	3	1.428	.942	1.215	1.220

Please reference MSHTM-DIM-1 for more detail.

## ORDER FORM

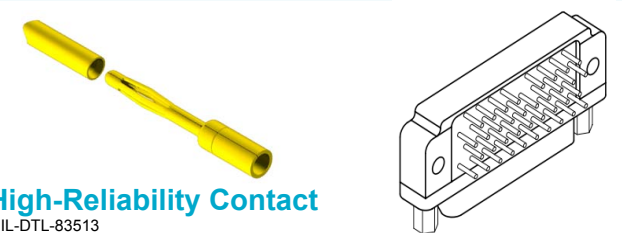
Sample Part Number Format: **MSHT-252-037-323-220S**

MSHT	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE
<b>SERIES</b> 0.050" Low-Profile Metal PC Board-Mount Connector (Male)	<b>ROWS</b> 2 – 2-Row (9-37 contacts) 3 – 3-Row (51 contacts)	<b>BODY STYLE</b> 5 – Plug, right angle, narrow footprint with threaded inserts.	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 4 – High-temp thermoplastic with hard black anodized shell 5 – High-temp with stainless steel shell	<b>SIZE</b> 009 – 9 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts 031 – 31 Contacts 037 – 37 Contacts 051 – 51 Contacts	<b>CONTACT/TERMINATION TYPE</b> 32 – Pin, right angle, 0.109" x 0.020" dia 33 – Pin, right angle, 0.140" x 0.020" dia 34 – Pin, right angle, 0.172" x 0.020" dia	<b>PLATING</b> 3 – 50 μ" Au contacts; Au terminations	<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies	<b>POLARIZATION</b> 0S – Standard body polarization

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

**MSHT-252-037-323-220S**



**High-Reliability Contact**  
MIL-DTL-83513

## MATERIALS and FINISHES

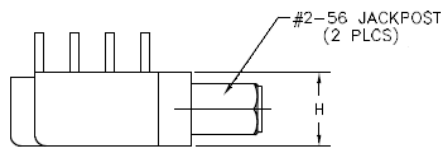
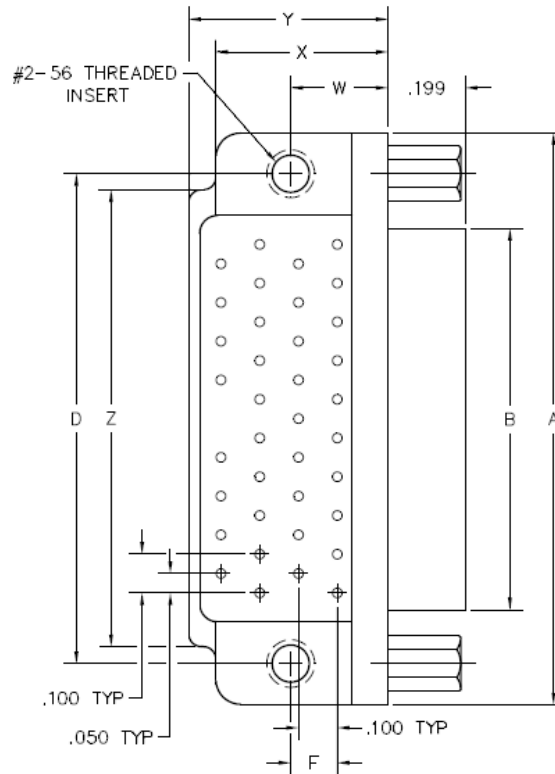
Pin Contacts: ..... Copper-based alloy strip  
Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or black anodized per MIL-A-8625, Type III Class 2, or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
Molded Insulators: ..... High-temp thermoplastic  
Embedment: ..... High-temp epoxy  
Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
Tolerances: ..... Angles: ±5° (unless otherwise specified)  
Decimals: ±0.010"; Fractions: ±1/64"  
Wire lengths – insulated/stranded: +1.0"/-0.0"  
uninsulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

Contact Rating: ..... 3 amperes maximum  
Operating Temperature: ..... -55° C to 205° C  
Test Voltage: ..... 600V, RMS, 60Hz  
Insulation Resistance: ..... 5,000 megohms minimum @ 500 VDC  
Durability: ..... 500 connector mating cycles  
Contact Engaging Force: ..... 6.0 ounces maximum/contact  
Contact Separating Force: ..... 0.5 ounces minimum/contact  
Mating and Unmating Force: ..... 10 ounces maximum/contact

## MSHT MALE DRAWINGS



Right Angle  
 Narrow Footprint  
 Threaded Inserts

DIMENSIONS											
SIZE	ROWS	A	B (MAX)	D	F	H	W	X (MAX)	Y (MAX)	Z	HARDWARE
9	2	.778	.292	.565	.120	.208	.250	.420	.420	.775	#2-56 UNC THD
15		.928	.442	.715						.925	
21		1.078	.592	.865						1.075	
25		1.178	.692	.965				1.175			
31		1.328	.842	1.115				1.080			
37		1.478	.992	1.265				1.180			
51	3	1.428	.942	1.215	.150	.250	.300	.425	.650	1.220	

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

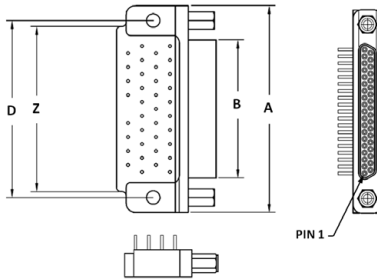




## MSHT – Right Angle, Board-Mount with Blind Clearance Cut (Male)

MSHT interconnects are used in high-temperature applications where a right angle, plated thru-hole termination is desired for mounting. The narrow footprint on this connector helps save board space.

## DIMENSIONS



DIMENSIONS						
SIZE	ROWS	A	B (MAX)	D	Z	HARDWARE
9	2	.758	.292	.565	.775	#2-56 UNC THREADED INSERT
15		.928	.422	.715	.925	
21		1.078	.592	.865	1.075	
25		1.178	.692	.965	1.175	
31		1.328	.842	1.115	1.080	
37	3	1.478	.992	1.265	1.180	
51		1.428	.942	1.215	1.220	

Please reference MSHTM-DIM-2 for more detail.

## ORDER FORM

Sample Part Number Format: **MSHT-2T3-037-323-220S**

MSHT	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE
<b>SERIES</b> 0.050" Low-Profile Metal PC Board- Mount Connector (Male)	<b>ROWS</b> 2 – 2-Row (9-37 contacts) 3 – 3-Row (51 contacts)	<b>BODY STYLE</b> T – Plug, right angle (blind clearance cut), narrow footprint with threaded inserts	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 4 – High-temp thermoplastic with hard black anodized shell	<b>SIZE</b> 009 – 9 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts 031 – 31 Contacts 037 – 37 Contacts 051 – 51 Contacts	<b>PLATING</b> 3 – 50 μ" Au contacts; Au terminations	<b>CONTACT/TERMINATION TYPE</b> 32 – Pin, right angle, PCB leads, 0.109" x 0.020" dia 33 – Pin, right angle, PCB leads, 0.140" x 0.020" dia 34 – Pin, right angle, PCB leads, 0.172" x 0.020" dia	<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies	<b>WIRING</b> 0S – Standard body polarization

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

**MSHT-2T3-037-323-220S**  
**High-Reliability Contact**  
 MIL-DTL-83513

## MATERIALS and FINISHES

Pin Contacts: ..... Copper-based alloy strip  
 Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
 Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11  
 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or black  
 anodized per MIL-A-8625, Type III Class 2, or 303 stainless steel per ASTM  
 A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: ..... High-temp thermoplastic  
 Embedment: ..... High-temp epoxy  
 Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M,  
 passivated per ASTM A967, SAE AMS-QQ-P-35  
 Tolerances: ..... Angles: ±5°  
 (unless otherwise specified) Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0"  
 uninsulated/solid: +0.02"/-0.0"

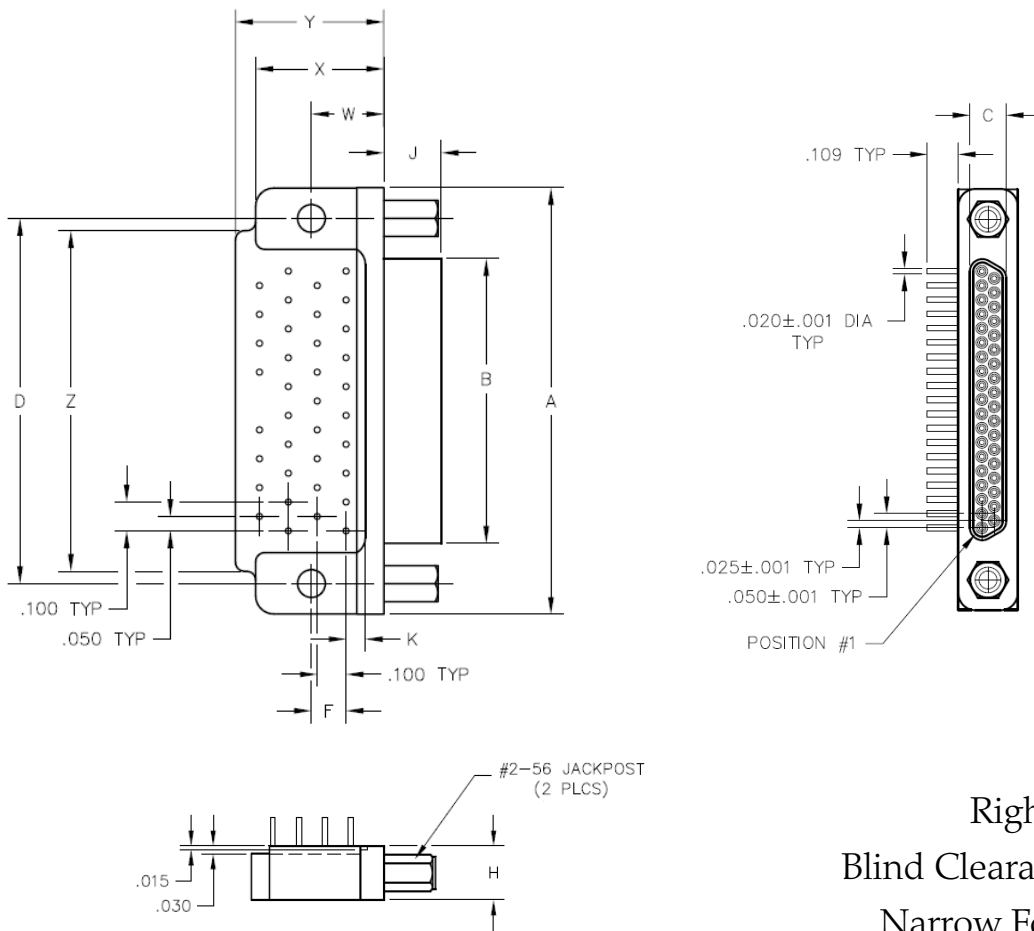
**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

Contact Rating: ..... 3 amperes maximum  
 Operating Temperature: ..... -55° C to 205° C  
 Test Voltage: ..... 600V, RMS, 60Hz  
 Insulation Resistance: ..... 5,000 megohms minimum @ 500 VDC  
 Durability: ..... 500 connector mating cycles  
 Contact Engaging Force: ..... 6.0 ounces maximum/contact  
 Contact Separating Force: ..... 0.5 ounces minimum/contact  
 Mating and Unmating Force: ..... 10 ounces maximum/contact



## MSHT (BLIND CLEARANCE CUT) MALE DRAWINGS



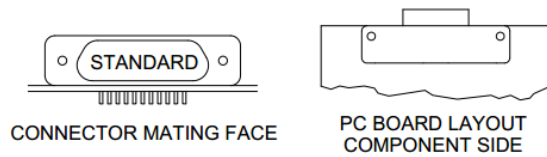
Right Angle  
 Blind Clearance Cut  
 Narrow Footprint  
 Threaded Inserts

DIMENSIONS															
SIZE	ROWS	A	B (MAX)	C	D	F	H	J	K	W	X (MAX)	Y (MAX)	Z	HARDWARE	MOUNTING HOLE
9	2	.758	.292	.134	.565	.020	.208	.199	.067	.250	.420	.420	.775	#2-56 UNC THD	#2-56 UNC THREADED INSERT
15		.928	.422		.715	.925									
21		1.078	.592		.865	1.075									
25		1.178	.692		.965	1.175									
31		1.328	.842		1.115	1.080									
37		1.478	.992		1.265	1.180									
51	3	1.428	.942	.177	1.215	.150	.250	.087	.300	.425	.650	1.220			

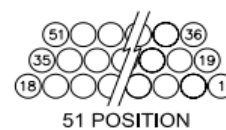
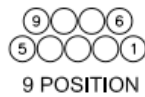
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## Recommended PC Board Layouts – MSHT Male

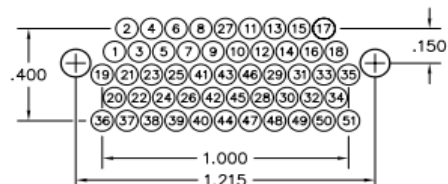
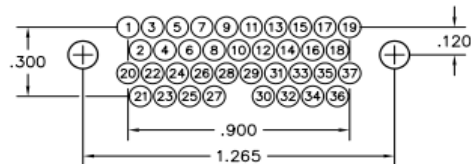
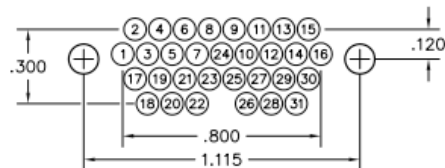
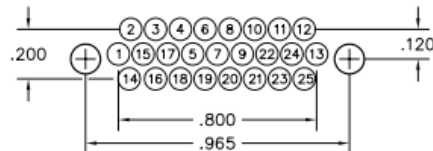
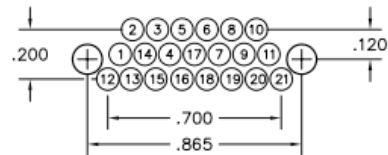
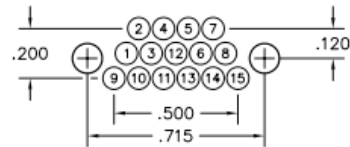
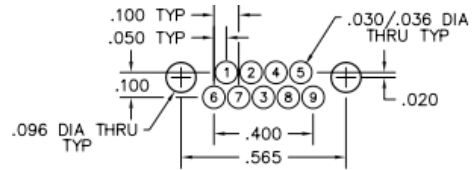
Right Angle  
 Narrow Footprint  
 Standard Polarization



CONNECTOR MATING FACE



PC BOARD LAYOUT COMPONENT SIDE





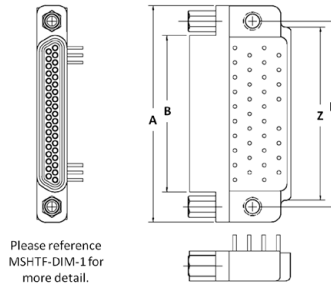
**M** **MICRO**  
**SERIES** 0.050"  
 (1.27 mm)



## MSHT – Low-Profile, Right Angle Board-Mount (Female)

MSHT interconnects are used in high-temperature applications where a right angle, plated thru-hole termination is desired for mounting. The narrow footprint on this connector helps save board space.

## DIMENSIONS



DIMENSIONS						
SIZE	ROWS	A	B (MAX)	D	Z	HARDWARE
9	2	.778	.378	.565	.775	#2-56 UNC THD
15		.928	.528	.715	.925	
21		1.078	.678	.865	1.075	
25		1.178	.778	.965	1.175	
31		1.328	.928	1.115	1.080	
37	3	1.478	1.078	1.265	1.180	
51		1.428	1.028	1.215	1.220	

## ORDER FORM

Sample Part Number Format: **MSHT-262-037-433-220S**

MSHT	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE
<b>SERIES</b> 0.050" Low-Profile Metal PC Board-Mount Connector (Female)	<b>ROWS</b> 2 – 2-Row (9-37 contacts) 3 – 3-Row (51 contacts)	<b>BODY STYLE</b> 6 – Receptacle, right angle, narrow footprint with threaded inserts and interfacial seal.	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 4 – High-temp thermoplastic with hard black anodized shell 5 – High-temp with stainless steel shell	<b>SIZE</b> 009 – 9 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts 031 – 31 Contacts 037 – 37 Contacts 051 – 51 Contacts	<b>PLATING</b> 3 – 50 μ" Au contacts; Au terminations	<b>CONTACT/TERMINATION TYPE</b> 43 – Socket, right angle, 0.109" x 0.020" dia, 44 – Socket, right angle, 0.140" x 0.020" dia, 45 – Socket, right angle, 0.172" x 0.020" dia,	<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies	<b>POLARIZATION</b> 0S – Standard body polarization

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

## MATERIALS and FINISHES

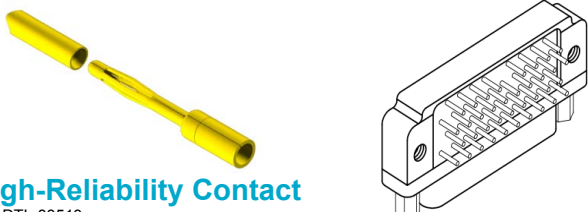
Socket Contact: . . . . . Brass per ASTM B121/B121M or ASTM B16/B16M or ASTM B453  
 Contact Finish: . . . . . Gold plate per ASTM B488, SAE AMS-2422  
 Shells: . . . . . Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: . . . . . Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or black anodized per MIL-A-8625, Type III Class 2, or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700  
 Molded Insulators: . . . . . High-temp thermoplastic  
 Embedment: . . . . . High-temp epoxy  
 Hardware: . . . . . Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Interfacial Seal Gaskets: . . . . . Fluorosilicone per SAE AMS-R-25988  
 Tolerances: . . . . . Angles: ±5°  
 (unless otherwise specified) Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0"  
 uninsulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

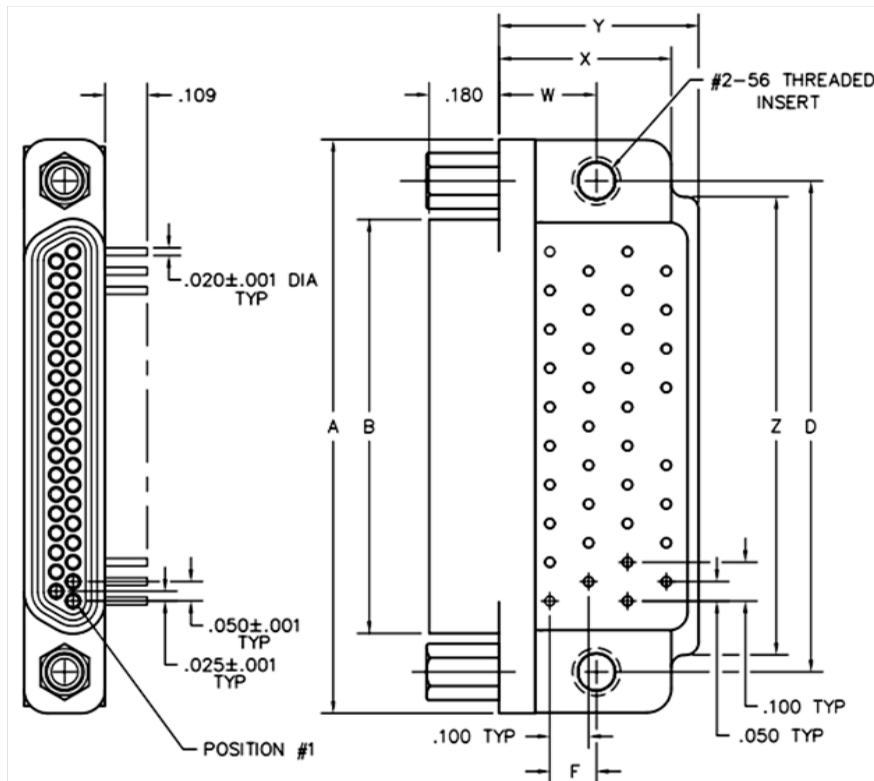
Contact Rating: . . . . . 3 amperes maximum  
 Operating Temperature: . . . . . -55° C to 205° C  
 Test Voltage: . . . . . 600V, RMS, 60Hz  
 Insulation Resistance . . . . . 5,000 megohms minimum @ 500 VDC  
 Durability: . . . . . 500 connector mating cycles  
 Contact Engaging Force: . . . . . 6.0 ounces maximum/contact  
 Contact Separating Force: . . . . . 0.5 ounces minimum/contact  
 Mating and Unmating Force: . . . . . 10 ounces maximum/contact

**MSHT-262-037-433-220S**

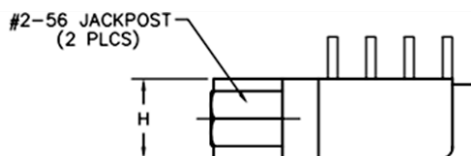


**High-Reliability Contact**  
 MIL-DTL-83513

### MSHT FEMALE DRAWINGS

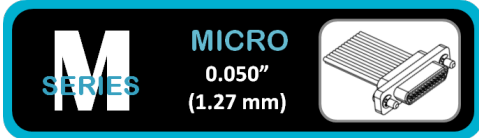


Right Angle  
 Blind Clearance Cut  
 Narrow Footprint  
 Threaded Inserts



DIMENSIONS															
SIZE	ROWS	A	B (MAX)	C	D	F	H	J	K	W	X (MAX)	Y (MAX)	Z	HARDWARE	MOUNTING HOLE
9	2	.758	.378	.218	.565	.120	.208	.180	.067	.250	.420	.420	.775	#2-56 UNC THD	#2-56 UNC THREADED INSERT
15		.928	.528		.715								.925		
21		1.078	.678		.865								1.075		
25		1.178	.778		.965								1.175		
31		1.328	.928		1.115								1.080		
37		1.478	1.078		1.265								1.180		
51	3	1.428	1.028	.260	1.215	.150	.250		.087	.300	.425	.650	1.220		

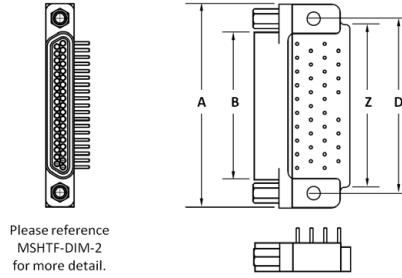
PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.



## MSHT – Low-Profile, Right Angle Board-Mount with Blind Clearance Cut (Female)

MSHT interconnects are used in high-temperature applications where a right angle, plated thru-hole termination is desired for mounting. The narrow footprint on this connector helps save board space.

### DIMENSIONS



DIMENSIONS					
SIZE	ROWS	A	B (MAX)	D	Z
9	2	.758	.378	.565	.775
15		.928	.528	.715	.925
21		1.078	.678	.865	1.075
25		1.178	.778	.965	1.175
31		1.328	.928	1.115	1.080
37	3	1.478	1.078	1.265	1.180
51		1.428	1.028	1.215	1.220

### ORDER FORM

Sample Part Number Format: **MSHT-2V3-037-435-220S**

<b>MSHT</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>	<b>ENTER CODE</b>
<b>SERIES</b> 0.050" Low-Profile Metal PC Board-Mount Connector (Female)	<b>ROWS</b> 2 – 2-Row (9-37 contacts) 3 – 3-Row (51 contacts)	<b>BODY STYLE</b> V – Receptacle, right angle (blind clearance cut), narrow footprint with threaded inserts	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell 4 – High-temp thermoplastic with hard black anodized shell	<b>SIZE</b> 009 – 9 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts 031 – 31 Contacts 037 – 37 Contacts 051 – 51 Contacts	<b>PLATING</b> 3 – 50 μ" Au contacts; Au terminations	<b>CONTACT/TERMINATION TYPE</b> 43 – Socket, right angle, 0.109" x 0.020" dia 44 – Socket, right angle, 0.140" x 0.020" dia 45 – Socket, right angle, 0.172" x 0.020" dia	<b>HARDWARE</b> 00 – No hardware 22 – Two fixed jacknut assemblies	<b>WIRING</b> 0S – Standard body polarization

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

### NOTES

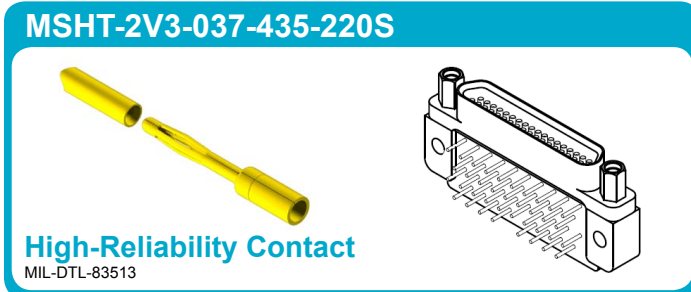
### MATERIALS and FINISHES

- Socket Contact: Brass per ASTM B121/B121M or ASTM B16/B16M or ASTM B453
- Contact Finish: Gold plate per ASTM B488, SAE AMS-2422
- Shells: Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8
- Shell Finishes: Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum or black anodized per MIL-A-8625, Type III Class 2, or 303 stainless steel per ASTM A581/A581M or ASTM A582/A582M, passivated per SAE AMS-2700
- Molded Insulators: High-temp thermoplastic
- Embedment: High-temp epoxy
- Hardware: Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35
- Interfacial Seal Gaskets: Fluorosilicone per SAE AMS-R-25988
- Tolerances: Angles: ±5°  
Decimals: ±0.010"; Fractions: ±1/64"  
Wire lengths – insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.02"/-0.0"

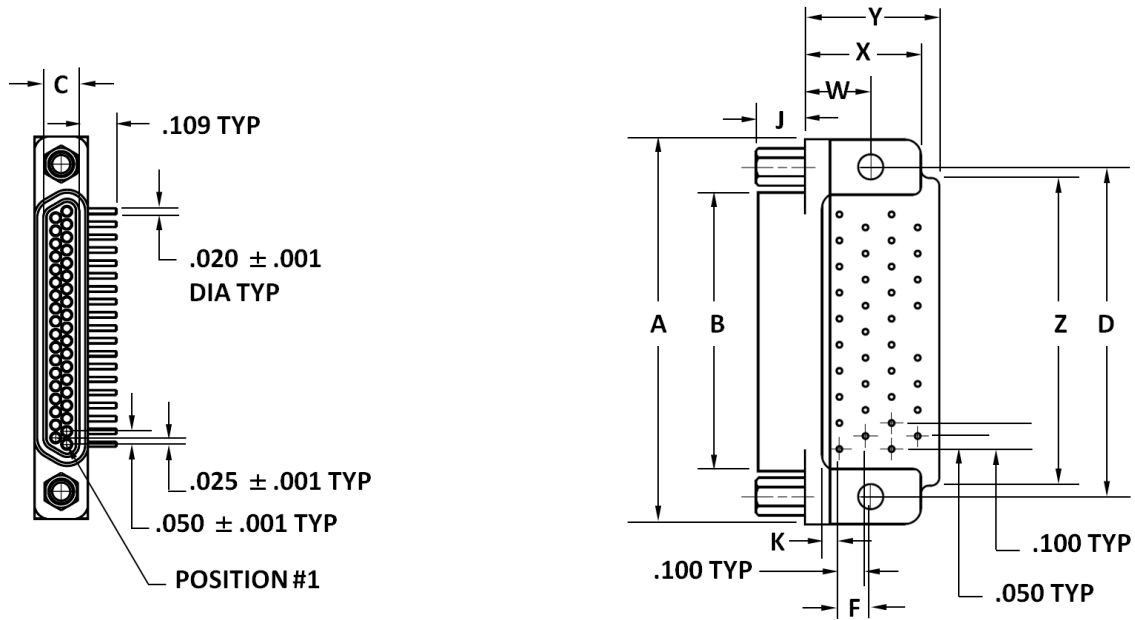
**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

### PERFORMANCE

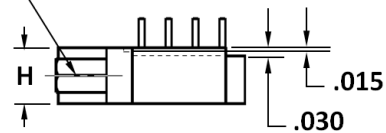
- Contact Rating: 3 amperes maximum
- Operating Temperature: -55° C to 205° C
- Test Voltage: 600V, RMS, 60Hz
- Insulation Resistance: 5,000 megohms minimum @ 500 VDC
- Durability: 500 connector mating cycles
- Contact Engaging Force: 6.0 ounces maximum/contact
- Contact Separating Force: 0.5 ounces minimum/contact
- Mating and Unmating Force: 10 ounces maximum/contact



## MSHT (BLIND CLEARANCE CUT) FEMALE DRAWINGS



#2-56 JACKPOST  
(2 PLCS)



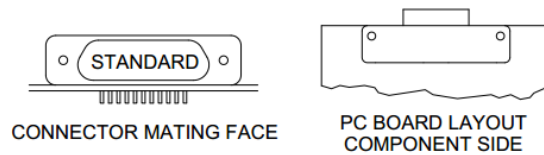
Right Angle  
 Blind Clearance Cut  
 Narrow Footprint  
 Threaded Inserts

DIMENSIONS															
SIZE	ROWS	A	B (MAX)	C	D	F	H	J	K	W	X (MAX)	Y (MAX)	Z	HARDWARE	MOUNTING HOLE
9	2	.758	.378	.218	.565	.120	.208	.180	.067	.250	.420	.420	.775	#2-56 UNC THD	#2-56 UNC THREADED INSERT
15		.928	.528		.715								.925		
21		1.078	.678		.865								1.075		
25		1.178	.778		.965								1.175		
31		1.328	.928		1.115								1.080		
37		1.478	1.078		1.265								1.180		
51	3	1.428	1.028	.260	1.215	.150	.250		.087	.300	.425	.650	1.220		

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

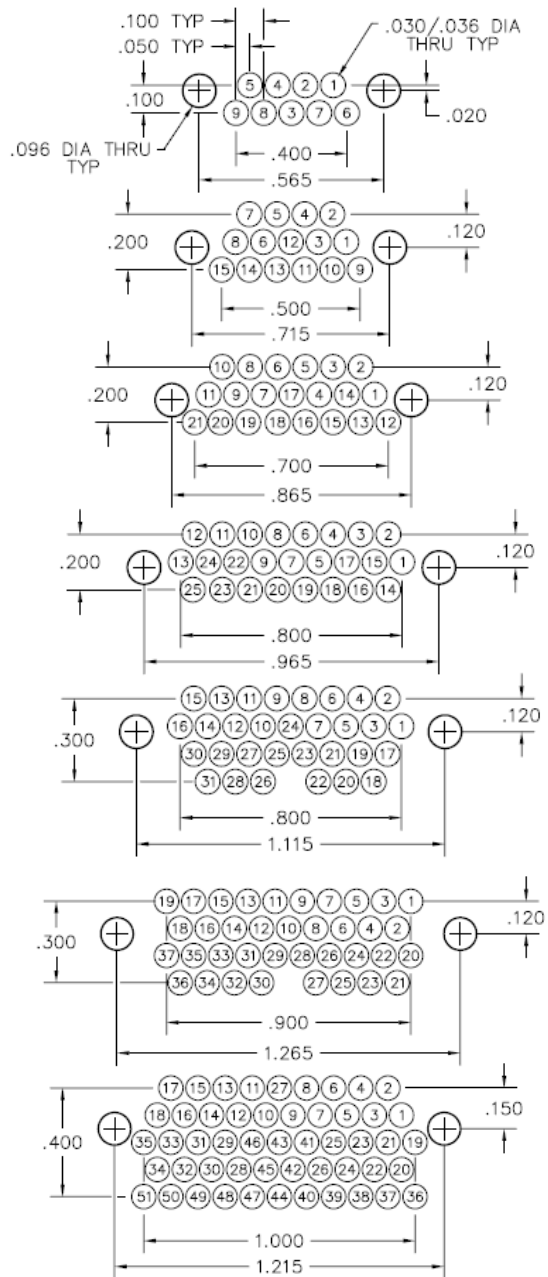
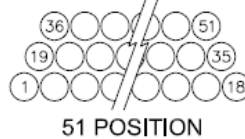
## Recommended PC Board Layouts – MSHT Female

Right Angle  
 Narrow Footprint  
 Standard Polarization



CONNECTOR MATING FACE

PC BOARD LAYOUT COMPONENT SIDE







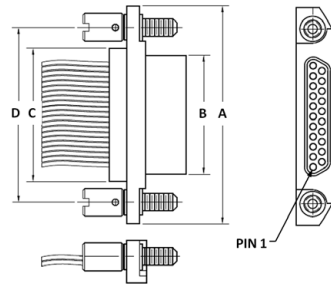
**M** **MICRO**  
 0.050"  
 (1.27 mm)



## MTHT – Low-Profile I/O Cable with Radius Ear (Male)

MTHT interconnects are used in high-temperature applications. These low-profile connectors come with a variety of termination, hardware and wiring options. Custom lengths are available on wire termination products.

## DIMENSIONS



DIMENSIONS					
SIZE	ROWS	A	B (MAX)	C	D
9	2	.778	.292	.398	.565
15		.928	.442	.548	.715
21		1.078	.592	.698	.865
25		1.178	.692	.798	.965
31		1.328	.842	.948	1.115
37	3	1.478	.992	1.098	1.265
51		1.428	.942	1.048	1.215

Please reference MTHTM-DIM-1 for more detail.

## ORDER FORM

Sample Part Number Format: **MTHT-212-021-161-43WQ**

ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE
<b>MTHT</b>								
<b>SERIES</b> 0.050" Low-Profile Metal I/O Connector (Male)	<b>ROWS</b> 2 – 2-Row (9-37 contacts) 3 – 3-Row (51 contacts)	<b>BODY STYLE</b> 1 – Plug, straight with ears. Low-profile radius.	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell	<b>SIZE</b> 009 – 9 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts 031 – 31 Contacts 037 – 37 Contacts 051 – 51 Contacts	<b>PLATING</b> 1 – 50 μ" Au contacts (crimp wire) 3 – 50 μ" Au contacts; Au terminations (solder cup, pigtail)	<b>CONTACT/TERMINATION TYPE</b> 1A – Pin, straight, 24 awg solder cup 11 – Pin, straight, 26 awg solder cup 12 – Pin, straight, 0.125" lead length* 13 – Pin, straight, 0.250" lead length* 14 – Pin, straight, 0.500" lead length* 16 – Pin, straight, crimped wire	<b>HARDWARE</b> 00 – No hardware 41 – Two turning jackscrews, allen head 43 – Two turning jackscrews, slot head	<b>WIRING</b> 00 – None XX – See Wiring Codes

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

\* 0.018 diameter

## MATERIALS and FINISHES

Pin Contacts: ..... Copper-based alloy strip  
 Contact Finish: ..... Gold plate per ASTM B488, SAE AMS-2422  
 Shells: ..... Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: ..... Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum  
 Molded Insulators: ..... High-temp thermoplastic  
 Embedment: ..... High-temp epoxy  
 Hardware: ..... Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Tolerances: ..... Angles: ±5°  
 (unless otherwise specified) Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0"  
 uninsulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

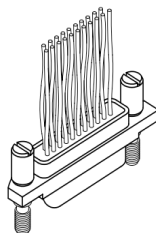
Contact Rating: ..... 3 amperes maximum  
 Operating Temperature: ..... -55° C to 205° C  
 Test Voltage: ..... 600V, RMS, 60Hz  
 Insulation Resistance ..... 5,000 megohms minimum @ 500 VDC  
 Durability: ..... 500 connector mating cycles  
 Contact Engaging Force: ..... 6.0 ounces maximum/contact  
 Contact Separating Force: ..... 0.5 ounces minimum/contact  
 Mating and Unmating Force: ..... 10 ounces maximum/contact

## MTHT-212-021-161-43WQ

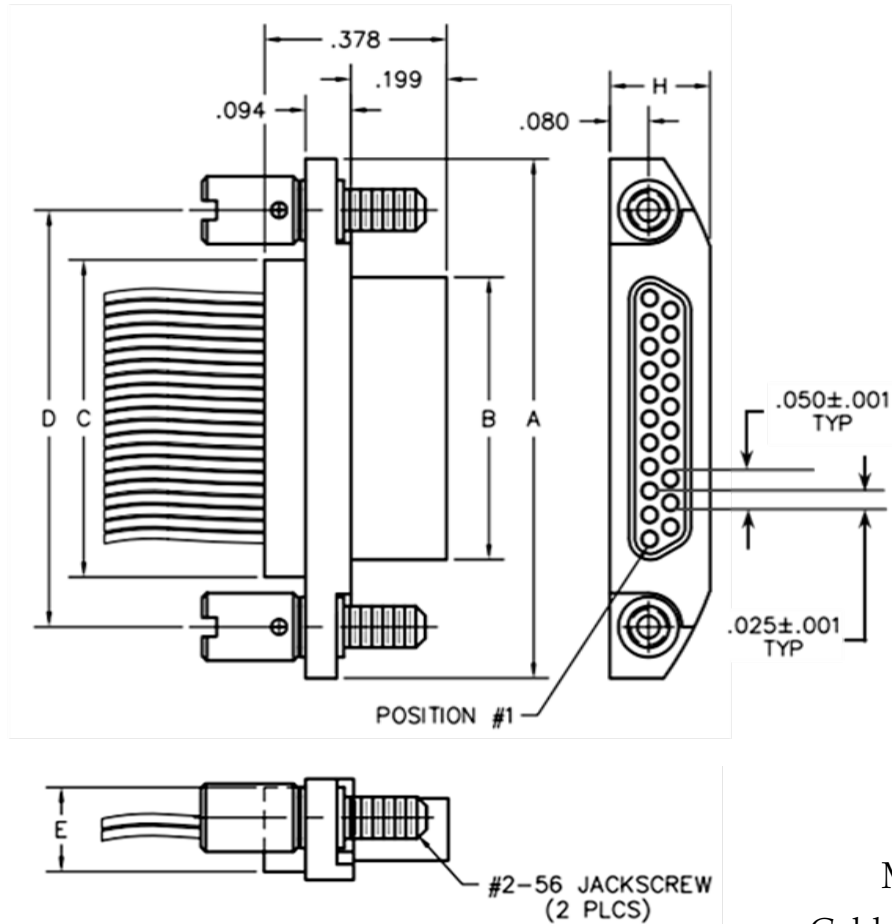


### High-Reliability Contact

MIL-DTL-83513



## MTHT MALE DRAWINGS



Straight  
 Multi-Row  
 Cable-to-Cable

DIMENSIONS								
SIZE	ROWS	A	B (MAX)	C	D	E (MAX)	H	HARDWARE
9	2	.778	.292	.398	.565	.173	.208	#2-56 UNC THD
15		.928	.442	.548	.715			
21		1.078	.592	.698	.865			
25		1.178	.692	.798	.965			
31		1.328	.842	.948	1.115			
37	3	1.478	.992	1.098	1.265	.220	.250	#2-56 UNC THD
51		1.428	.942	1.048	1.215			

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.



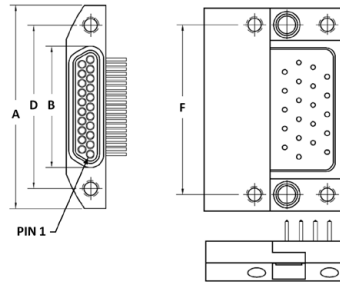
**M** **MICRO**  
**0.050"**  
**(1.27 mm)**



## MTHT – Low-Profile, Right Angle Board-Mount with Radius Ear (Female)

MTHT interconnects are used in high-temperature applications where a right angle, plated thru-hole termination is desired for mounting. The narrow footprint on this connector helps save board space.

## DIMENSIONS



DIMENSIONS									
SIZE	ROWS	A	B (MAX)	D	F	H	W	Y (MAX)	HARDWARE
9		.778	.378	.565	.600				
15		.928	.528	.715	.750				
21	2	1.078	.678	.865	.900	.208	.250	.420	#2-56 UNC THD
25		1.178	.778	.965	1.000				
31		1.328	.928	1.115	1.150				
37		1.478	1.078	1.265	1.300			.520	
51	3	1.428	1.028	1.215	1.250	.250	.300	.650	

Please reference MTHTF-DIM-1 for more detail.

## ORDER FORM

Sample Part Number Format: **MTHT-2E2-021-433-000S**

ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE	ENTER CODE
<b>MTHT</b>								
<b>SERIES</b> 0.050" Low-Profile Metal PC Board-Mount Connector (Female)	<b>ROWS</b> 2 – 2-Row (9-37 contacts) 3 – 3-Row (51 contacts)	<b>BODY STYLE</b> E – Receptacle, right angle, with four mounting holes. Low-profile radius.	<b>BODY MATERIAL</b> 2 – High-temp thermoplastic with electroless nickel shell	<b>SIZE</b> 009 – 9 Contacts 015 – 15 Contacts 021 – 21 Contacts 025 – 25 Contacts 031 – 31 Contacts 037 – 37 Contacts 051 – 51 Contacts	<b>PLATING</b> 3 – 50 μ" Au contacts; Au terminations (solder cup, pigtail)	<b>POLARIZATION</b> 0S – Standard body polarization	<b>CONTACT/TERMINATION TYPE</b> 43 – Socket, right angle, 0.109" x 0.016" dia. 44 – Socket, right angle, 0.140" x 0.016" dia. 45 – Socket, right angle, 0.172" x 0.016" dia.	<b>HARDWARE</b> 00 – Integrated jacknuts

PLEASE CONSULT THE AIRBORN WEBSITE FOR THE LATEST REVISION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.

## NOTES

## MATERIALS and FINISHES

Socket Contact: . . . . . Brass per ASTM B121/B121M or ASTM B16/B16M or ASTM B453  
 Contact Finish: . . . . . Gold plate per ASTM B488, SAE AMS-2422  
 Shells: . . . . . Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8  
 Shell Finishes: . . . . . Electroless nickel per SAE AMS-2402, Class 3, 500 μ" minimum  
 Molded Insulators: . . . . . High-temp thermoplastic  
 Embedment: . . . . . High-temp epoxy  
 Hardware: . . . . . Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35  
 Interfacial Seal Gaskets: . . . . . Fluorosilicone per SAE AMS-R-25988  
 Tolerances: . . . . . Angles: ±5°  
 (unless otherwise specified) . . . . . Decimals: ±0.010"; Fractions: ±1/64"  
 Wire lengths – insulated/stranded: +1.0"/-0.0"  
 . . . . . uninsulated/solid: +0.02"/-0.0"

**NOTE:** AirBorn can manufacture special configurations to your exact specifications.

## PERFORMANCE

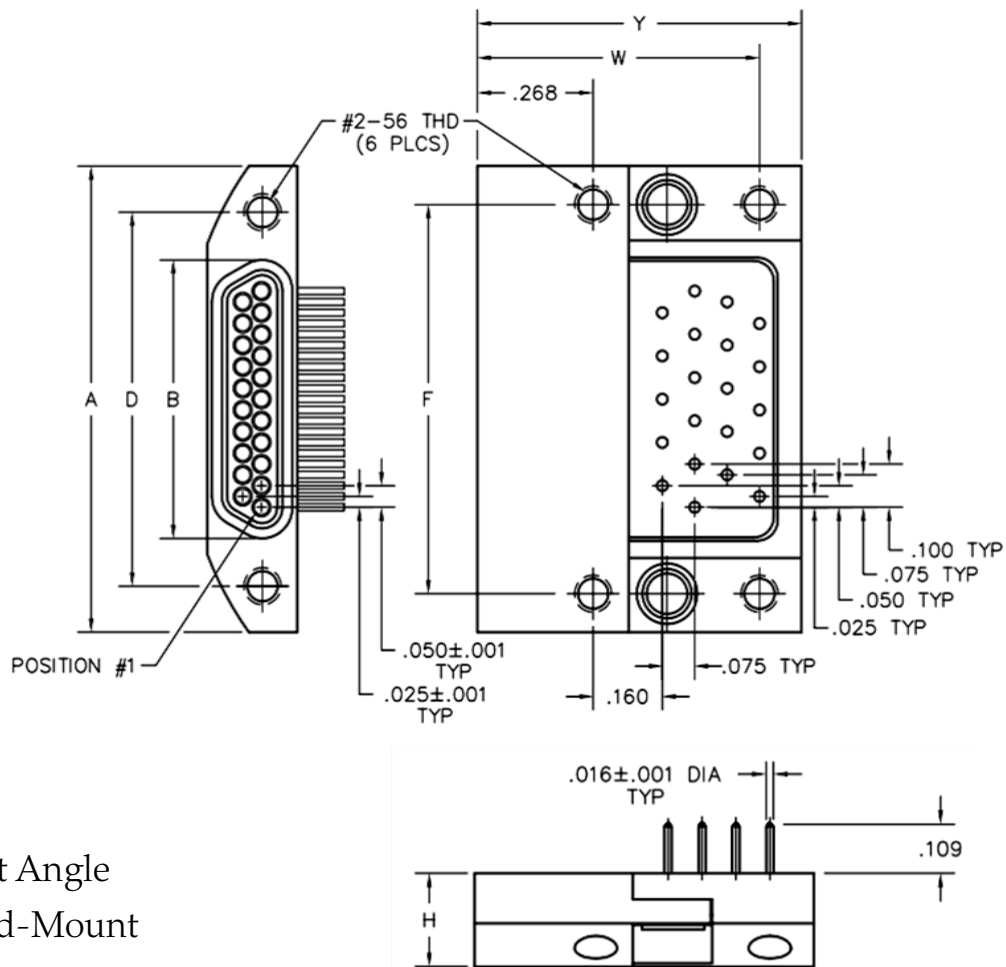
Contact Rating: . . . . . 3 amperes maximum  
 Operating Temperature: . . . . . -55° C to 205° C  
 Test Voltage: . . . . . 600V, RMS, 60Hz  
 Insulation Resistance . . . . . 5,000 megohms minimum @ 500 VDC  
 Durability: . . . . . 500 connector mating cycles  
 Contact Engaging Force: . . . . . 6.0 ounces maximum/contact  
 Contact Separating Force: . . . . . 0.5 ounces minimum/contact  
 Mating and Unmating Force: . . . . . 10 ounces maximum/contact

**MTHT-2E2-021-433-000S**



**High-Reliability Contact**  
 MIL-DTL-83513

## MTHT FEMALE DRAWINGS



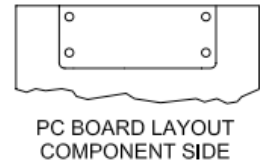
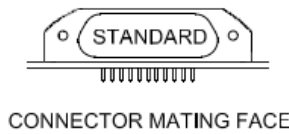
Right Angle  
 Board-Mount  
 Narrow Footprint

DIMENSIONS								
SIZE	ROWS	A	B (MAX)	C	D	E (MAX)	H	HARDWARE
9	2	.778	.292	.398	.565	.173	.208	#2-56 UNC THD
15		.928	.442	.548	.715			
21		1.078	.592	.698	.865			
25		1.178	.692	.798	.965			
31		1.328	.842	.948	1.115			
37		1.478	.992	1.098	1.265			
51	3	1.428	.942	1.048	1.215	.220	.250	

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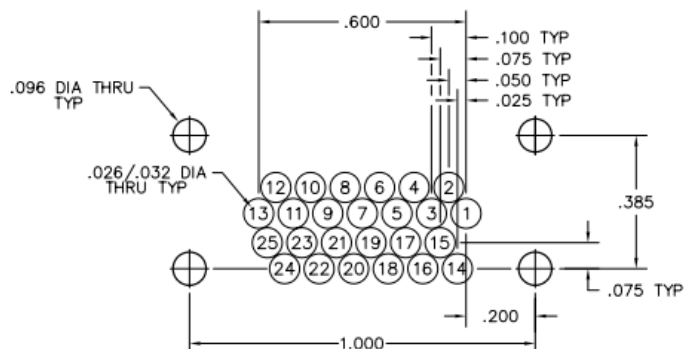
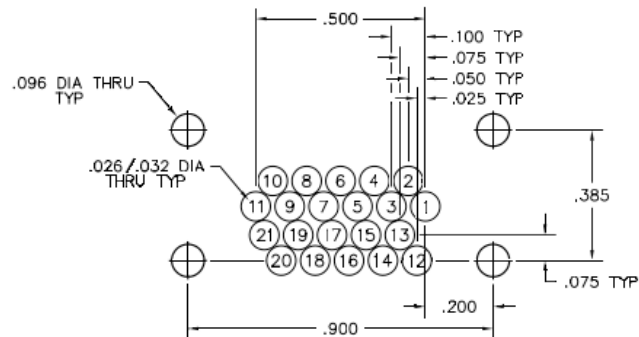
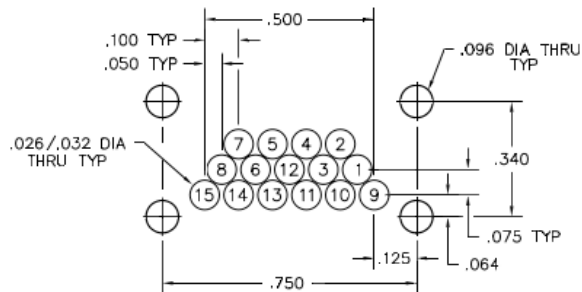
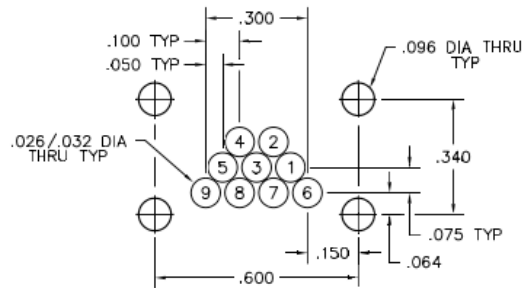
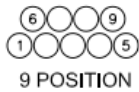
**Recommended PC Board Layouts – MTHT Female**

Low-Profile, Right Angle  
 Standard Polarization  
 Sizes 9–25



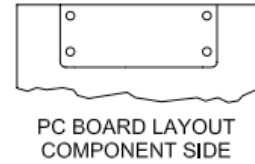
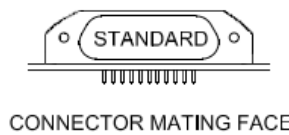
CONNECTOR MATING FACE

PC BOARD LAYOUT COMPONENT SIDE



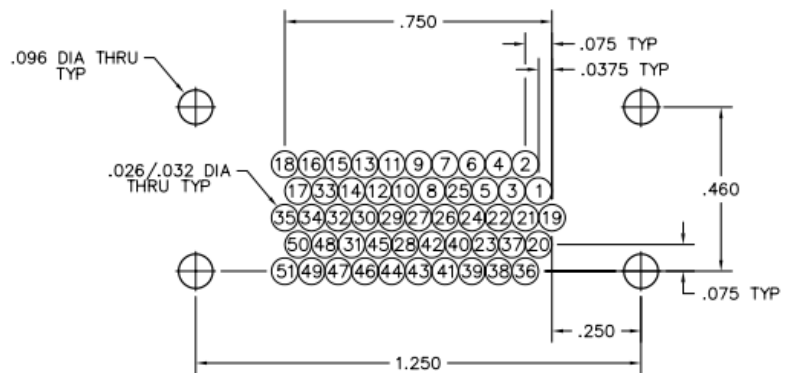
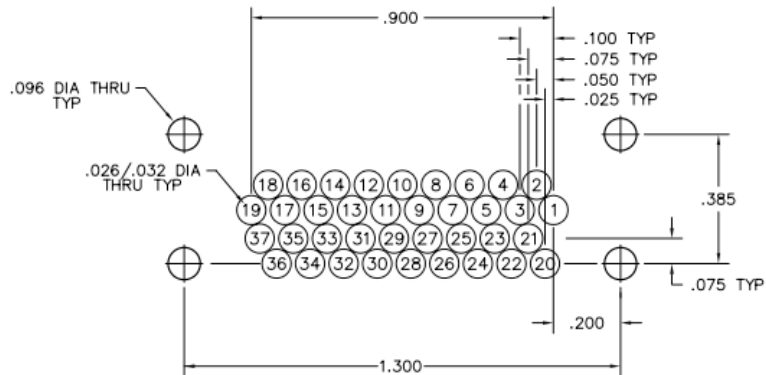
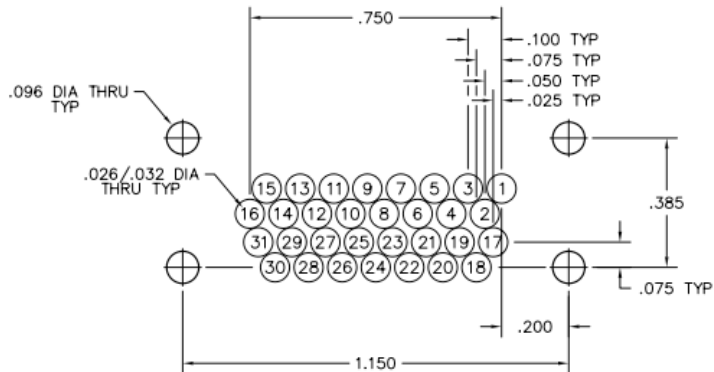
## Recommended PC Board Layouts – MTHT Female

Low-Profile, Right Angle  
 Standard Polarization  
 Sizes 31–51



CONNECTOR  
 MATING FACE

PC BOARD LAYOUT  
 COMPONENT SIDE



**WIRE CODES**
**M-Series**
**NEMA HP3-EXBEB (Formerly M16878/4-24 TFE 7 strand)**

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
MIL-STD-681*	WA	WB	WC	UD	UE	WD	UG	UH	UJ	UK	UL	UM	UN	UP	UQ	UR
WHITE	WE	WF	WG	VD	VE	WH	VG	VH	VJ	VK	VL	VM	VN	VP	VQ	VR
YELLOW	WJ	WK	WL			WM										

**NEMA HP3-EXBDB (Formerly M16878/4-26 TFE 7 strand)**

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
MIL-STD-681*	WN	WP	WQ	YD	YE	WR	YG	YH	YJ	YK	YL	YM	YN	YP	YQ	YR
WHITE	WS	WT	WU	ZD	ZE	WV	ZG	ZH	ZJ	ZK	ZL	ZM	ZN	ZP	ZQ	ZR
YELLOW	WW	WX	WY			WZ										

**NEMA HP3-EXBCB (Formerly M16878/4-28 TFE 7 strand)**

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
MIL-STD-681*	XA	XB	XC	1D	1E	XD	1G	1H	1J	1K	1L	1M	1N	1P	1Q	1R
WHITE	XE	XF	XG	2D	2E	XH	2G	2H	2J	2K	2L	2M	2N	2P	2Q	2R
YELLOW	XJ	XK	XL			XM										

**TWISTED PAIR per NEMA WC27500-XXRC2U00 (SAE AS22759/11)**

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
24 AWG	AA	AB	AC	AD	AE	AF	AG	AH	AJ	AK	AL	AM	AN	AP	AQ	AR
26 AWG	BA	BB	BC	BD	BE	BF	BG	BH	BJ	BK	BL	BM	BN	BP	BQ	BR

**TWISTED PAIR per NEMA WC27500-XXSC2U00 (SAE AS22759/33)\*\*\* ☒**

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
24 AWG	JA	JB	JC	JD	JE	JF	JG	JH	JJ	JK	JL	JM	JN	JP	JQ	JR
26 AWG	KA	KB	KC	KD	KE	KF	KG	KH	KJ	KK	KL	KM	KN	KP	KQ	KR

For twisted pair wire connect charts, see page MA-9  
Twisted pair wire not available on MA, MC or Hybrid connectors

**NOTES**

- \* Connectors with more than 100 contacts will repeat color coding after 100 colors
- \*\* Wire colors per M83513 are ten solid colors, repeating
- \*\*\* Per M83513, corrosion has been experienced on connectors that are pre-wired with 22759/33 and stored in sealed environments.  
Option is not RoHS-compliant



**WIRE CODES**
**M-Series**
**SAE AS22759/11-24**

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
M83513**	5A	5B	5C	5D	5E	5F	5G	5H	5J	5K	5L	5M	5N	5P	5Q	5R
MIL-STD-681*	CA	CB	CC	CD	CE	CF	CG	CH	CJ	CK	CL	CM	CN	CP	CQ	CR
WHITE	DA	DB	DC	DD	DE	DF	DG	DH	DJ	DK	DL	DM	DN	DP	DQ	DR

**SAE AS22759/11-26**

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
M83513**	6A	6B	V1	6D	6E	V2	6G	6H	6J	6K	6L	Y6	6N	6P	6Q	6R
MIL-STD-681*	X3	X4	W3	ED	EE	W4	EG	EH	EJ	EK	EL	EM	EN	EP	EQ	ER
WHITE	X1	X2	W1	FD	FE	W2	FG	FH	FJ	FK	FL	Y5	FN	FP	FQ	FR

**SAE AS22759/33-24\*\*\*** 

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
M83513**	LA	LB	LC	LD	LE	LF	LG	LH	LJ	LK	LL	LM	LN	LP	LQ	LR
WHITE	MA	MB	MC	MD	ME	MF	MG	MH	MJ	MK	ML	MM	MN	MP	MQ	MR

**SAE AS22759/33-26\*\*\*** 

	6"	12"	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	108"	120"
M83513**	NA	NB	Y3	ND	NE	Y4	NG	NH	NJ	NK	NL	Y8	NN	NP	NQ	NR
WHITE	PA	PB	Y1	PD	PE	Y2	PG	PH	PJ	PK	PL	Y7	PN	PP	PQ	PR

**NOTES**

- \* Connectors with more than 100 contacts will repeat color coding after 100 colors
- \*\* Wire colors per M83513 are ten solid colors, repeating
- \*\*\* Per M83513, corrosion has been experienced on connectors that are pre-wired with 22759/33 and stored in sealed environments.  
Option is not RoHS-compliant

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