molex

High-Temperature Connectors

AirBorn M Series Micro-D and AirBorn N Series Nano-D

TABLE OF CONTENTS

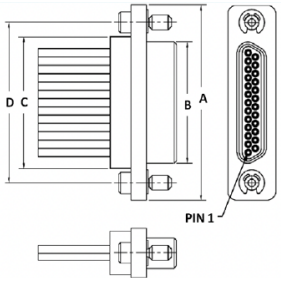
AIRBORN M SERIES MICRO-D

HIGH-TEMPERATURE CONNECTORS

MMHT – I/O Cable (Male)

MMHT connectors 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	Row	A	B (MAX)	C	D
9	2	0.755	0.334	0.390	0.565
15		0.925	0.484	0.540	0.715
21		1.075	0.634	0.690	0.865
25		1.175	0.734	0.790	0.965
31		1.325	0.884	0.940	1.115
37		1.475	1.034	1.090	1.265
51	3	1.425	0.984	1.040	1.215
100	4	2.160	1.384	1.432	1.800

SAMPLE PART NUMBER FORMAT: MMHT-212-025-161-41WA

MMHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

SERIES
0.050" Rugged Metal I/O Connector (Male)

ROWS
2 – 2-Row (9-37 contacts)
3 – 3-Row (51 and 69 contacts)
4 – 4-Row (100 contacts)

BODY STYLE
1 – Plug

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
069 – 69 Contacts
100 – 100 Contacts

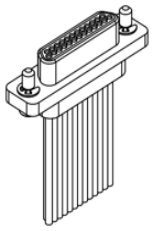
CONTACT/TERMINATION TYPE
11 – Pin, straight, 26 AWG solder cup
1A – Pin, straight, 24 AWG solder cup
1E – Pin, straight, 0.125" lead length*†
13 – Pin, straight, 0.250" lead length*†
14 – Pin, straight, 0.500" lead length*†
16 – Pin, straight, crimped wire

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

HARDWARE
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

WIRING
00 – None
XX – See Wiring Codes

MMHT-212-025-161-41WA



HIGH-RELIABILITY CONTACT

MIL-DTL-83513

PERFORMANCE

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

MATERIALS AND FINISHES

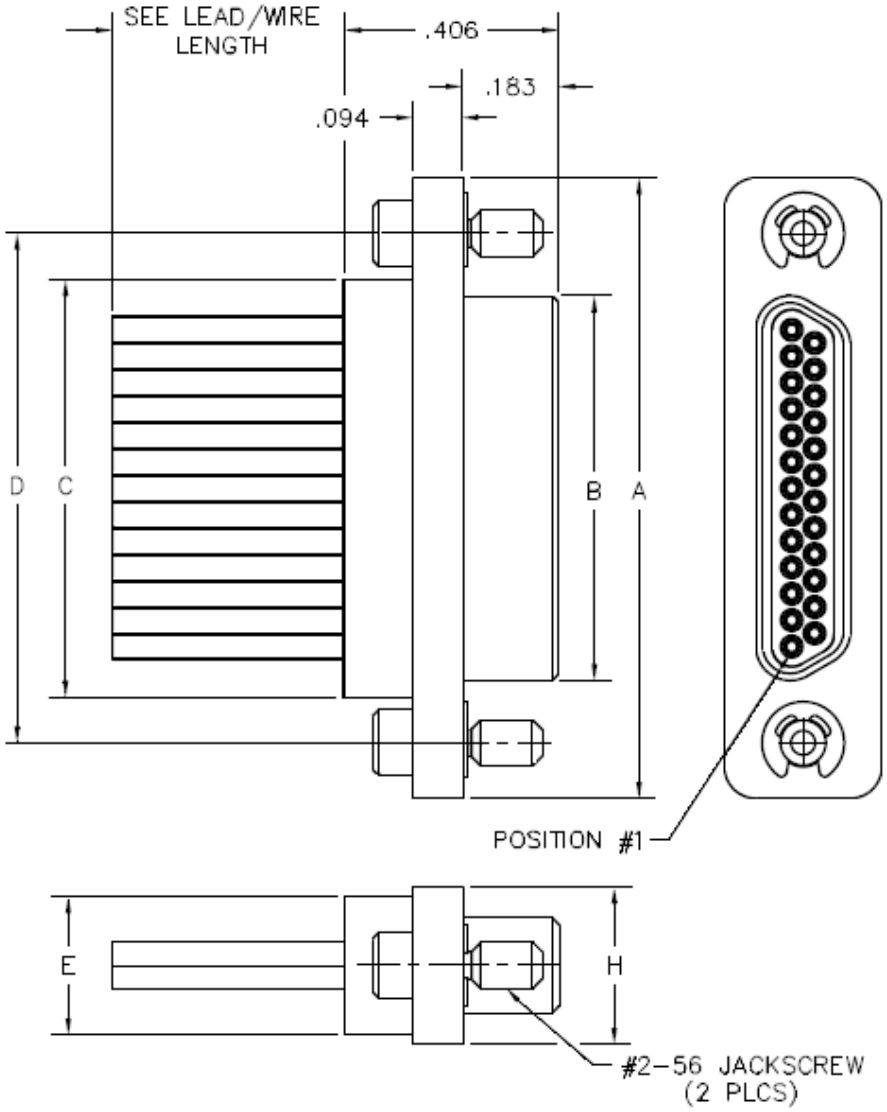
Pin Contacts	Copper-based alloy strip
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shells	Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8
Shell Finishes	Electroless nickel per SAE AMS-2402, Class 3, 500 µm minimum or blackanodized per MIL-A-8625, Type III 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

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 – I/O CABLE (MALE)

STRAIGHT MULTI-ROW CABLE-TO-CABLE

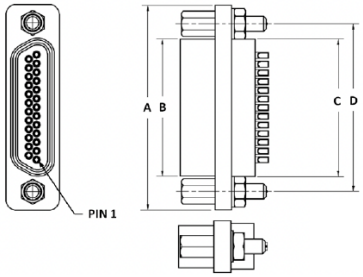


DIMENSIONS								
Size	Row	A	B (MAX)	C	D	E (MAX)	H	Hardware
9	2	0.755	0.334	0.390	0.565	0.270	0.298	#2-56 UNC THD (0.092 Through)
15		0.925	0.484	0.540	0.715			
21		1.075	0.634	0.690	0.865			
25		1.175	0.734	0.790	0.965			
31		1.325	0.884	0.940	1.115			
37		1.475	1.034	1.090	1.265			
51	3	1.425	0.984	1.040	1.215	0.310	0.341	#4-40 UNC THD (0.0147 Through)
100	4	2.160	1.384	1.432	1.800	0.360	0.384	

MMHT – I/O Cable (Female)

MMHT connectors 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	Row	A	B (MAX)	C	D
9	2	0.755	0.400	0.390	0.565
15		0.925	0.550	0.540	0.715
21		1.075	0.700	0.690	0.865
25		1.175	0.800	0.790	0.965
31		1.325	0.950	0.940	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

SAMPLE PART NUMBER FORMAT: MMHT-222-025-2A3-2200

MMHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

SERIES
0.050" Rugged Metal I/O Connector (Female)

ROWS
2 – 2-Row (9-37 contacts)
3 – 3-Row (51 and 69 contacts)
4 – 4-Row (100 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
069 – 69 Contacts
100 – 100 Contacts

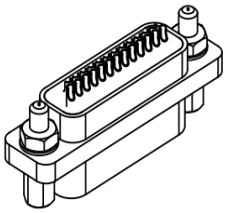
CONTACT/TERMINATION TYPE
21 – Socket, straight, 26 AWG solder cup
2A – Socket, straight, 24 AWG solder cup
2E – Socket, straight, 0.125" lead length*
23 – Socket, straight, 0.250" lead length*
24 – Socket, straight, 0.500" lead length*†
26 – Socket, straight, crimped wire

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

HARDWARE
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

WIRING
00 – None
XX – See Wiring Codes

MMHT-222-025-2A3-2200



PERFORMANCE

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

HIGH-RELIABILITY CONTACT

MIL-DTL-83513

MATERIALS AND FINISHES

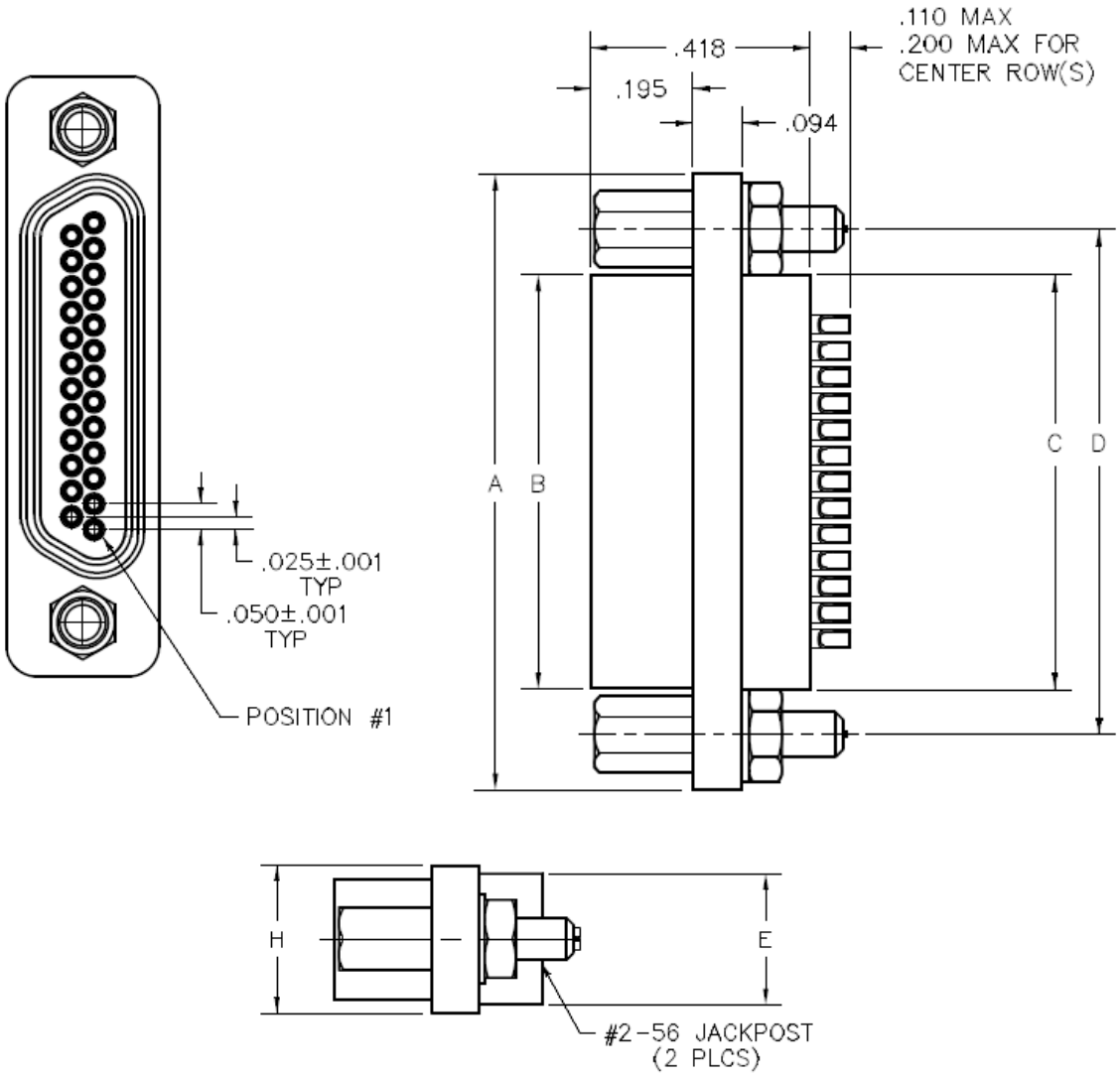
Socket Contact	Brass per ASTM B121/B121M or ASTM B16/B16M or ASTM B453
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shells	Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8
Shell Finishes	Electroless nickel per SAE AMS-2402, Class 3, 500 µm minimum or black 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

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 DRAWINGS (FEMALE)

STRAIGHT MULTI-ROW CABLE-TO-CABLE

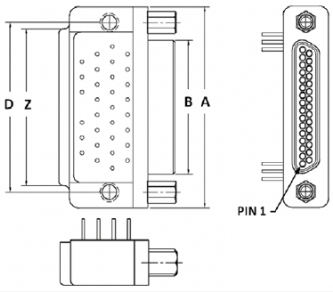


DIMENSIONS								
Size	Row	A	B (MAX)	C	D	E (MAX)	H	Hardware
9	2	0.755	0.400	0.390	0.565	0.270	0.298	#2-56 UNC THD (0.092 Through)
15		0.925	0.550	0.540	0.715			
21		1.075	0.700	0.690	0.865			
25		1.175	0.800	0.790	0.965			
31		1.325	0.950	0.940	1.115			
37		1.475	1.100	1.090	1.265			
51	3	1.425	1.050	1.040	1.215	0.310	0.341	#4-40 UNC THD (0.0147 Through)
100	4	2.160	1.508	1.432	1.800	0.360	0.384	

MKHT – Right-Angle Board-Mount (Male)

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

DIMENSIONS



DIMENSIONS						
Size	Row	A	B (MAX)	D	Z	Hardware
9	2	0.755	0.334	0.565	0.755	#2-56 UNC Threaded Insert
15		0.925	0.484	0.715	0.925	
21		1.075	0.634	0.865	1.075	
25		1.175	0.734	0.965	1.175	
31		1.325	0.884	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	
100	4	2.160	1.384	1.800	1.810	#4-40 UNC Threaded Insert

SAMPLE PART NUMBER FORMAT: MKHT-252-031-323-220S

MKHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

SERIES
0.050" Rugged Metal PC Board- Mount Connector (Male)

ROWS
2 – 2-Row (9-37 contacts)
3 – 3-Row (51 and 69 contacts)
4 – 4-Row (100 contacts)

BODY STYLE
5 – Plug, right-angle, narrow footprint with threaded inserts

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
069 – 69 Contacts
100 – 100 Contacts

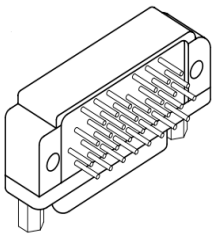
CONTACT/TERMINATION TYPE
32 – Pin, right-angle, 0.109" x 0.020" dia.
33 – Pin, right-angle, 0.140" x 0.020" dia.
34 – Pin, right-angle, 0.172" x 0.020" dia.

PLATING
3 – 50 µm Au contacts; Au terminations

HARDWARE
00 – No hardware
22 – Two fixed jacknut assemblies (62)*

WIRING
0S – Standard body polarization

MKHT-252-031-323-220S



HIGH-RELIABILITY CONTACT

MIL-DTL-83513

NOTES

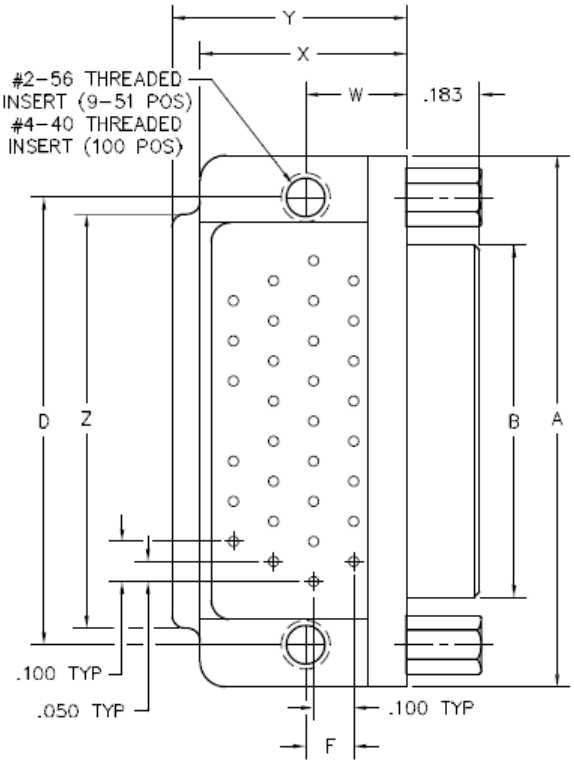
*Number in parentheses to be used when ordering size 100.

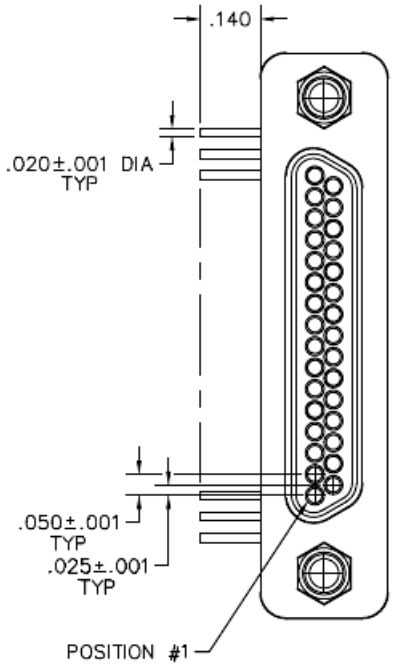
PERFORMANCE	
Contact Rating	3 amperes maximum
Operating Temperature	-55° C to 205° C
Test Voltage	600V, RMS, 60Hz
Insulation Resistance	5,000 megohms minimum at 500 VDC
Durability	500 connector mating cycles
Contact Engaging Force	6.0 oz maximum/contact
Contact Separating Force	0.5 oz minimum/contact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

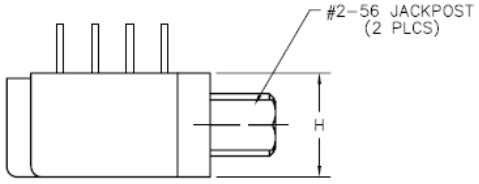
MATERIALS AND FINISHES	
Pin Contacts	Copper-based alloy strip
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shells	Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8
Shell Finishes	Electroless nickel per SAE AMS-2402, Class 3, 500 µm minimum or black anodized 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

MKHT DRAWINGS (MALE)

RIGHT-ANGLE NARROW-FOOTPRINT THREADED INSERTS





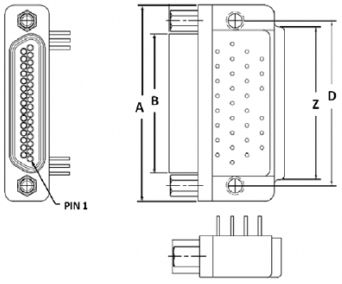


DIMENSIONS											
Size	Row	A	B (MAX)	D	F	H	W	X (MAX)	Y (MAX)	Z	Hardware
9	2	0.755	0.334	0.565	0.020	0.298	0.250	0.420	0.420	0.755	#2-56 UNC THD
15		0.925	0.484	0.715	0.120					0.925	
21		1.075	0.634	0.865						1.075	
25		1.175	0.734	0.965						1.175	
31		1.325	0.884	1.115				0.450	0.520	1.080	
37		1.475	1.034	1.265						1.180	
51	3	1.425	0.984	1.215	0.150	0.341	0.300	0.430	0.650	1.220	
69		1.725	1.284	1.515					0.755	1450	
100	4	2.160	1.384	1.800	0.200	0.384	0.400	0.590	1.000	1.810	#4-40 UNC THD

MKHT – Right-Angle Board-Mount (Female)

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

DIMENSIONS



DIMENSIONS						
Size	Row	A	B (MAX)	D	Z	Hardware
9	2	0.755	0.400	0.565	0.755	#2-56 UNC (0.092 Through)
15		0.925	0.550	0.715	0.925	
21		1.075	0.700	0.865	1.075	
25		1.175	0.800	0.965	1.175	
31		1.325	0.950	1.115	1.080	
37		1.475	1.100	1.265	1.180	

SAMPLE PART NUMBER FORMAT: MKHT-262-031-443-220S

MKHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

SERIES
0.050" Rugged Metal PC Board- Mount Connector (Female)

ROWS
2 – 2-Row (9-37 contacts)
3 – 3-Row (51 and 69 contacts)
4 – 4-Row (100 contacts)

BODY STYLE
6 – Receptacle, right-angle, narrow footprint with threaded inserts and interfacial seal.

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
069 – 69 Contacts
100 – 100 Contacts

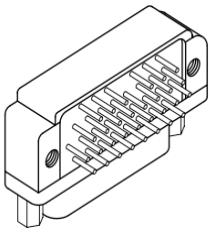
CONTACT/TERMINATION TYPE
43 – Socket, right-angle, .109" .020" dia.
44 – Socket, right-angle, .140" x .020" dia.
45 – Socket, right-angle, .172" x .020" dia.

PLATING
3 – 50 µm Au contacts; Au terminations

HARDWARE
00 – No hardware
22 – Two fixed jacknut assemblies (62)*

WIRING
0S – Standard body polarization

MKHT-262-031-443-220S



HIGH-RELIABILITY CONTACT

MIL-DTL-83513

NOTES

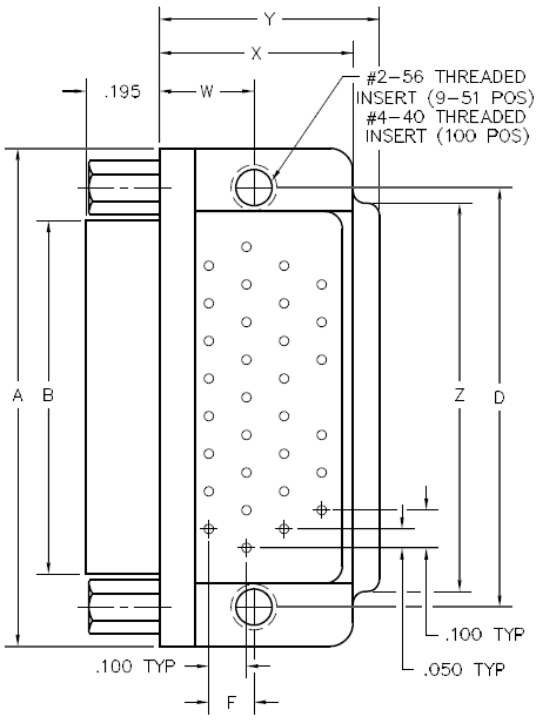
*Number in parentheses to be used when ordering size 100.

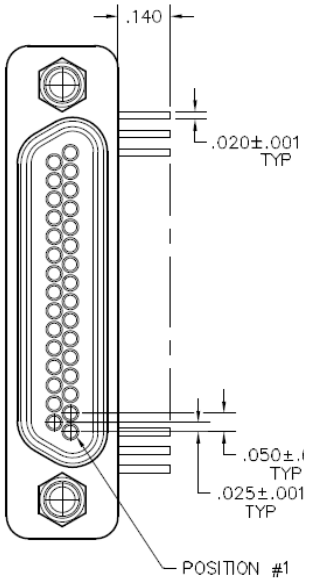
PERFORMANCE	
Contact Rating	3 amperes maximum
Operating Temperature	-55° C to 205° C
Test Voltage	600V, RMS, 60Hz
Insulation Resistance	5,000 megohms minimum at 500 VDC
Durability	500 connector mating cycles
Contact Engaging Force	6.0 oz maximum/contact
Contact Separating Force	0.5 oz minimum/contact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

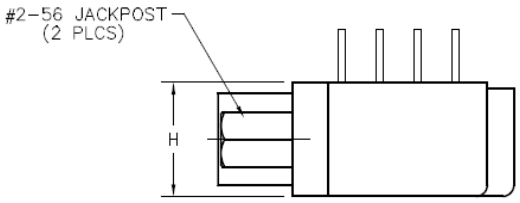
MATERIALS AND FINISHES	
Socket Contact	Brass per ASTM B121/B121M or ASTM B16/B16M or ASTM B453
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shells	Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8
Shell Finishes	Electroless nickel per SAE AMS-2402, Class 3, 500 µm 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

MKHT DRAWINGS (FEMALE)

RIGHT-ANGLE NARROW-FOOTPRINT THREADED INSERTS SEAL





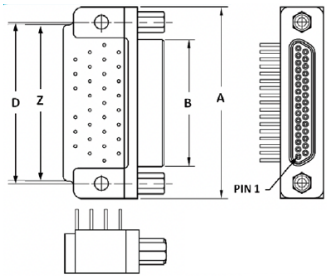


DIMENSIONS											
Size	Row	A	B (MAX)	D	F	H	W	X (MAX)	Y (MAX)	Z	Hardware
9	2	0.755	0.400	0.565	0.020	0.298	0.250	0.420	0.420	0.755	#2-56 UNC THD
15		0.925	0.550	0.715	0.120					0.925	
21		1.075	0.700	0.865						1.075	
25		1.175	0.800	0.965						1.175	
31		1.325	0.950	1.115				0.450	0.520	1.080	
37		1.475	1.100	1.265						1.180	
51	3	1.425	1.050	1.215	0.150	0.341	0.300	0.430	0.650	1.220	
69		1.725	1.350	1.515					0.755	1450	
100	4	2.160	1.508	1.800	0.200	0.384	0.400	0.590	1.000	1.810	#4-40 UNC THD

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

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

DIMENSIONS



DIMENSIONS							
Size	Row	A	B (MAX)	D	Z	Hardware	Mounting Hole
9	2	0.755	0.334	0.565	0.755	#2-56 UNC THD	#2-56 UNC Threaded Insert
15		0.925	0.484	0.715	0.925		
21		1.075	0.634	0.865	1.075		
25		1.175	0.734	0.965	1.175		
31		1.325	0.884	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		
100	4	2.160	1.384	1.800	1.810	#4-40 UNC THD	#4-40 UNC Threaded Insert

SAMPLE PART NUMBER FORMAT: MKHT-2T2-031-335-220S

MKHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

SERIES
0.050" Rugged Metal PC Board- Mount Connector (Male)

ROWS
2 – 2-Row (9-37 contacts)
3 – 3-Row (51 and 69 contacts)
4 – 4-Row (100 contacts)

BODY STYLE
T – Plug, right-angle (blind clearance cut), narrow footprint with threaded inserts

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
069 – 69 Contacts
100 – 100 Contacts

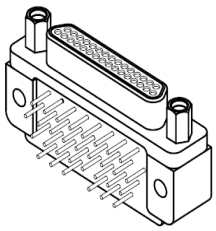
CONTACT/TERMINATION TYPE
32 – Pin, right-angle, 0.109"
33 – Pin, right-angle, 0.140"
34 – Pin, right-angle, 0.172"

PLATING
3 – 50 µm Au contacts; Au terminations

HARDWARE
00 – No hardware
22 – Two fixed jacknut assemblies (62)*

WIRING
0R – Reversed body polarization
0S – Standard body polarization

MKHT-2T2-031-335-220S



HIGH-RELIABILITY CONTACT

MIL-DTL-83513

PERFORMANCE

Contact Rating	3 amperes maximum
Operating Temperature	-55° C to 205° C
Test Voltage	600V, RMS, 60Hz
Insulation Resistance	5,000 megohms minimum at 500 VDC
Durability	500 connector mating cycles
Contact Engaging Force	6.0 oz maximum/contact
Contact Separating Force	0.50 oz minimum/contact
Mating and Un-mating Force	10 oz maximum/contact

MATERIALS AND FINISHES

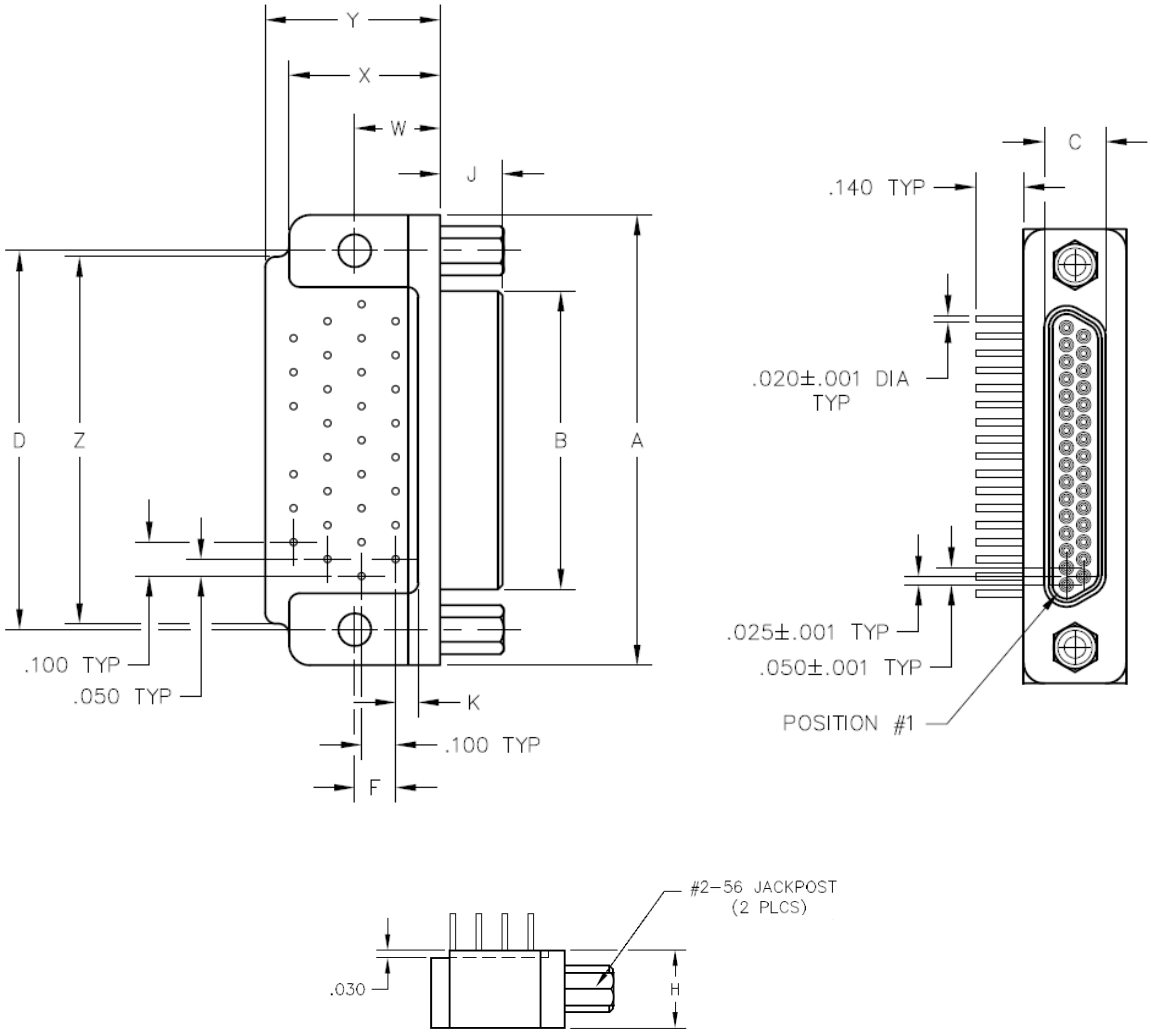
Pin Contacts	Copper-based alloy strip
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shells	Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8
Shell Finishes	Electroless nickel per SAE AMS-2402, Class 3, 500 µm minimum or black anodized per MIL-A-8625, Type III 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

NOTES

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

MKHT (BLIND-CLEARANCE CUT) MALE DRAWINGS

RIGHT-ANGLE BLIND-CLEARANCE CUT NARROW FOOTPRINT THREADED INSERTS

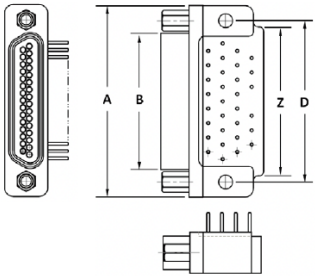


DIMENSIONS														
Size	Row	A	B (MAX)	D	F	H	J	K	W	X (MAX)	Y (MAX)	Z	Hardware	Mounting Hole
9	2	0.755	0.334	0.185	0.020	0.298	0.183	0.067	0.250	0.420	0.420	0.755	#2-56 UNC THD	#2-56 UNC Threaded Insert
15		0.925	0.484		0.120							0.925		
21		1.075	0.634									1.075		
25		1.175	0.734									1.175		
31		1.325	0.884							0.450	0.520	1.080		
37		1.475	1.034									1.180		
51	3	1.425	0.984	0.228	0.150	0.341		0.087	0.300	0.430	0.650	1.220		
69		1.725	1.284								0.755	1450		
100	4	2.160	1.384	0.271	0.200	0.384		0.137	0.400	0.590	1.000	1.810	#4-40 UNC THD	#4-40 UNC Insert

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

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

DIMENSIONS



DIMENSIONS					
Size	Row	A	B (MAX)	D	Z
9	2	0.755	0.334	0.565	0.755
15		0.925	0.484	0.715	0.925
21		1.075	0.634	0.865	1.075
25		1.175	0.734	0.965	1.175
31		1.325	0.884	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
100	4	2.160	1.384	1.800	1.810

SAMPLE PART NUMBER FORMAT: MKHT-2V2-031-445-220S

MKHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

SERIES
0.050" Rugged Metal PC Board- Mount Connector (Female)

ROWS
2 – 2-Row (9-37 contacts)
3 – 3-Row (51 and 69 contacts)
4 – 4-Row (100 contacts)

BODY STYLE
V – Receptacle, right-angle (blind clearance cut), narrow footprint with threaded inserts and interfacial seal

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
069 – 69 Contacts
100 – 100 Contacts

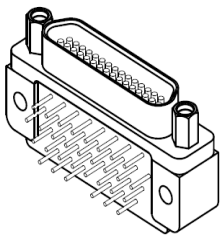
CONTACT/TERMINATION TYPE
43 – Socket, right-angle, 0.109" x 0.020" dia.
44 – Socket, right-angle, 0.140" x 0.020" dia.
45 – Socket, right-angle, 0.172" x 0.020" dia.

PLATING
3 – 50 µm Au contacts; Au terminations

HARDWARE
00 – No hardware
22 – Two fixed jacknut assemblies (62)*

WIRING
0R – Reversed body polarization
0S – Standard body polarization

MKHT-2V2-031-445-220S



HIGH-RELIABILITY CONTACT

MIL-DTL-83513

PERFORMANCE

Contact Rating	3 amperes maximum
Operating Temperature	-55° C to 205° C
Test Voltage	600V, RMS, 60Hz
Insulation Resistance	5,000 megohms minimum at 500 VDC
Durability	500 connector mating cycles
Contact Engaging Force	6.0 oz maximum/contact
Contact Separating Force	0.50 oz minimum/contact
Mating and Un-mating Force	10 oz maximum/contact

MATERIALS AND FINISHES

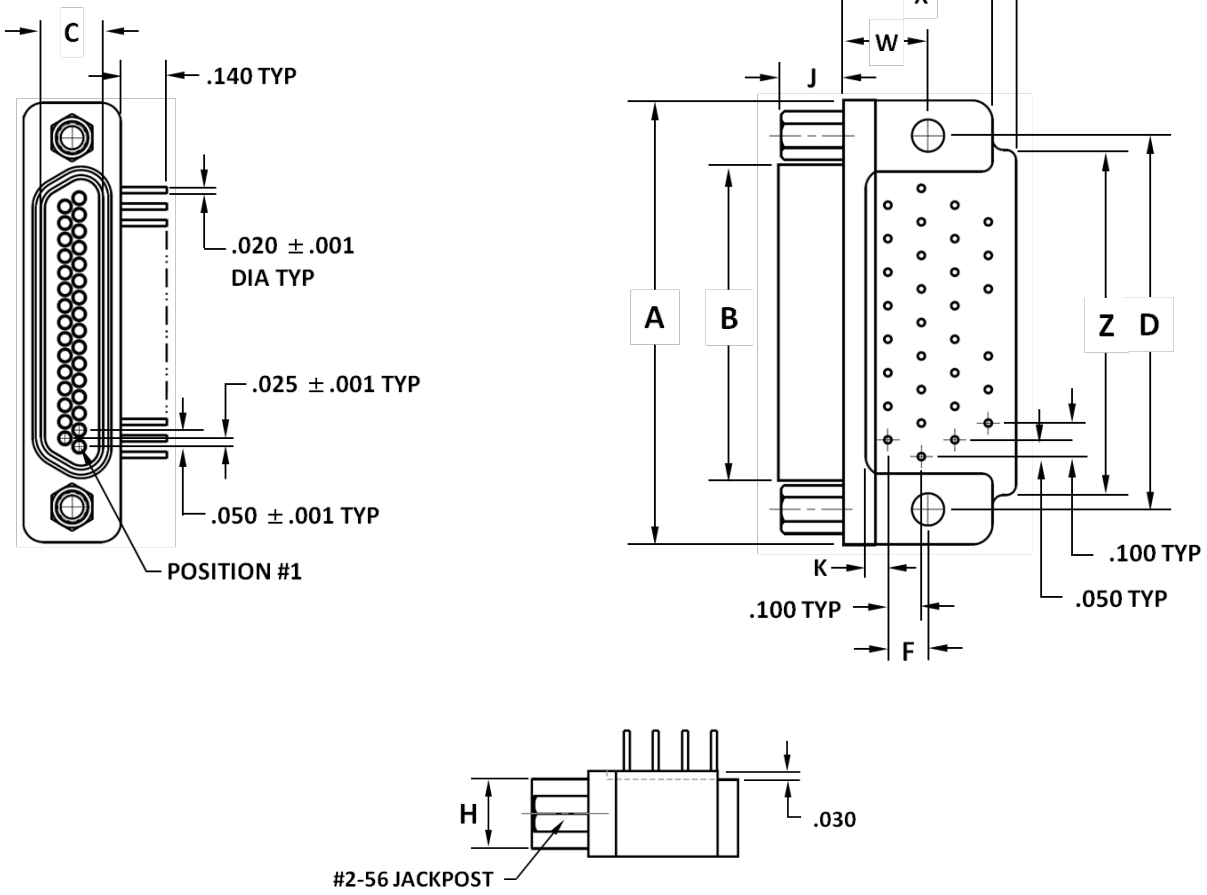
Pin Contacts	Copper-based alloy strip
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shells	Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8
Shell Finishes	Electroless nickel per SAE AMS-2402, Class 3, 500 µm minimum or black anodized per MIL-A-8625, Type III 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

NOTES

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

MKHT (BLIND-CLEARANCE CUT) FEMALE DRAWINGS

RIGHT-ANGLE BLIND-CLEARANCE CUT NARROW FOOTPRINT THREADED INSERTS

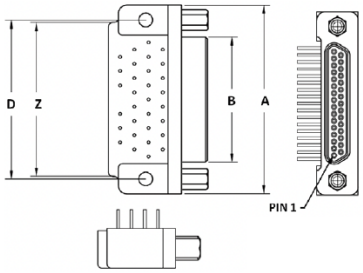


DIMENSIONS															
Size	Row	A	B (MAX)	C	D	F	H	J	K	W	X (MAX)	Y (MAX)	Z	Hardware	Mounting Hole
9	2	0.755	0.400	0.251	0.565	0.020	0.298	0.195	0.067	0.250	0.420	0.420	0.755	#2-56 UNC THD	#2-56 UNC Threaded Insert
15		0.925	0.550		0.715	0.120							0.925		
21		1.075	0.700		0.865								1.075		
25		1.175	0.800		0.965								1.175		
31		1.325	0.950		1.115						0.450	0.520	1.080		
37		1.475	1.100		1.265								1.180		
51	3	1.425	1.050	0.294	1.215	0.150	0.341		0.087	0.300	0.430	0.650	1.220		
69		1.725	1.350		1.515							0.755	1450		
100	4	2.160	1.508	0.394	1.800	0.200	0.384		0.137	0.400	0.590	1.000	1.810	#4-40 UNC THD	#4-40 UNC Insert

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

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

DIMENSIONS



DIMENSIONS						
Size	Row	A	B (MAX)	D	Z	Hardware
9	2	0.755	0.334	0.565	0.755	#2-56 UNC Threaded Insert
15		0.925	0.484	0.715	0.925	
21		1.075	0.634	0.865	1.075	
25		1.175	0.734	0.965	1.175	
31		1.325	0.884	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	

SAMPLE PART NUMBER FORMAT: MKHT-2R2-031-335-220S

MKHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

SERIES
0.050" Rugged Metal PC Board- Mount Connector (Male)

ROWS
2 – 2-Row (9-37 contacts)
3 – 3-Row (51 and 69 contacts)

BODY STYLE
R – Plug, right-angle (44 clearance cut), narrow footprint with threaded insert

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
069 – 69 Contacts

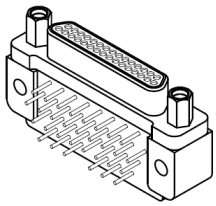
CONTACT/TERMINATION TYPE
32 – Pin, right-angle, 0.109"
33 – Pin, right-angle, 0.140"
34 – Pin, right-angle, 0.172" x 0.020" dia.

PLATING
3 – 50 µm Au contacts; Au terminations

HARDWARE
00 – No hardware
22 – Two fixed jacknut assemblies (62)*

WIRING
0S – Standard body polarization

MKHT-2R2-031-335-220S



HIGH-RELIABILITY CONTACT

MIL-DTL-83513

NOTES

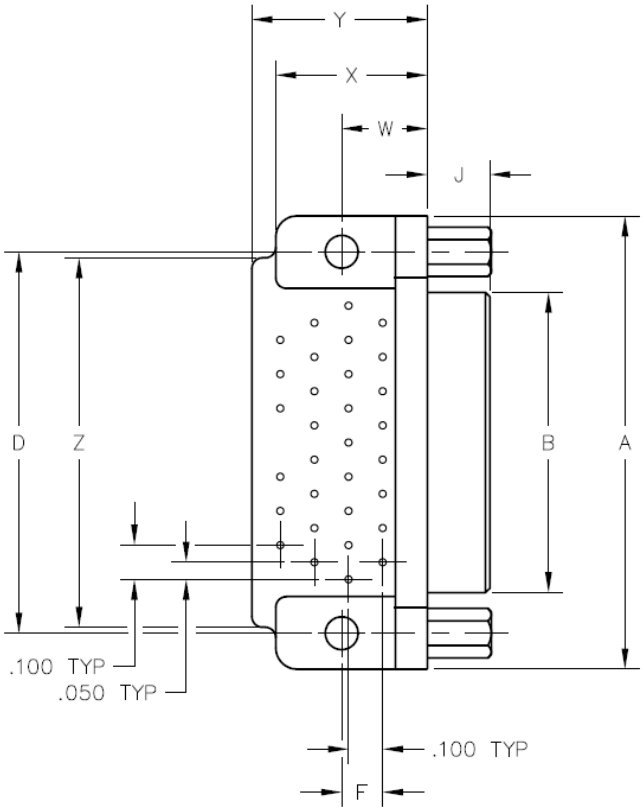
*Number in parentheses to be used when ordering size 100.

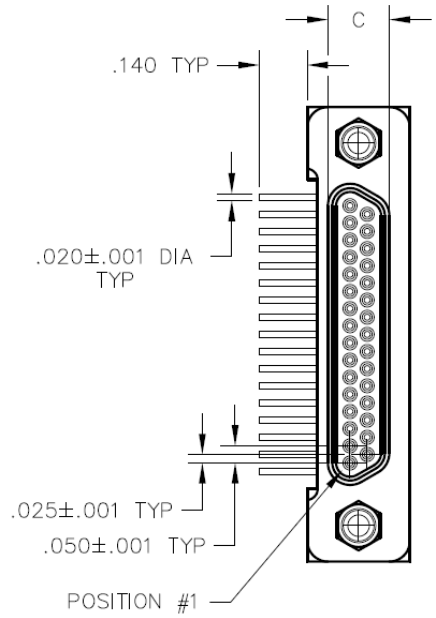
PERFORMANCE	
Contact Rating	3 amperes maximum
Operating Temperature	-55° C to 205° C
Test Voltage	600V, RMS, 60Hz
Insulation Resistance	5,000 megohms minimum at 500 VDC
Durability	500 connector mating cycles
Contact Engaging Force	6.0 oz maximum/contact
Contact Separating Force	0.50 oz minimum/contact
Mating and Un-mating Force	10 oz maximum/contact

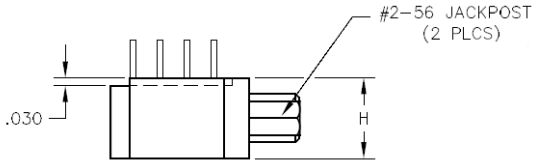
MATERIALS AND FINISHES	
Pin Contacts	Copper-based alloy strip
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shells	Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8
Shell Finishes	Electroless nickel per SAE AMS-2402, Class 3, 500 µm minimum or black anodized 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

MKHT (THROUGH-CLEARANCE CUT) MALE DRAWINGS

RIGHT- ANGLE THROUGH-CLEARANCE CUT NARROW FOOTPRINT THREADED INSERTS





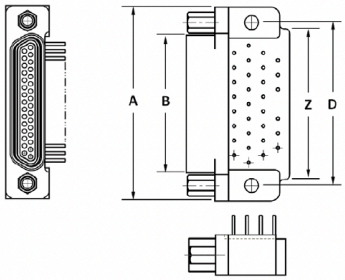


DIMENSIONS															
Size	Row	A	B (MAX)	C	D	F	H	J	K	W	X (MAX)	Y (MAX)	Z	Hardware	Mounting Hole
9	2	0.755	0.334	0.185	0.565	0.020	0.298	0.183	0.067	0.250	0.420	0.420	0.755	#2-56 UNC THD	#2-56 UNC Threaded Insert
15		0.925	0.484		0.715	0.120							0.925		
21		1.075	0.634		0.865								1.075		
25		1.175	0.734		0.965								1.175		
31		1.325	0.884		1.115						0.450	0.520	1.080		
37		1.475	1.034		1.265								1.180		
51	3	1.425	0.984	0.228	1.215	0.150	0.341		0.087	0.300	0.430	0.650	1.220		
69		1.725	1.284		1.515							0.755	1450		

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

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

DIMENSIONS



DIMENSIONS					
Size	Row	A	B (MAX)	D	Z
9	2	0.755	0.334	0.565	0.755
15		0.925	0.484	0.715	0.925
21		1.075	0.634	0.865	1.075
25		1.175	0.734	0.965	1.175
31		1.325	0.884	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

SAMPLE PART NUMBER FORMAT: MKHT-2S2-031-445-220S

MKHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

SERIES
0.050" Rugged Metal PC Board- Mount Connector (Female)

ROWS
2 – 2-Row (9-37 contacts)
3 – 3-Row (51 and 69 contacts)

BODY STYLE
S – Receptacle, right-angle (thru clearance cut), narrow footprint with threaded inserts and interfacial seal

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

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

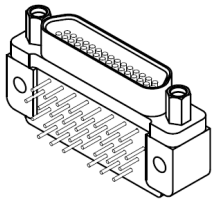
CONTACT/TERMINATION TYPE
43 – Socket, right-angle, 0.109" x 0.020" dia.
44 – Socket, right-angle, 0.140" x 0.020" dia.

PLATING
3 – 50 µm Au contacts; Au terminations

HARDWARE
00 – No hardware
22 – Two fixed jacknut assemblies

WIRING
0S – Standard body polarization

MKHT-2S2-031-445-220S



HIGH-RELIABILITY CONTACT

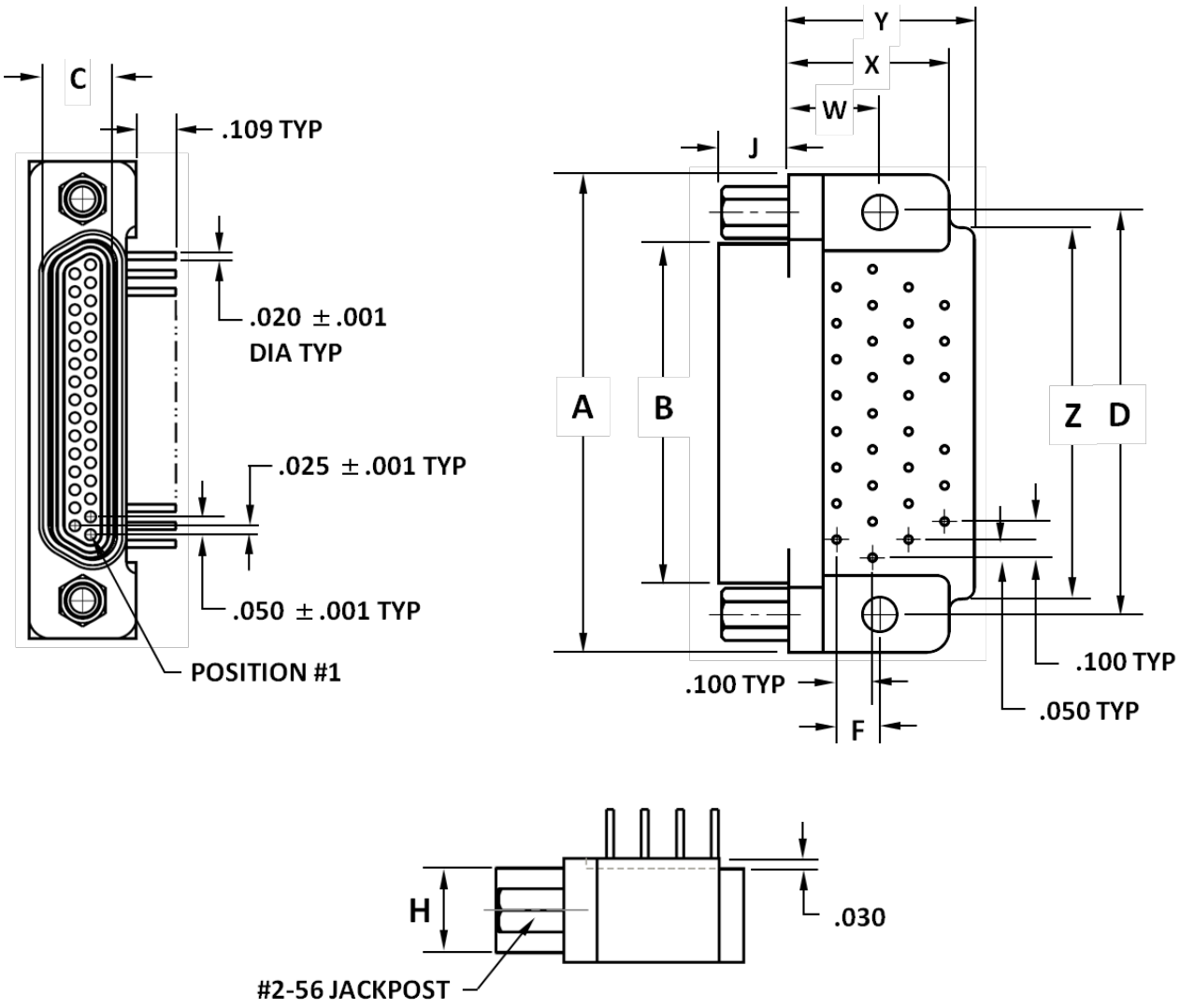
MIL-DTL-83513

PERFORMANCE	
Contact Rating	3 amperes maximum
Operating Temperature	-55° C to 205° C
Test Voltage	600V, RMS, 60Hz
Insulation Resistance	5,000 megohms minimum at 500 VDC
Durability	500 connector mating cycles
Contact Engaging Force	6.0 oz maximum/contact
Contact Separating Force	0.50 oz minimum/contact
Mating and Un-mating Force	10 oz maximum/contact

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-250/11or 6061-T6511 per SAE AMS-QQ-A-200/8
Shell Finishes	Electroless nickel per SAE AMS-2402, Class 3, 500 µm 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

MKHT (THROUGH-CLEARANCE CUT) FEMALE DRAWINGS

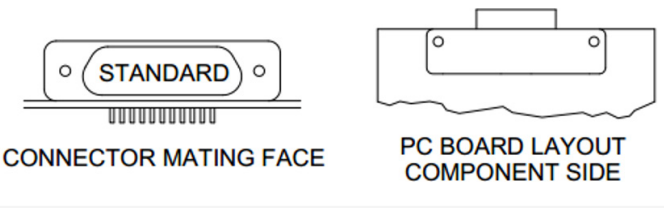
RIGHT- ANGLE THROUGH-CLEARANCE CUT NARROW FOOTPRINT THREADED INSERTS



DIMENSIONS															
Size	Row	A	B (MAX)	C	D	F	H	J	K	W	X (MAX)	Y (MAX)	Z	Hardware	Mounting Hole
9	2	0.755	0.400	0.251	0.565	0.020	0.298	0.195	0.067	0.250	0.420	0.420	0.755	#2-56 UNC THD	#2-56 UNC Threaded Insert
15		0.925	0.550		0.715	0.120							0.925		
21		1.075	0.700		0.865								1.075		
25		1.175	0.800		0.965								1.175		
31		1.325	0.950		1.115						0.450	0.520	1.080		
37		1.475	1.100		1.265								1.180		
51	3	1.425	1.050	0.294	1.215	0.150	0.341		0.087	0.300	0.430	0.650	1.220		
69		1.725	1.350		1.515							0.755	1450		

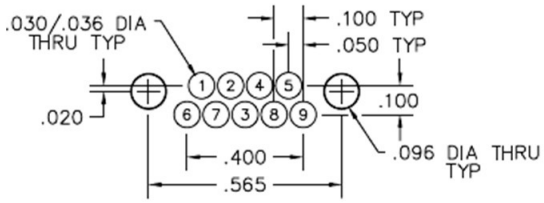
RECOMMENDED PC BOARD LAYOUTS – MKHT MALE

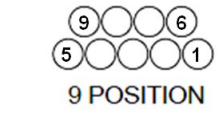
RIGHT-ANGLE NARROW FOOTPRINT
STANDARD POLARIZATION SIZES 9–31

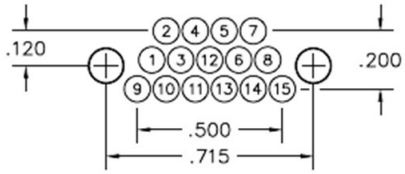


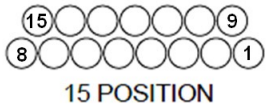
PC BOARD LAYOUT
COMPONENT SIDE

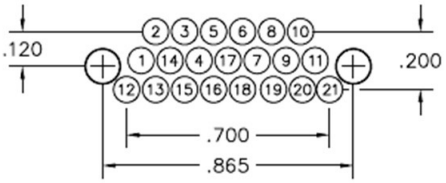
CONNECTOR
MATING FACE

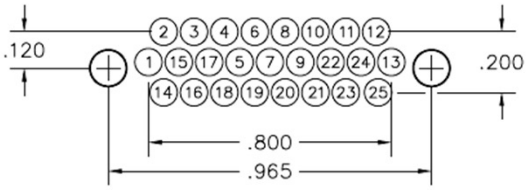


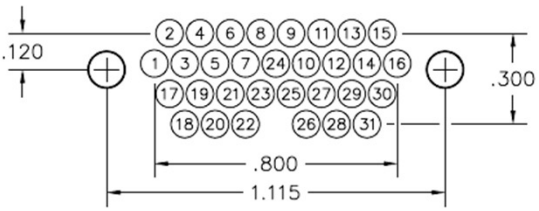






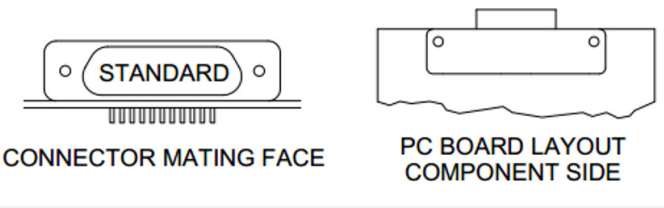






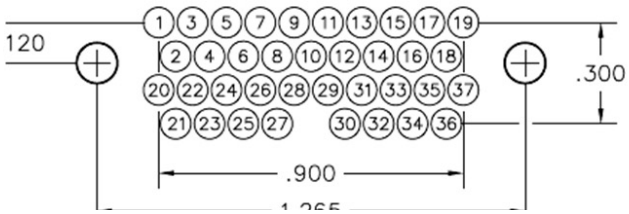
RECOMMENDED PC BOARD LAYOUTS – MKHT MALE

RIGHT-ANGLE NARROW FOOTPRINT
STANDARD POLARIZATION SIZES 37–69

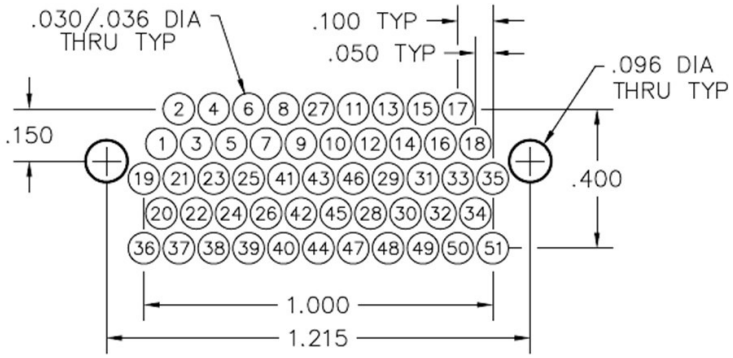


PC BOARD LAYOUT
COMPONENT SIDE

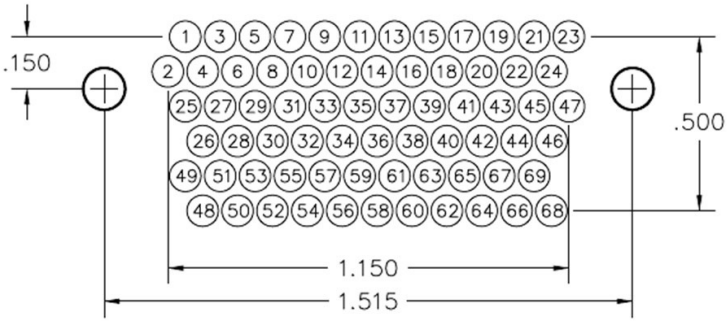
CONNECTOR
MATING FACE



37 POSITION



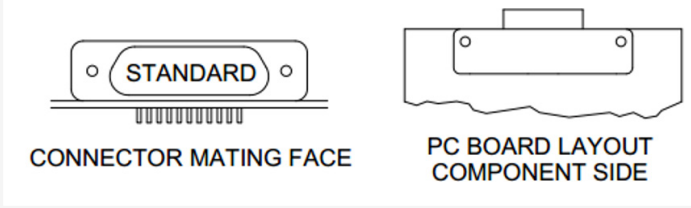
51 POSITION



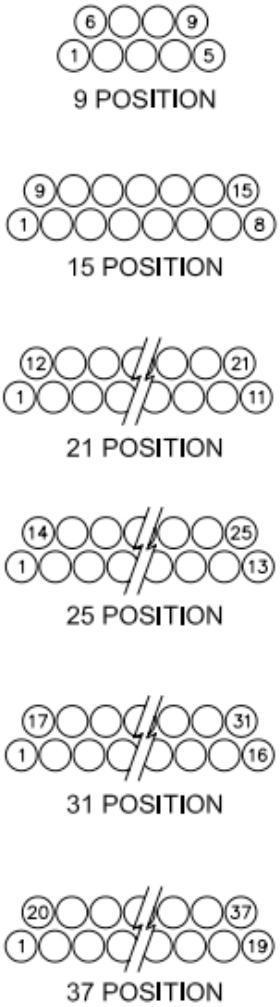
69 POSITION

RECOMMENDED PC BOARD LAYOUTS – MKHT FEMALE

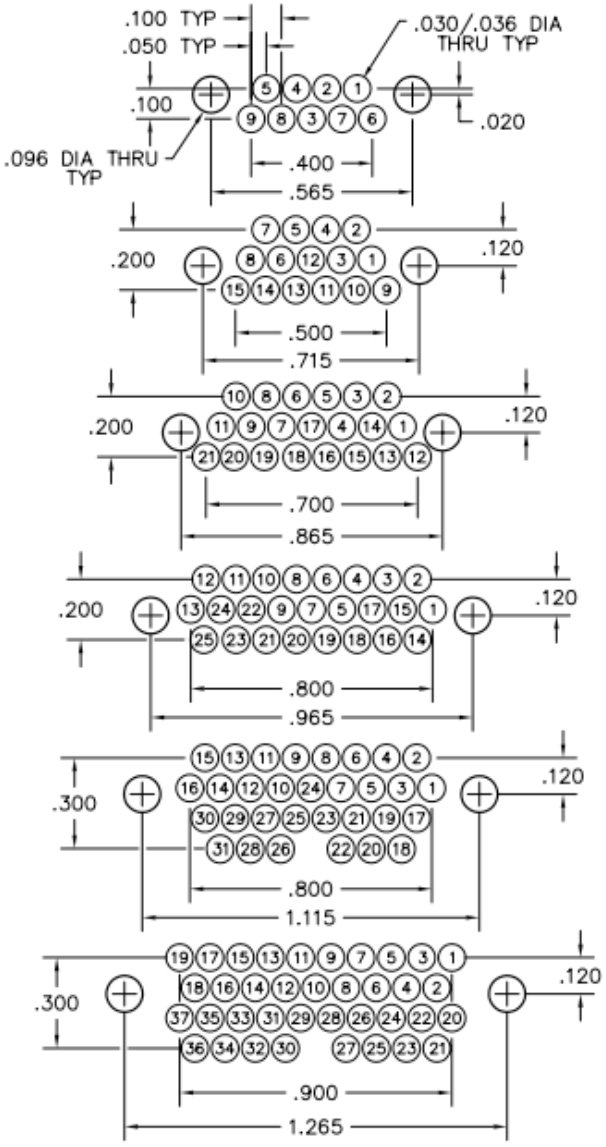
RIGHT-ANGLE NARROW FOOTPRINT
STANDARD POLARIZATION SIZES 9–37



CONNECTOR
MATING FACE

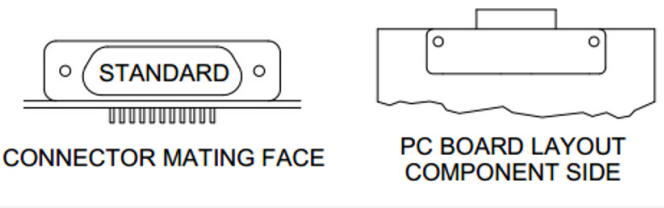


PC BOARD LAYOUT
COMPONENT SIDE



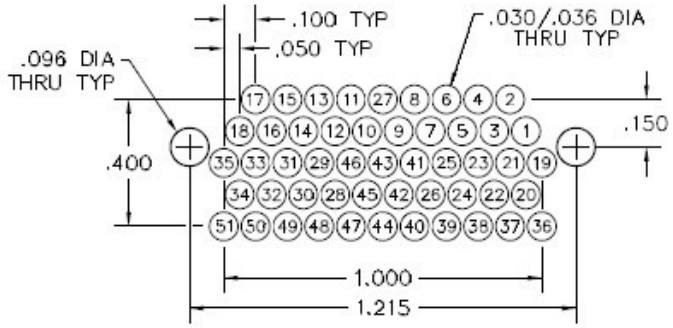
RECOMMENDED PC BOARD LAYOUTS – MKHT FEMALE

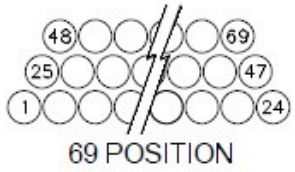
RIGHT-ANGLE NARROW FOOTPRINT
STANDARD POLARIZATION SIZES 51–100

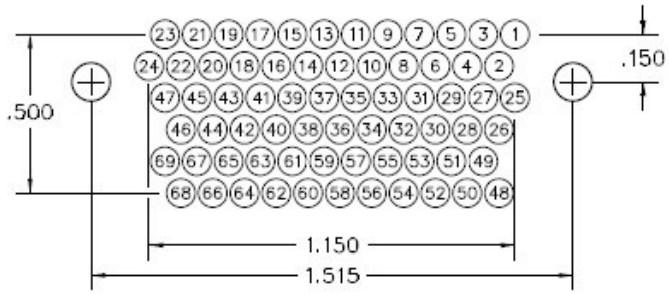


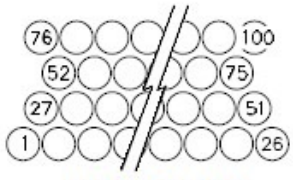
CONNECTOR MATING FACE

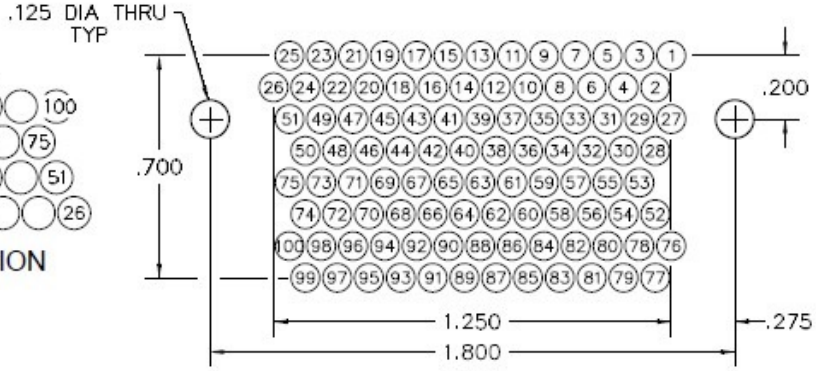
PC BOARD LAYOUT COMPONENT SIDE







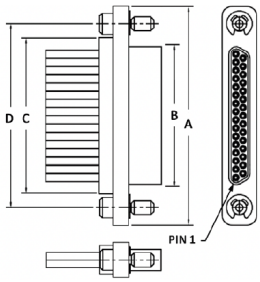




MQHT – Low-Profile I/O Cable (Male)

MQHT connectors 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	Row	A	B (MAX)	C	D
9	2	0.778	0.292	0.398	0.565
15		0.928	0.442	0.548	0.715
21		1.078	0.592	0.698	0.865
25		1.178	0.692	0.798	0.965
31		1.328	0.842	0.948	1.115
37		1.478	0.992	1.098	1.265
51	3	1.428	0.942	1.048	1.215

SAMPLE PART NUMBER FORMAT: MQHT-212-031-161-41WS

MQHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

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

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

BODY STYLE
1 – Plug

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

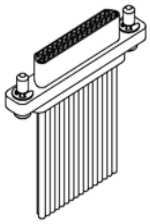
CONTACT/TERMINATION TYPE
11 – Pin, straight, 26 AWG solder cup
1A – Pin, straight, 24 AWG solder cup
1E – Pin, straight, 0.125" lead length*†
13 – Pin, straight, 0.250" lead length*†
14 – Pin, straight, 0.500" lead length*†
16 – Pin, straight, crimped wire

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

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

WIRING
00 – None
XX – See Wiring Codes

MQHT-212-031-161-41WS



PERFORMANCE

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

HIGH-RELIABILITY CONTACT

MIL-DTL-83513

MATERIALS AND FINISHES

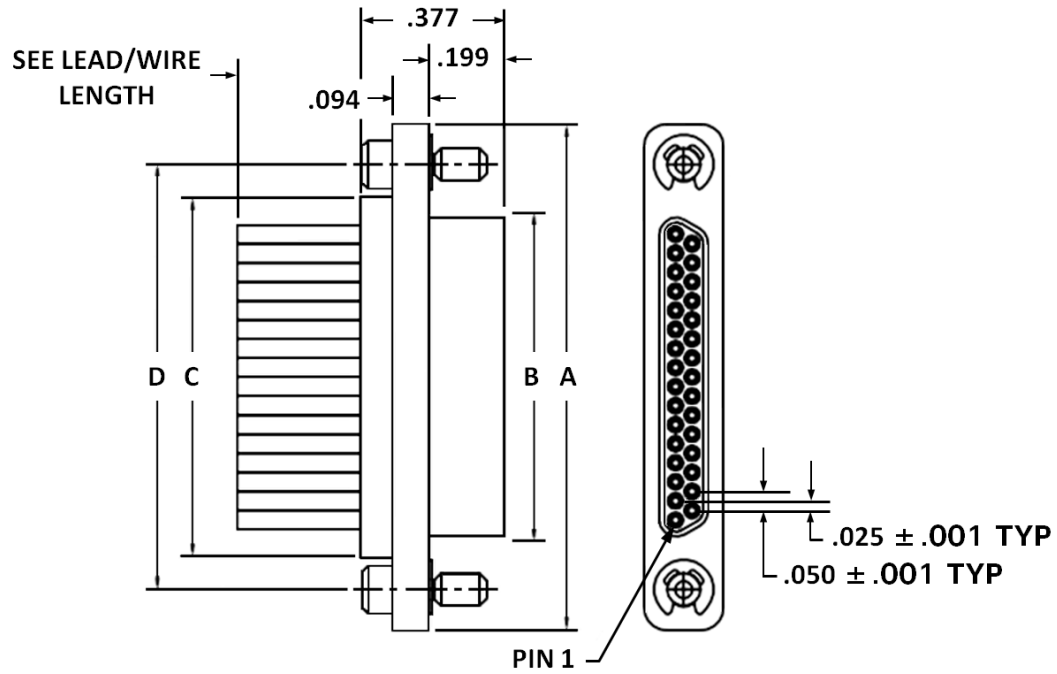
Pin Contacts	Copper-based alloy strip
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shells	Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8
Shell Finishes	Electroless nickel per SAE AMS-2402, Class 3, 500 µm minimum or black anodized per MIL-A-8625, Type III 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

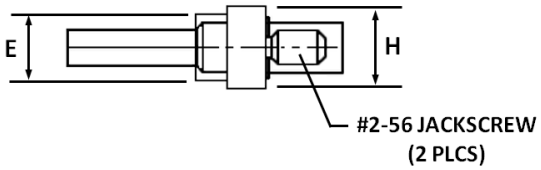
NOTES

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

MQHT MALE DRAWINGS

STRAIGHT LOW-PROFILE CABLE-TO-CABLE



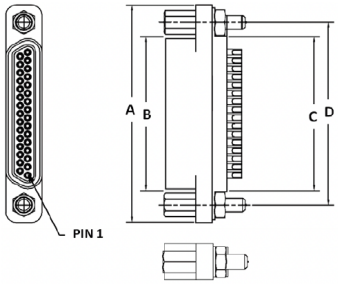


DIMENSIONS								
Size	Row	A	B (MAX)	C	D	E (MAX)	H	Hardware
9	2	0.778	0.292	0.398	0.565	0.173	0.208	#2-56 UNC THD (0.092 Through)
15		0.928	0.442	0.548	0.715			
21		1.078	0.592	0.698	0.865			
25		1.178	0.692	0.798	0.965			
31		1.328	0.842	0.948	1.115			
37		1.478	0.992	1.098	1.265			
51	3	1.428	0.942	1.048	1.215	0.210	0.250	

MQHT – Low-Profile I/O Cable (Female)

MQHT connectors 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	Row	A	B (MAX)	C	D
9	2	0.778	0.378	0.398	0.565
15		0.928	0.528	0.548	0.715
21		1.078	0.678	0.698	0.865
25		1.178	0.778	0.798	0.965
31		1.328	0.928	0.948	1.115
37		1.478	1.078	1.098	1.265
51	3	1.428	1.028	1.048	1.215

SAMPLE PART NUMBER FORMAT: MQHT-222-031-2A3-2200

MQHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

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

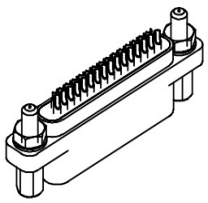
CONTACT/TERMINATION TYPE
21 – Socket, straight, 26 AWG solder cup
2A – Socket, straight, 24 AWG solder cup
2E – Socket, straight, 0.125" lead length*
23 – Socket, straight, 0.250" lead length*
24 – Socket, straight, 0.500" lead length*†
26 – Socket, straight, crimped wire

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

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

WIRING
00 – None
XX – See Wiring Codes

MQHT-222-031-2A3-2200



PERFORMANCE

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

HIGH-RELIABILITY CONTACT

MIL-DTL-83513

MATERIALS AND FINISHES

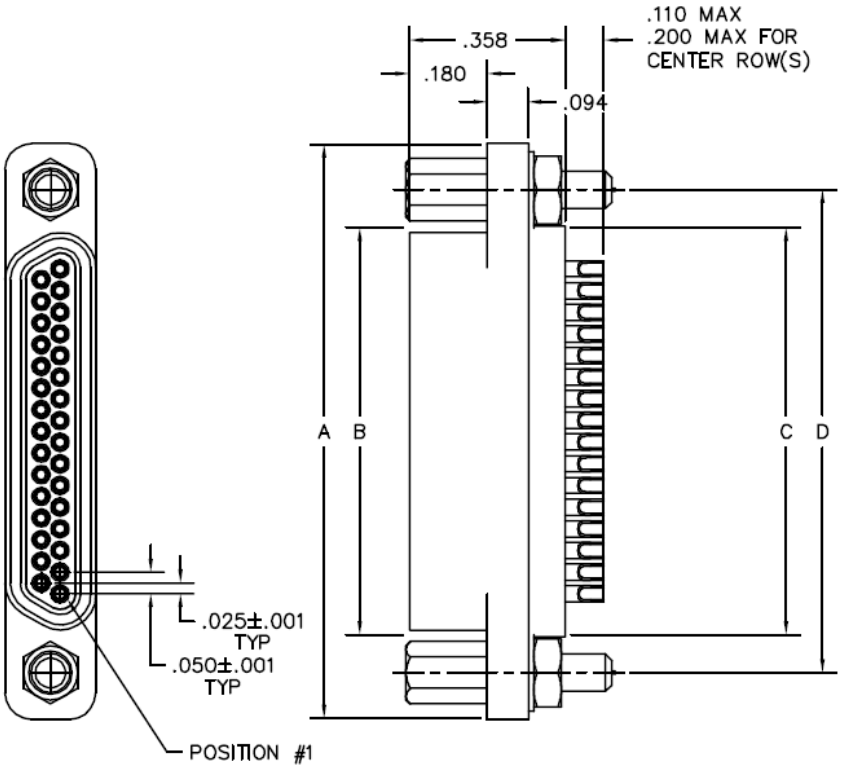
Socket Contact	Brass per ASTM B121/B121M or ASTM B16/B16M or ASTM B453
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shells	Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8
Shell Finishes	Electroless nickel per SAE AMS-2402, Class 3, 500 µm minimum or black 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

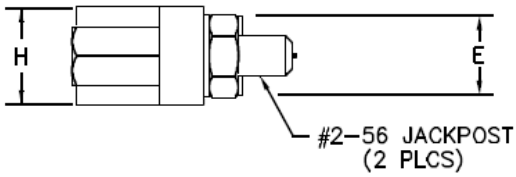
NOTES

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

MQHT FEMALE DRAWINGS

STRAIGHT LOW-PROFILE CABLE-TO-CABLE



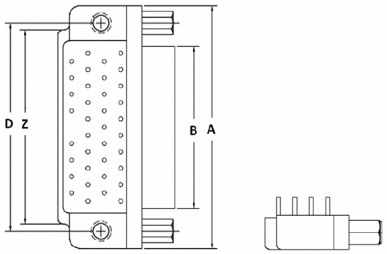


DIMENSIONS								
Size	Row	A	B (MAX)	C	D	E (MAX)	H	Hardware
9	2	0.778	0.378	0.398	0.565	0.173	0.208	#2-56 UNC THD (0.092 Through)
15		0.928	0.528	0.548	0.715			
21		1.078	0.678	0.698	0.865			
25		1.178	0.778	0.798	0.965			
31		1.328	0.928	0.948	1.115			
37		1.478	1.078	1.098	1.265			
51	3	1.428	1.028	1.048	1.215	0.210	0.250	

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

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

DIMENSIONS



DIMENSIONS					
Size	Row	A	B (MAX)	D	Z
9	2	0.778	0.292	0.565	0.775
15		0.928	0.442	0.715	0.925
21		1.078	0.592	0.865	1.075
25		1.178	0.692	0.965	1.175
31		1.328	0.842	1.115	1.080
37		1.478	0.992	1.265	1.180
51	3	1.428	0.942	1.215	1.220

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]

SERIES
0.050" Low-Profile Metal PC Board-Mount Connector (Male)

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

BODY STYLE
5 – Plug, right-angle, narrow footprint with threaded

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

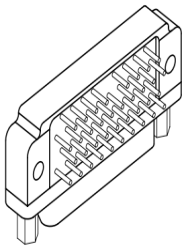
CONTACT/TERMINATION TYPE
32 – Pin, right-angle, 0.109" x 0.020" dia.
33 – Pin, right-angle, 0.140" x 0.020" dia.
34 – Pin, right-angle, 0.172" x 0.020" dia.

PLATING
3 – 50 µm Au contacts; Au terminations

HARDWARE
00 – No hardware
22 – Two fixed jacknut assemblies

WIRING
0S – Standard body polarization

MSHT-252-037-323-220S



HIGH-RELIABILITY CONTACT

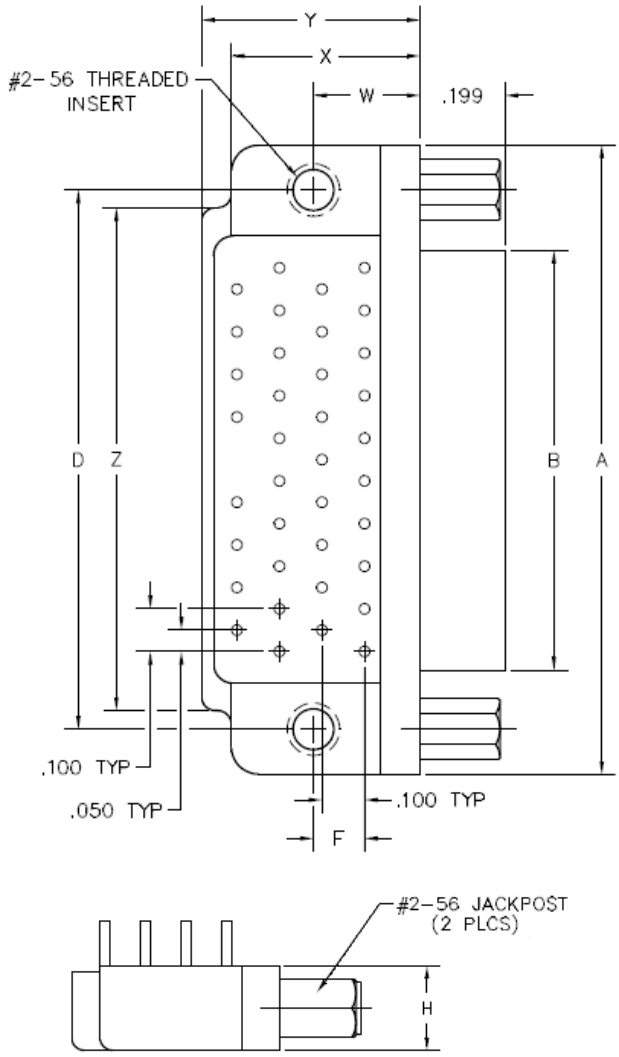
MIL-DTL-83513

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

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 µm 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

MSHT MALE DRAWINGS

RIGHT-ANGLE NARROW FOOTPRINT THREADED INSERTS

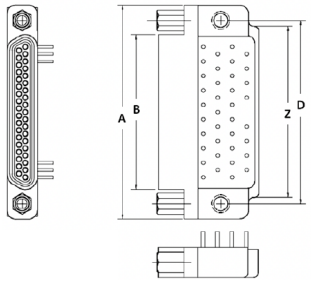


DIMENSIONS										
Size	Row	A	B (MAX)	D	F	H	W	X (MAX)	Z	Hardware
9	2	0.778	0.292	0.565	0.020	0.208	0.250	0.420	0.775	#2-56 UNC THD
15		0.928	0.442	0.715	0.120				0.925	
21		1.078	0.592	0.865					1.075	
25		1.178	0.692	0.965					1.175	
31		1.328	0.842	1.115				0.450	1.080	
37		1.478	0.992	1.265					1.180	
51	3	1.428	0.942	1.215	0.150	0.250	0.300	0.425	1.220	

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

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

DIMENSIONS



DIMENSIONS						
Size	Row	A	B (MAX)	D	Z	Hardware
9	2	0.778	0.378	0.565	0.775	#2-56 UNC THD
15		0.928	0.528	0.715	0.925	
21		1.078	0.678	0.865	1.075	
25		1.178	0.778	0.965	1.175	
31		1.328	0.928	1.115	1.080	
37		1.478	1.078	1.265	1.180	
51	3	1.428	1.028	1.215	1.220	

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]

SERIES
0.050" " Low-Profile Metal PC Board-Mount Connector (Female)

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

BODY STYLE
6 – Receptacle, right-angle, narrow footprint with threaded inserts and interfacial seal.

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

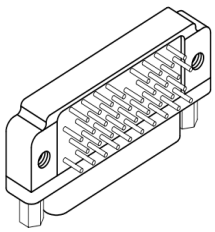
CONTACT/TERMINATION TYPE
43 – Socket, right-angle, 0.109" x 0.020" dia.
44 – Socket, right-angle, 0.140" x 0.020" dia.
45 – Socket, right-angle, 0.172" x 0.020" dia.

PLATING
3 – 50 µm Au contacts; Au terminations

HARDWARE
00 – No hardware
22 – Two fixed jacknut assemblies

WIRING
0S – Standard body polarization

MSHT-262-037-433-220S



HIGH-RELIABILITY CONTACT

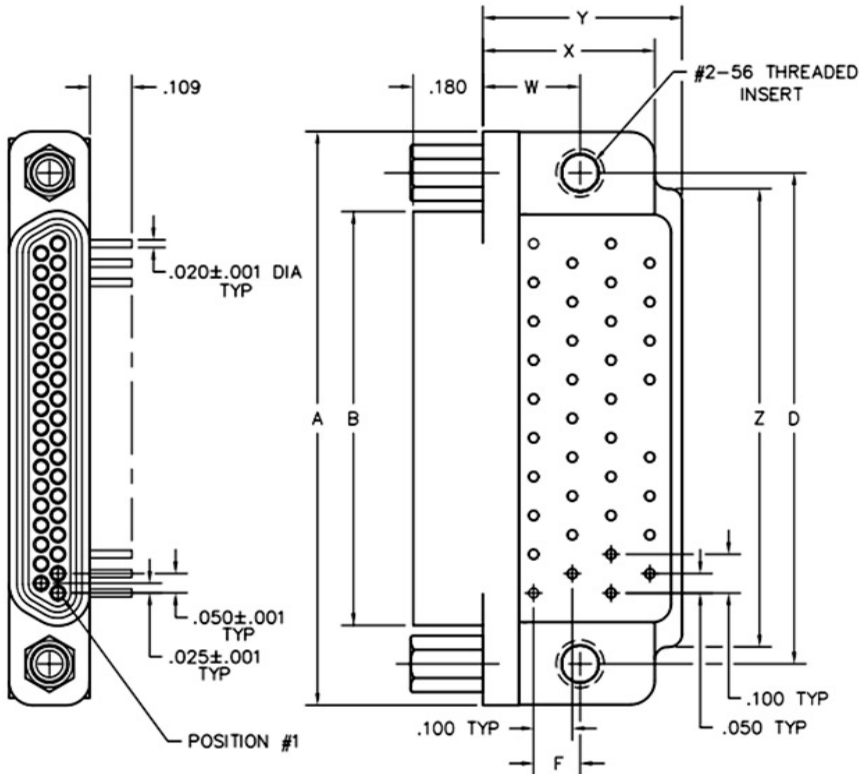
MIL-DTL-83513

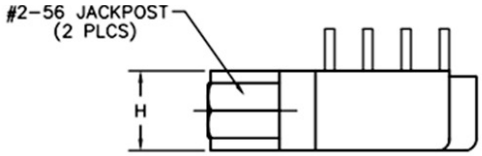
PERFORMANCE	
Contact Rating	3 amperes maximum
Operating Temperature	-55° C to 205° C
Test Voltage	600V, RMS, 60Hz
Insulation Resistance	5,000 megohms minimum at 500 VDC
Durability	500 connector mating cycles
Contact Engaging Force	6.0 oz maximum/contact
Contact Separating Force	0.5 oz minimum/contact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

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 µm 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

MSHT FEMALE DRAWINGS

RIGHT-ANGLE BLIND-CLEARANCE CUT NARROW FOOTPRINT THREADED INSERTS



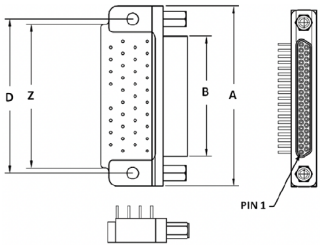


DIMENSIONS															
Size	Row	A	B (MAX)	C	D	F	H	J	K	W	X (MAX)	Y (MAX)	Z	Hardware	Mounting Hole
9	2	0.758	0.378	0.218	0.565	0.020	0.208	0.180	0.067	0.250	0.420	0.420	0.755	#2-56 UNC THD	#2-56 UNC Threaded Insert
15		0.928	0.528		0.715	0.120							0.925		
21		1.078	0.678		0.865								1.075		
25		1.178	0.778		0.965								1.175		
31		1.328	0.928		1.115						0.450	0.520	1.080		
37		1.478	1.078		1.265								1.180		
51	3	1.428	1.028	0.260	1.215	0.150	0.250		0.087	0.300	0.425	0.650	1.220		

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

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

DIMENSIONS



DIMENSIONS						
Size	Row	A	B (MAX)	D	Z	Hardware
9	2	0.758	0.292	0.565	0.775	#2-56 UNC THD Threaded Insert
15		0.928	0.442	0.715	0.925	
21		1.078	0.592	0.865	1.075	
25		1.178	0.692	0.965	1.175	
31		1.328	0.842	1.115	1.080	
37		1.478	0.992	1.265	1.180	
51	3	1.428	0.942	1.215	1.220	

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]

SERIES
0.050" Low-Profile Metal PC Board-Mount Connector (Male)

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

BODY STYLE
T – Plug, right angle (blind clearance cut), narrow footprint with threaded inserts

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

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

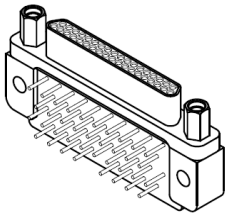
CONTACT/TERMINATION TYPE
32 – Pin, right-angle, PCB leads, 0.109" x 0.020" dia.
33 – Pin, right-angle, PCB leads, 0.140" x 0.020" dia.
34 – Pin, right-angle, PCB leads, 0.172" x 0.020" dia.

PLATING
3 – 50 µm Au contacts; Au terminations

HARDWARE
00 – No hardware
22 – Two fixed jacknut assemblies

WIRING
0S – Standard body polarization

MSHT-2T3-037-323-220S



HIGH-RELIABILITY CONTACT

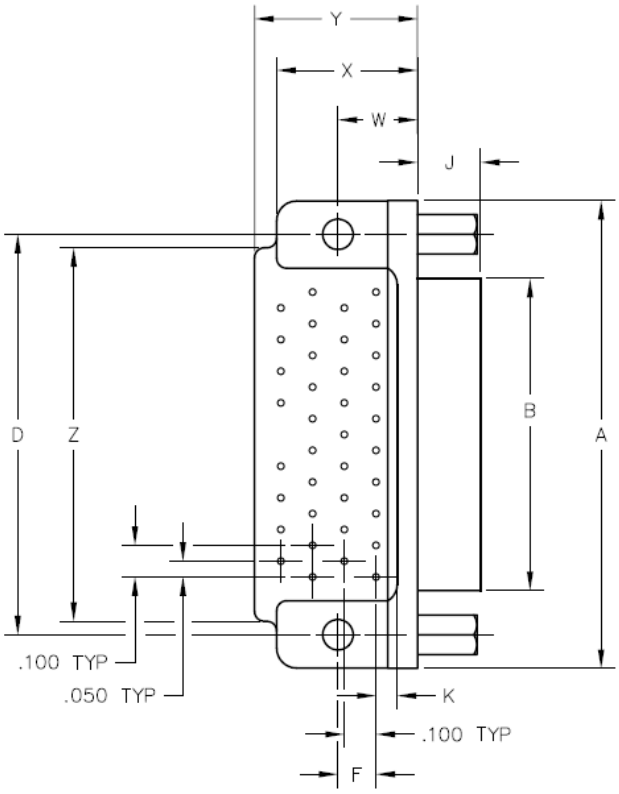
MIL-DTL-83513

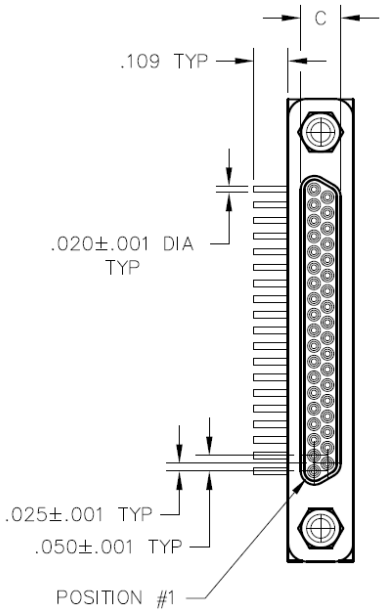
PERFORMANCE	
Contact Rating	3 amperes maximum
Operating Temperature	-55° C to 205° C
Test Voltage	600V, RMS, 60Hz
Insulation Resistance	5,000 megohms minimum at 500 VDC
Durability	500 connector mating cycles
Contact Engaging Force	6.0 oz maximum/contact
Contact Separating Force	0.5 oz minimum/contact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

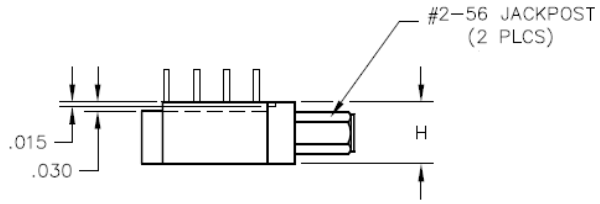
MATERIALS AND FINISHES	
Pin Contacts	Copper-based alloy strip
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shells	Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11 or 6061-T6511 per SAE AMS-QQ-A-200/8
Shell Finishes	Electroless nickel per SAE AMS-2402, Class 3, 500 µm minimum or black anodized 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

MSHT MALE DRAWINGS

RIGHT-ANGLE BLIND-CLEARANCE CUT NARROW FOOTPRINT THREADED INSERTS







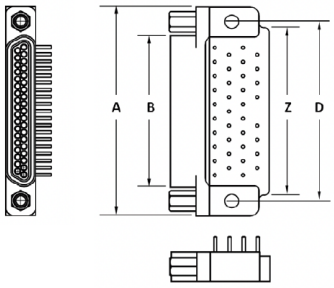
DIMENSIONS

Size	Row	A	B (MAX)	C	D	F	H	J	K	W	X (MAX)	Y (MAX)	Z	Hardware	Mounting Hole
9	2	0.758	0.292	0.134	0.565	0.020	0.208	0.199	0.067	0.250	0.420	0.420	0.755	#2-56 UNC THD	#2-56 UNC Threaded Insert
15		0.928	0.442		0.715	0.120							0.925		
21		1.078	0.592		0.865								1.075		
25		1.178	0.692		0.965								1.175		
31		1.328	0.842		1.115						0.450	0.520	1.080		
37		1.478	0.992		1.265								1.180		
51	3	1.428	0.942	0.177	1.215	0.150	0.250		0.087	0.300	0.425	0.650	1.220		

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

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

DIMENSIONS



DIMENSIONS					
Size	Row	A	B (MAX)	D	Z
9	2	0.758	0.378	0.565	0.775
15		0.928	0.528	0.715	0.925
21		1.078	0.678	0.865	1.075
25		1.178	0.778	0.965	1.175
31		1.328	0.928	1.115	1.080
37		1.478	1.078	1.265	1.180
51	3	1.428	1.028	1.215	1.220

SAMPLE PART NUMBER FORMAT: MSHT-2V3-037-435-220S

MSHT – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] – [ENTER CODE] – [ENTER CODE] – [ENTER CODE]

SERIES
0.050" Low-Profile Metal PC Board-Mount Connector (Female)

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

BODY STYLE
V – Receptacle, right-angle (blind clearance cut), narrow footprint with threaded inserts

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

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

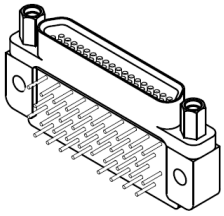
CONTACT/TERMINATION TYPE
43 – Socket, right-angle, 0.109" x 0.020" dia
44 – Socket, right-angle, 0.140" x 0.020" dia
45 – Socket, right-angle, 0.172" x 0.020" dia

PLATING
3 – 50 µm Au contacts; Au terminations

HARDWARE
00 – No hardware
22 – Two fixed jacknut assemblies

WIRING
0S – Standard body polarization

MSHT-2V3-037-435-220S



HIGH-RELIABILITY CONTACT

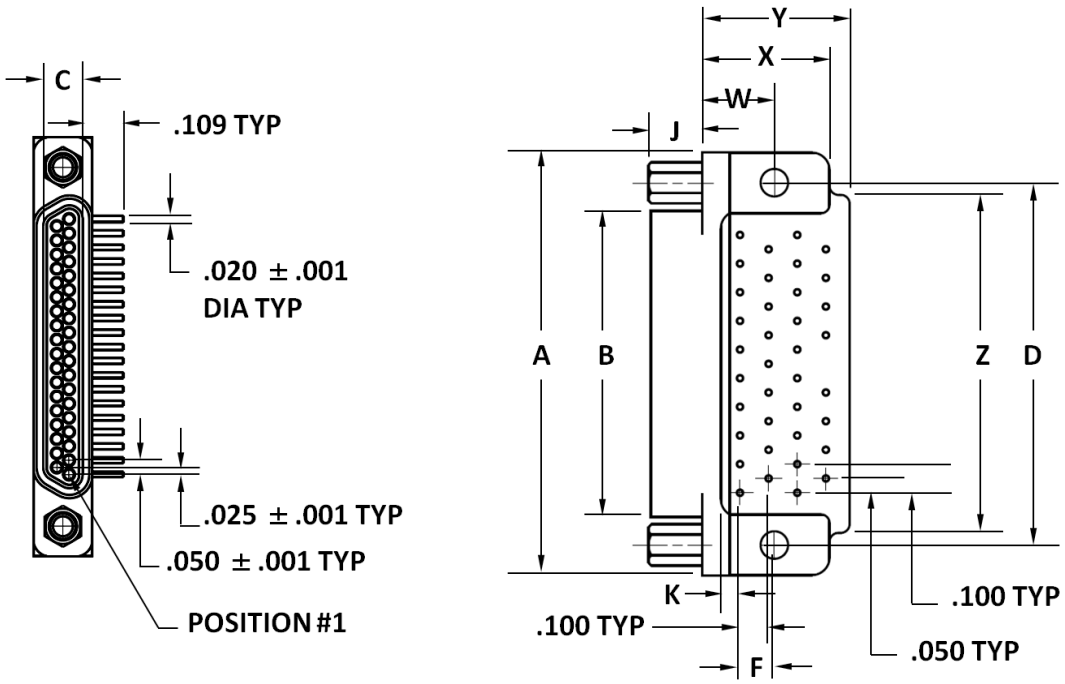
MIL-DTL-83513

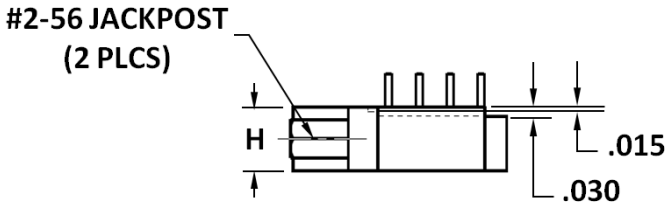
PERFORMANCE	
Contact Rating	3 amperes maximum
Operating Temperature	-55° C to 205° C
Test Voltage	600V, RMS, 60Hz
Insulation Resistance	5,000 megohms minimum at 500 VDC
Durability	500 connector mating cycles
Contact Engaging Force	6.0 oz maximum/contact
Contact Separating Force	0.5 oz minimum/contact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

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 µm 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

MSHT (BLIND-CLEARANCE CUT) FEMALE DRAWINGS

RIGHT-ANGLE BLIND-CLEARANCE CUT NARROW FOOTPRINT THREADED INSERTS

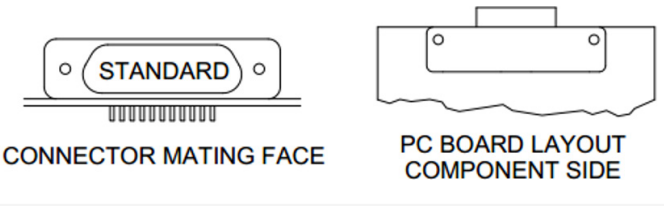


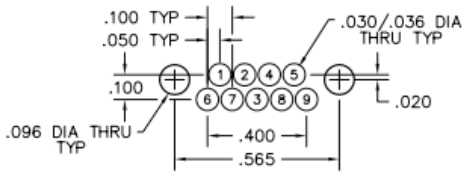
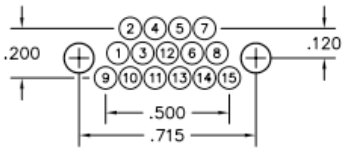
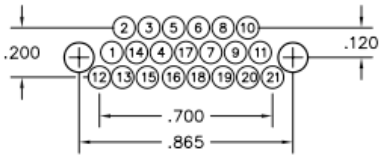
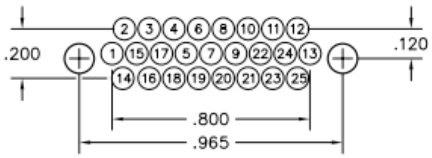
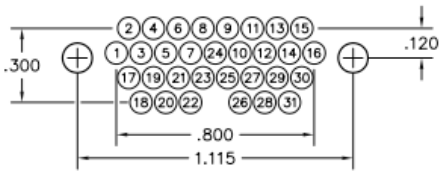
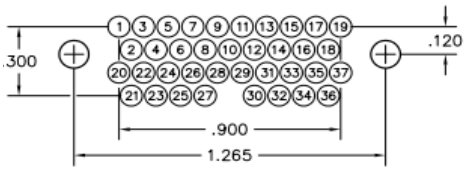
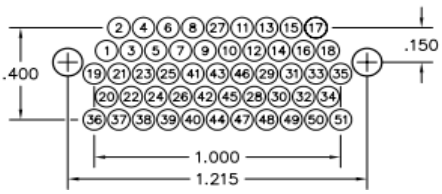


DIMENSIONS															
Size	Row	A	B (MAX)	C	D	F	H	J	K	W	X (MAX)	Y (MAX)	Z	Hardware	Mounting Hole
9	2	0.758	0.378	0.218	0.565	0.020	0.208	0.180	0.067	0.250	0.420	0.420	0.755	#2-56 UNC THD	#2-56 UNC Threaded Insert
15		0.928	0.528		0.715	0.120							0.925		
21		1.078	0.678		0.865								1.075		
25		1.178	0.778		0.965								1.175		
31		1.328	0.928		1.115						0.450	0.520	1.080		
37		1.478	1.078		1.265								1.180		
51	3	1.428	1.028	0.260	1.215	0.150	0.250		0.087	0.300	0.425	0.650	1.220		

RECOMMENDED PC BOARD LAYOUTS – MSHT MALE

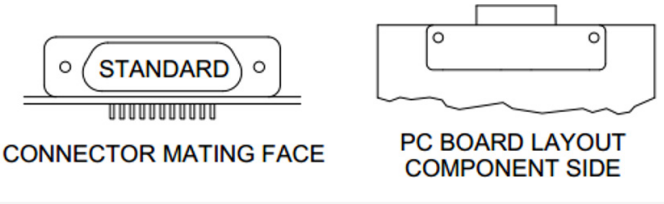
RIGHT-ANGLE NARROW FOOTPRINT
STANDARD POLARIZATION



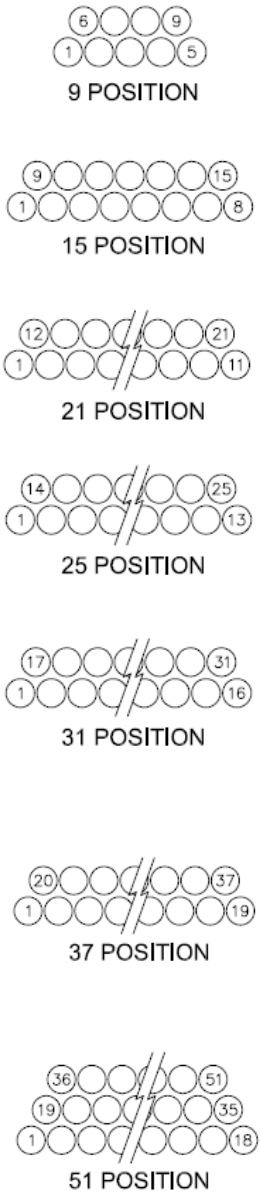
CONNECTOR MATING FACE	PC BOARD LAYOUT COMPONENT SIDE
 9 POSITION	
 15 POSITION	
 21 POSITION	
 25 POSITION	
 31 POSITION	
 37 POSITION	
 51 POSITION	

RECOMMENDED PC BOARD LAYOUTS – MSHT FEMALE

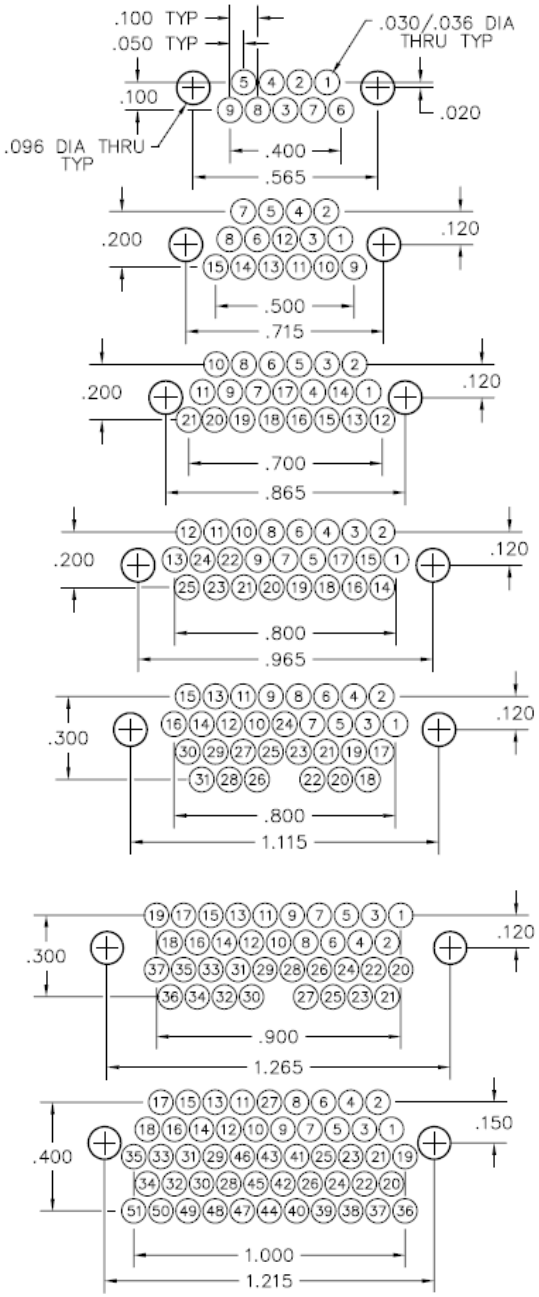
RIGHT-ANGLE NARROW FOOTPRINT
STANDARD POLARIZATION



CONNECTOR MATING FACE



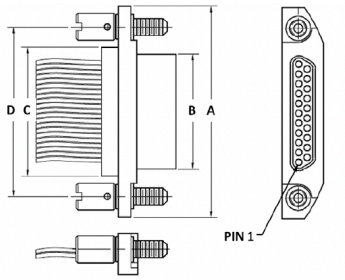
PC BOARD LAYOUT
COMPONENT SIDE



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

MTHT connectors 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	Row	A	B (MAX)	C	D
9	2	0.758	0.292	0.398	0.565
15		0.928	0.442	0.548	0.715
21		1.078	0.592	0.698	0.865
25		1.178	0.692	0.798	0.965
31		1.328	0.842	0.948	1.115
37		1.478	0.992	1.098	1.265
51	3	1.428	0.942	1.048	1.215

SAMPLE PART NUMBER FORMAT: MTHT-212-021-161-43WQ

MTHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

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

ROWS
2 – 2-Row (9-37 contacts)
3 – 3-Row (51 and 69 contacts)

BODY STYLE
1 – Plug, straight with ears. Low-profile radius.

BODY MATERIAL
2 – High-temp thermoplastic with electroless nickel shell

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

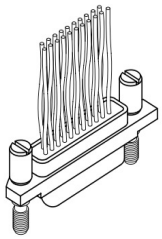
CONTACT/TERMINATION TYPE
1A – Pin, straight, 24 AWG solder cup
11 – Pin, straight, 26 AWG solder cup
12 – Pin, straight, 0.125" lead length*
13 – Pin, straight, 0.250" lead length*
14 – Pin, straight, 0.500" lead length*
16 – Pin, straight, crimped wire

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

HARDWARE
00 – No hardware
41 – Two turning jackscrews, Allen head
43 – Two turning jackscrews, slot head

WIRING
00 – None
XX – See Wiring Codes

MTHT-212-021-161-43WQ



PERFORMANCE

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

HIGH-RELIABILITY CONTACT

MIL-DTL-83513

MATERIALS AND FINISHES

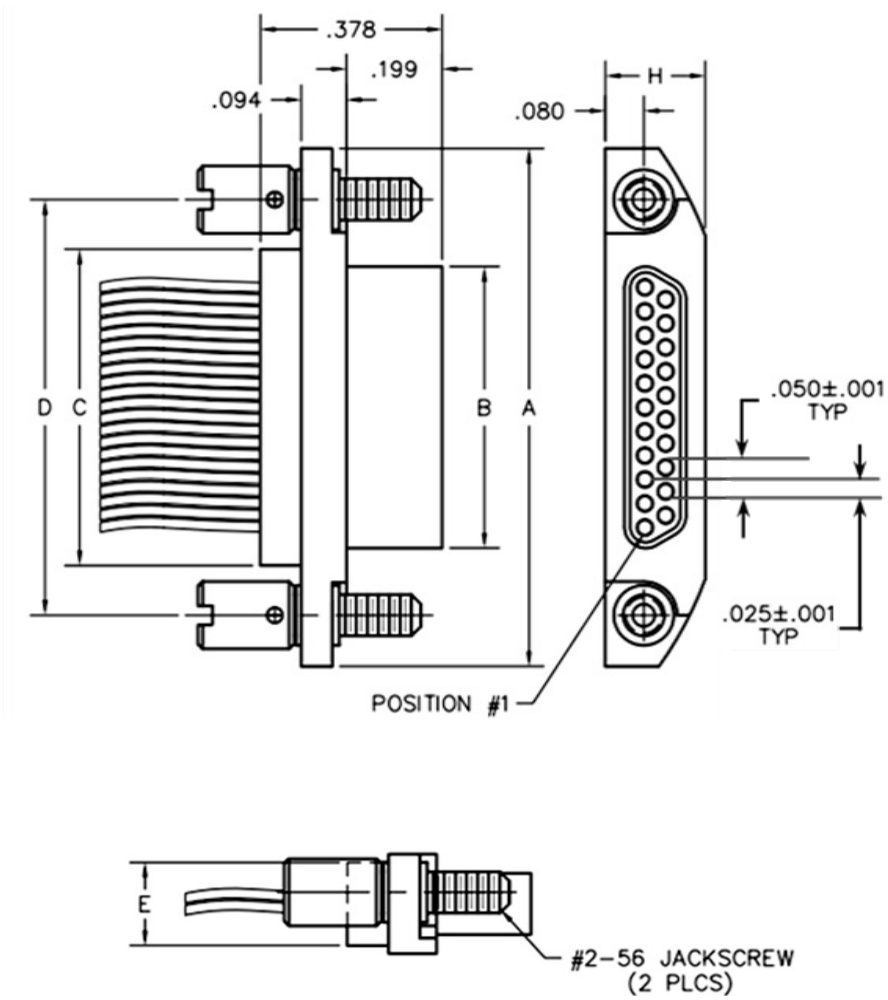
Pin Contacts	Copper-based alloy strip
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shells	Aluminum alloy 6061-T6 per SAE AMS-QQ-A-250/11or 6061-T6511 per SAE AMS-QQ-A-200/8
Shell Finishes	Electroless nickel per SAE AMS-2402, Class 3, 500 µm minimum
Molded Insulators	High-temp thermoplastic
Embedment	High-temp epoxy
Hardware	Corrosion-resistant steel per ASTM A582/A582M, passivated per ASTM A967, SAE AMS-QQ-P-35
Tolerances (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

NOTES

*0.018 diameter

MTHT MALE DRAWINGS

STRAIGHT MULTI-ROW CABLE-TO-CABLE

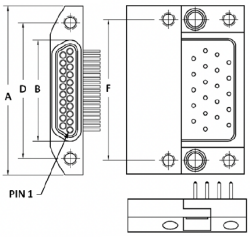


DIMENSIONS								
Size	Row	A	B (MAX)	C	D	E (MAX)	H	Hardware
9	2	0.758	0.292	0.398	0.565	0.173	0.208	#2-56 UNC THD
15		0.928	0.442	0.548	0.715			
21		1.078	0.592	0.698	0.865			
25		1.178	0.692	0.798	0.965			
31		1.328	0.842	0.948	1.115			
37		1.478	0.992	1.098	1.265			
51	3	1.428	0.942	1.048	1.215	0.220	0.250	

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

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

DIMENSIONS



DIMENSIONS									
Size	Row	A	B (MAX)	D	Z	H	W	Y (MAX)	Hardware
9	2	0.758	0.378	0.565	0.600	0.208	0.250	0.420	#2-56 UNC THD
15		0.928	0.528	0.715	0.750				
21		1.078	0.678	0.865	0.900				
25		1.178	0.778	0.965	1.000				
31		1.328	0.928	1.115	1.150			0.520	
37		1.478	1.078	1.265	1.300				
51	3	1.428	1.028	1.215	1.220	0.250	0.300	0.650	

SAMPLE PART NUMBER FORMAT: MTHT-2E2-021-433-000S

MTHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

SERIES
0.050" Low-Profile Metal PC Board-Mount Connector (Female)

ROWS
2 – 2-Row (9-37 contacts)
3 – 3-Row (51 and 69 contacts)

BODY STYLE
E – Receptacle, right-angle, with four mounting holes. Low-profile radius.

BODY MATERIAL
2 – High-temp thermoplastic with electroless nickel shell

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

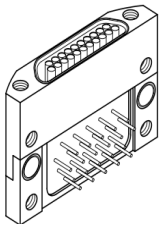
CONTACT/TERMINATION TYPE
43 – Socket, right-angle, 0.109" x 0.016" dia.
44 – Socket, right-angle, 0.140" x 0.016" dia.
45 – Socket, right-angle, 0.172" x 0.016" dia.

PLATING
3 – 50 µm Au contacts; Au terminations (solder cup, pigtail)

HARDWARE
00 – Integrated jacknuts

POLARIZATION
0S – Standard body polarization

MTHT-2E2-021-433-000S



HIGH-RELIABILITY CONTACT

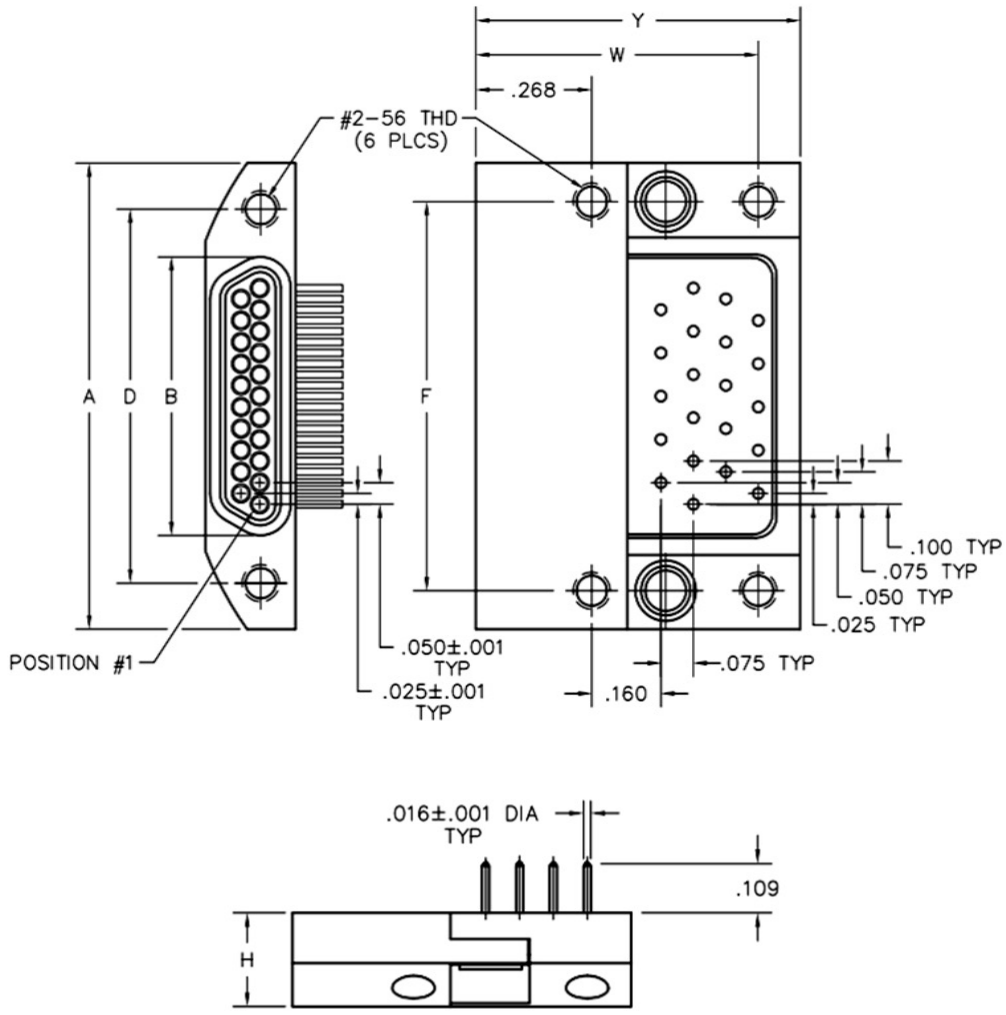
MIL-DTL-83513

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

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 µm 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 (unless otherwise specified)	Angles: ±5° Decimals: ±0.010"; Fractions: ±1/64" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

MTHT FEMALE DRAWINGS

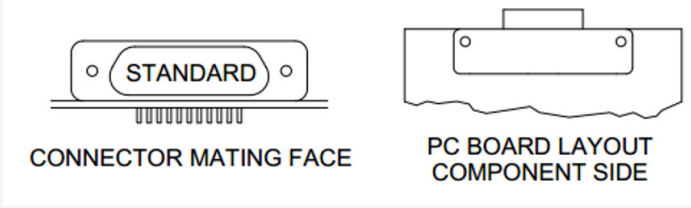
RIGHT-ANGLE BOARD-MOUNT NARROW FOOTPRINT



DIMENSIONS								
Size	Row	A	B (MAX)	C	D	E (MAX)	H	Hardware
9	2	0.778	0.292	0.398	0.565	0.173	0.208	#2-56 UNC THD
15		0.928	0.442	0.548	0.715			
21		1.078	0.592	0.698	0.865			
25		1.178	0.692	0.798	0.965			
31		1.328	0.842	0.948	1.115			
37		1.478	0.992	1.098	1.265			
51	3	1.428	0.942	1.048	1.215	0.220	0.250	

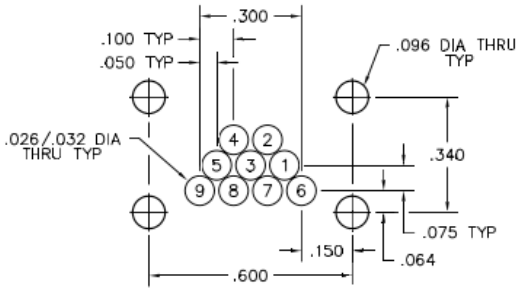
RECOMMENDED PC BOARD LAYOUTS – MTHT MALE

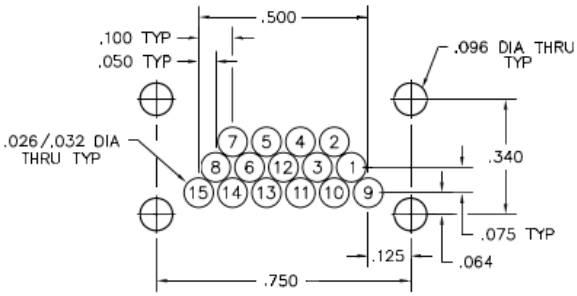
LOW-PROFILE, RIGHT-ANGLE STANDARD POLARIZATION SIZES 9–25

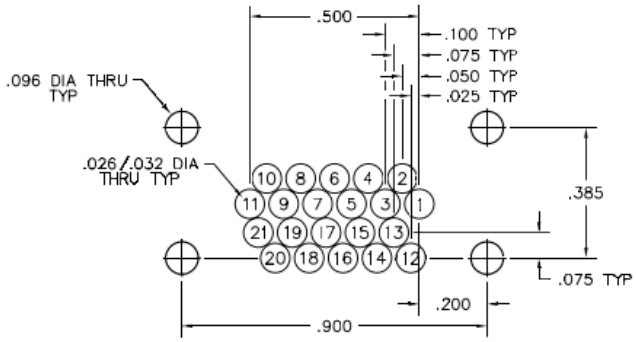


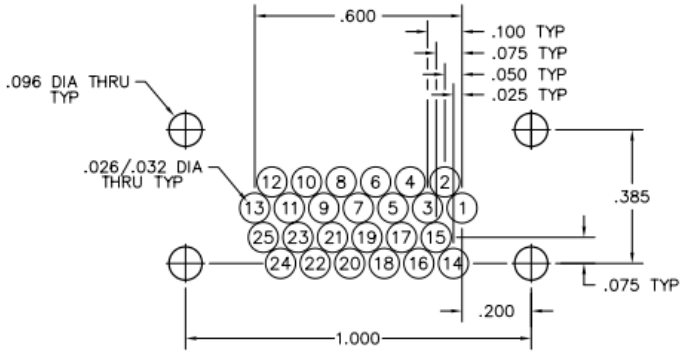
CONNECTOR MATING FACE

PC BOARD LAYOUT COMPONENT SIDE



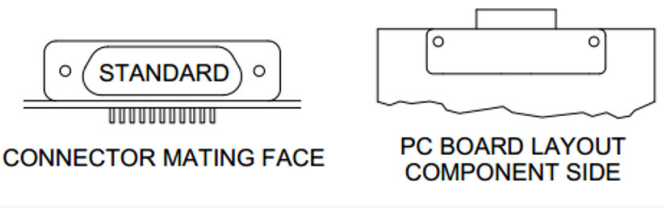






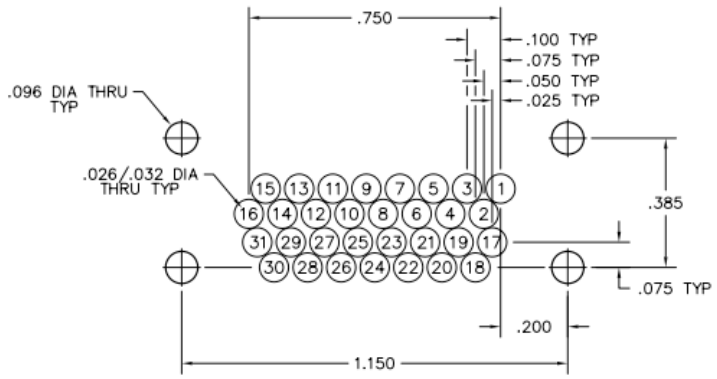
RECOMMENDED PC BOARD LAYOUTS – MTHT FEMALE

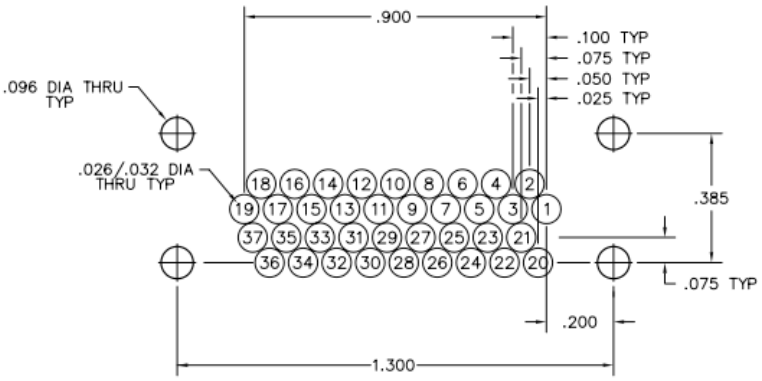
LOW-PROFILE, RIGHT-ANGLE STANDARD POLARIZATION SIZES 31–51

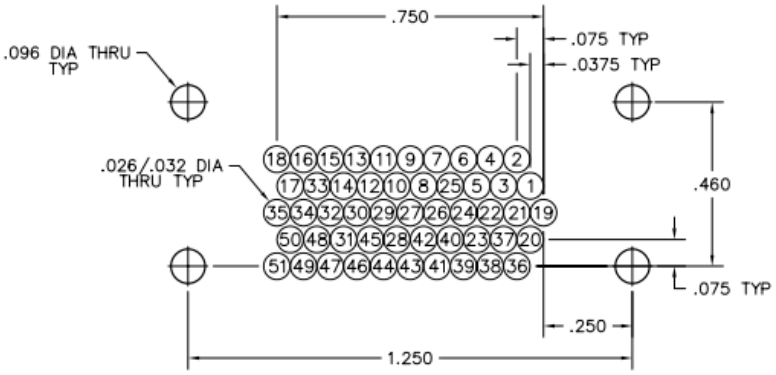


CONNECTOR MATING FACE

PC BOARD LAYOUT COMPONENT SIDE







Wire Codes – AirBorn 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	YE	XD	1G	1H	1J	1K	1L	1M	1N	1P	1Q	1R
WHITE	XE	XF	XG	ZD	1E	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)*** [x]																
	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

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.

[x] Option is not RoHS-compliant

For twisted pair wire connect charts, see page MA-9

Twisted pair wire not available on MA, MC or Hybrid connectos

Wire Codes – AirBorn 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*** [x]																
	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

TWISTED PAIR PER NEMA WC27500-XXSC2U00 (SAE AS22759/33)*** [x]																
	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

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.

[x] Option is not RoHS-compliant

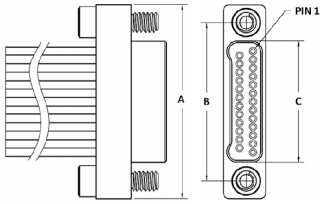
AIRBORN N SERIES NANO-D

HIGH-TEMPERATURE CONNECTORS

NMHT – I/O Cable (Male)

NMHT connectors 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	A	B	C	E	J	Hardware
9	0.375	0.270	0.160	0.1250	0.0575	#0-80 Thread
15	0.450	0.345	0.235			
21	0.525	0.420	0.310			
25	0.575	0.470	0.360			
31	0.650	0.545	0.435			
37	0.725	0.620	0.510			
51	0.900	0.795	0.685			
65	1.075	0.970	0.860			
69	1.125	1.020	0.910			

SAMPLE PART NUMBER FORMAT: NMHT-212-025-161-JCAC

NMHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

SERIES
0.025" Metal I/O Connector (Male)

ROWS
2 – 2-Row (9-69 contacts)

BODY STYLE
2 – Plug, straight
6 – Plug, straight with factory-installed backshell

BODY MATERIAL
2 – Liquid crystal polymer with electroless nickel shell
4 – Liquid crystal polymer 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
065 – 65 Contacts
069 – 69 Contacts

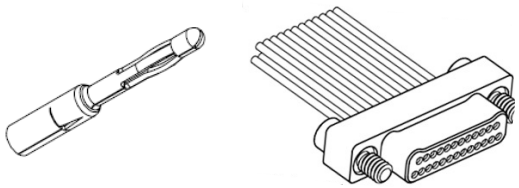
CONTACT/TERMINATION TYPE
26 – Pin, straight, crimped wire

PLATING
1 – 50 µm Au contacts

HARDWARE
00 – No hardware
JC – Turning jackscrews, captivated #0-80 UNF*
TH – Threaded hole, #0-80 UNF*

WIRING
XX – See Wiring Codes

NMHT-212-025-161-JCAC



3-TINE SPRING MEMBER, CRIMP (PIN)

PERFORMANCE	
Contact Rating	1 ampere maximum
Solderability	Terminals (except crimp) tested per MIL-STD-202, method 28
Wire Size	Stranded #30 and #3C2 AWG or solid #30 AWG standard (consult factory for other sizes and types)
Test Voltage	250V, RMS, 60 Hz
Insulation Resistance	5,000 megohms minimum at 100 VDC
Durability	200 connector mating cycles
Vibration	Tested per MIL-STD-1344, method 2005, cond. IV
Shock	Tested per MIL-STD-1344, method 2004, cond. G
Salt Spray	Tested (mated) per MIL-STD-1344, method 1001, cond. B
Humidity	Tested (mated) per MIL-STD-1344, method 1002, type II (except steps 7a and 7b)
Thermal Shock	Tested to temperature extremes of MIL-STD-1344, method 1003, condition A (except step 3, temperature shall be 125° C)
Contact Resistance	0.022 V max drop at 1.0 amps (0.022 ohms)
Contact Engaging Force	5.0 ounce max with minimum diameter test sleeve
Contact Separating Force	0.4 ounce min with minimum diameter test sleeve
Crimp Strength	1 pound min tensile strength

NOTES

*0.050 hex key (#0-80 thread)

Recommended torque value: 1.0 inch-lbs. max (#0-80 thread).

Ball end hex wrench not recommended.

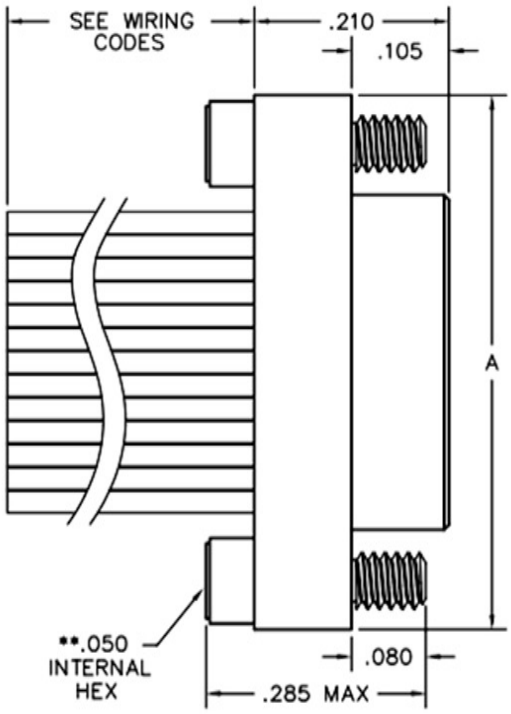
Hex wrench key/bit conforming to the requirements of ASME/ANSI B-18.3 is recommended.

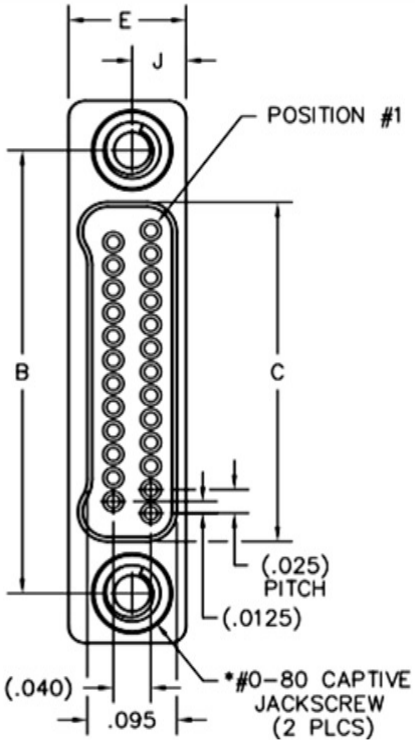
0.050" hex L-key long arm wrench: order Molex part #CDG14148.

MATERIALS AND FINISHES	
Pins	BeCu alloy strip per ASTM B194
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shell	Aluminum with electroless nickel per SAE AMS-C-26074, 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 (unless otherwise specified)	Angles: ±2° Decimals: ±0.005" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

NMHT MALE DRAWINGS

STRAIGHT MULTI-ROW CABLE-TO-CABLE



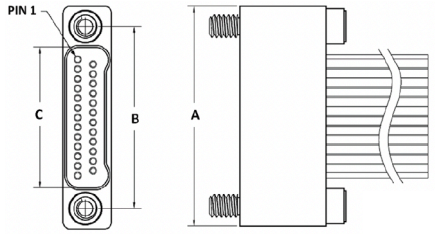


DIMENSIONS						
Size	A	B	C	E	J	Hardware
9	0.375	0.270	0.160	0.1250	0.0575	#0-80 Thread
15	0.450	0.345	0.235			
21	0.525	0.420	0.310			
25	0.575	0.470	0.360			
31	0.650	0.545	0.435			
37	0.725	0.620	0.510			
51	0.900	0.795	0.685			
65	1.075	0.970	0.860			
69	1.125	1.020	0.910			

NMHT – I/O Cable (Female)

NMHT connectors 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	A	B	C
9	0.375	0.270	0.163
15	0.450	0.345	0.238
21	0.525	0.420	0.313
25	0.575	0.470	0.363
31	0.650	0.545	0.438
37	0.725	0.620	0.513
51	0.900	0.795	0.688
65	1.075	0.970	0.863
69	1.125	1.020	0.913

SAMPLE PART NUMBER FORMAT: NMHT-222-025-261-JCA

NMHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

SERIES
0.025" Metal I/O Connector (Female)

ROWS
2 – 2-Row (9-69 contacts)

BODY STYLE
2 – Receptacle, straight
6 – Receptacle, straight with factory-installed backshell

BODY MATERIAL
2 – Liquid crystal polymer with electroless nickel shell
4 – Liquid crystal polymer 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
065 – 65 Contacts
069 – 69 Contacts

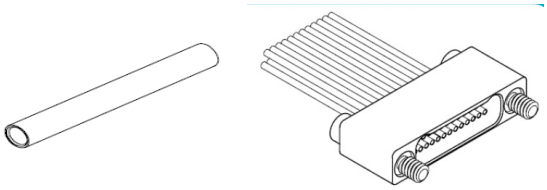
CONTACT/TERMINATION TYPE
26 – Socket, straight, crimped wire

PLATING
1 – 50 µm Au contacts

HARDWARE
00 – No hardware
JC – Turning jackscrews, captivated #0-80 UNF*
TH – Threaded hole, #0-80 UNF*

WIRING
XX – See Wiring Codes

NMHT-222-025-261-JCAC



DRAWN TUBE, CRIMP (SOCKET)

PERFORMANCE	
Contact Rating	1 ampere maximum
Solderability	Terminals (except crimp) tested per MIL-STD-202, method 28
Wire Size	Stranded #30 and #3C2 AWG or solid #30 AWG standard (consult factory for other sizes and types)
Test Voltage	250V, RMS, 60 Hz
Insulation Resistance	5,000 megohms minimum at 100 VDC
Durability	200 connector mating cycles
Vibration	Tested per MIL-STD-1344, method 2005, cond. IV
Shock	Tested per MIL-STD-1344, method 2004, cond. G
Salt Spray	Tested (mated) per MIL-STD-1344, method 1001, cond. B
Humidity	Tested (mated) per MIL-STD-1344, method 1002, type II (except steps 7a and 7b)
Thermal Shock	Tested to temperature extremes of MIL-STD-1344, method 1003, condition A (except step 3, temperature shall be 125° C)
Contact Resistance	0.022 V max drop at 1.0 amps (0.022 ohms)
Contact Engaging Force	5.0 oz max with minimum diameter test sleeve
Contact Separating Force	0.4 oz min with minimum diameter test sleeve
Crimp Strength	1 pound min tensile strength

NOTES

*0.050 hex key (#0-80 thread)

Recommended torque value: 1.0 inch-lbs. max (#0-80 thread). Ball end hex wrench not recommended.

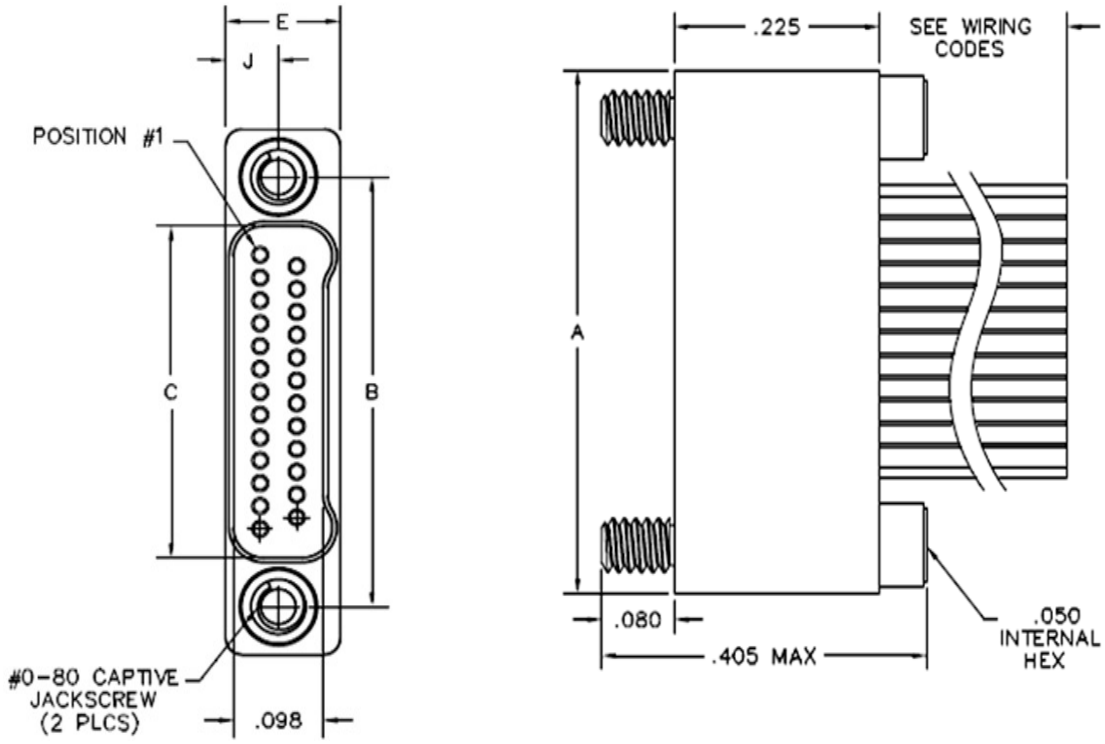
Hex wrench key/bit conforming to the requirements of ASME/ANSI B-18.3 is recommended.

0.050" hex L-key long arm wrench: order Molex part #CDG14148.

MATERIALS AND FINISHES	
Sockets	BeCu per ASTM B194, or NiAg per ASTM B194
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shell	Aluminum with electroless nickel per SAE AMS-C-26074, 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 (unless otherwise specified)	Angles: ±2° Decimals: ±0.005" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

NMHT FEMALE DRAWINGS

STRAIGHT MULTI-ROW CABLE-TO-CABLE

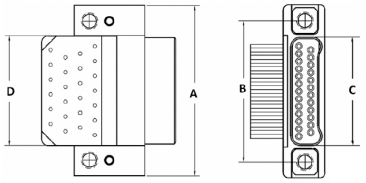


DIMENSIONS						
Size	A	B	C	E	J	Hardware
9	0.375	0.270	0.163	0.1250	0.0575	#0-80 Thread
15	0.450	0.345	0.238			
21	0.525	0.420	0.313			
25	0.575	0.470	0.363			
31	0.650	0.545	0.438			
37	0.725	0.620	0.513			
51	0.900	0.795	0.688			
65	1.075	0.970	0.863			
69	1.125	1.020	0.913			

NKHT – Right-Angle Board-Mount (Male)

NKHT connectors are used in high-temperature applications where a right-angle, plated through-hole termination is desired for mounting.

DIMENSIONS



DIMENSIONS				
Size	A	B	C	D
9	0.375	0.270	0.160	0.170
15	0.450	0.345	0.235	0.245
21	0.525	0.420	0.310	0.320
25	0.575	0.470	0.360	0.370
31	0.650	0.545	0.435	0.445
37	0.725	0.620	0.510	0.520
51	0.900	0.795	0.685	0.695
65	1.075	0.970	0.860	0.870
69	1.125	1.020	0.910	0.920

SAMPLE PART NUMBER FORMAT: NKHT-2E2-025-325-TH00

NKHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

SERIES
0.025" Metal PC Board-Mounted Connector (Male)

ROWS
2 – 2-Row (9-69 contacts)

BODY STYLE
E – Plug, right-angle, plated thru-hole

BODY MATERIAL
2 – Liquid crystal polymer with electroless nickel shell
4 – Liquid crystal polymer 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
065 – 65 Contacts
069 – 69 Contacts

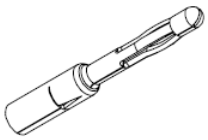
CONTACT/TERMINATION TYPE
32 – Pin, right-angle, 0.109" x 0.010" dia.
33 – Pin, right-angle, 0.140" x 0.010" dia.
34 – Pin, right-angle, 0.172" x 0.010" dia.

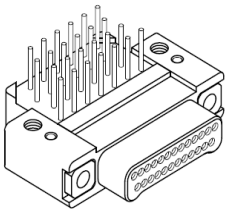
PLATING
3 – 50 µm Au contacts; Au terminations

HARDWARE
00 – No hardware
TH – Threaded hole, #0-80 UNF*

WIRING
00 – None

NKHT-2E2-025-325-TH00





3-TINE SPRING MEMBER, CRIMP (PIN)

PERFORMANCE	
Contact Rating	1 ampere maximum
Solderability	Terminals (except crimp) tested per MIL-STD-202, method 28
Wire Size	Stranded #30 and #3C2 AWG or solid #30 AWG standard (consult factory for other sizes and types)
Test Voltage	250V, RMS, 60 Hz
Insulation Resistance	5,000 megohms minimum at 100 VDC
Durability	200 connector mating cycles
Vibration	Tested per MIL-STD-1344, method 2005, cond. IV
Shock	Tested per MIL-STD-1344, method 2004, cond. G
Salt Spray	Tested (mated) per MIL-STD-1344, method 1001, cond. B
Humidity	Tested (mated) per MIL-STD-1344, method 1002, type II (except steps 7a and 7b)
Thermal Shock	Tested to temperature extremes of MIL-STD-1344, method 1003, condition A (except step 3, temperature shall be 125° C)
Contact Resistance	0.022 V max drop at 1.0 amps (0.022 ohms)
Contact Engaging Force	5.0 oz max with minimum diameter test sleeve
Contact Separating Force	0.4 oz min with minimum diameter test sleeve
Crimp Strength	1 pound min tensile strength

NOTES

*0.050 hex key (#0-80 thread)

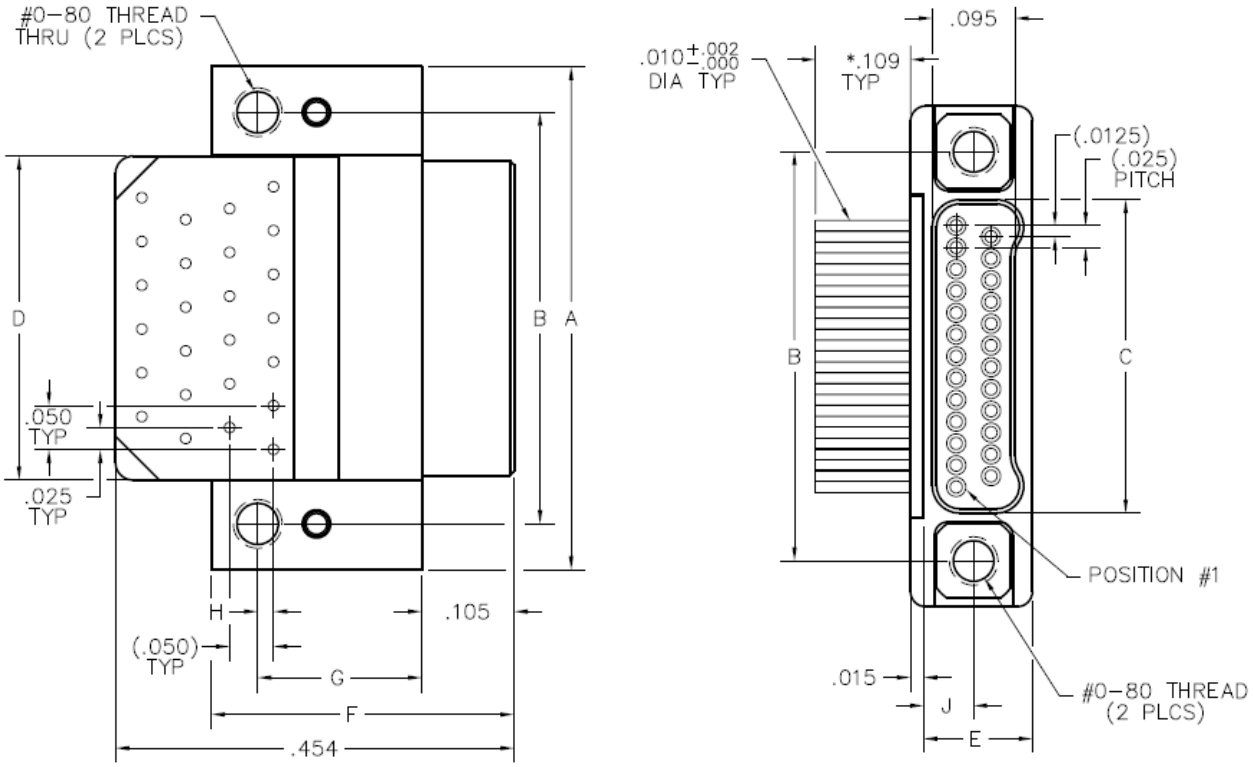
Recommended torque value: 1.0 inch-lbs max (#0-80 thread). Ball end hex wrench not recommended.

Hex wrench key/bit conforming to the requirements of ASME/ANSI B-18.3 is recommended. 0.050" hex L-key long arm wrench: order Molex Part Number CDG14148.

MATERIALS AND FINISHES	
Pins	BeCu alloy strip per ASTM B194
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shell	Aluminum with electroless nickel per SAE AMS-C-26074, 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 (unless otherwise specified)	Angles: ±2° Decimals: ±0.005" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

NKHT MALE DRAWINGS

RIGHT-ANGLE BOARD-MOUNT PLATED THROUGH-HOLE



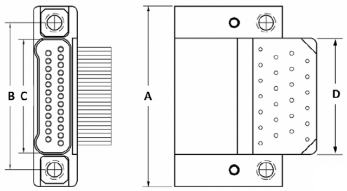
* OTHER LENGTHS AS REQUIRED

DIMENSIONS									
Size	A	B	C	D	E	F	G	J	Hardware
9	0.375	0.270	0.160	0.170	0.1250	0.3450	0.0180	0.0575	#0-80 Thread
15	0.450	0.345	0.235	0.245					
21	0.525	0.420	0.310	0.320					
25	0.575	0.470	0.360	0.370					
31	0.650	0.545	0.435	0.445					
37	0.725	0.620	0.510	0.520					
51	0.900	0.795	0.685	0.695					
65	1.075	0.970	0.860	0.870					
69	1.125	1.020	0.910	0.920					

NKHT – Right-Angle Board-Mount (Female)

NKHT connectors are used in high-temperature applications where a right-angle, plated through-hole termination is desired for mounting.

DIMENSIONS



DIMENSIONS				
Size	A	B	C	D
9	0.375	0.270	0.13	0.170
15	0.450	0.345	0.238	0.245
21	0.525	0.420	0.313	0.320
25	0.575	0.470	0.363	0.370
31	0.650	0.545	0.438	0.445
37	0.725	0.620	0.513	0.520
51	0.900	0.795	0.688	0.695
65	1.075	0.970	0.863	0.870
69	1.125	1.020	0.913	0.920

SAMPLE PART NUMBER FORMAT: NKHT-2F2-025-435-TH00

NKHT – [ENTER CODE] [ENTER CODE] [ENTER CODE] – [ENTER CODE] – [ENTER CODE] [ENTER CODE] – [ENTER CODE] [ENTER CODE]

SERIES
0.025" Metal PC Board-Mounted Connector (Female)

ROWS
2 – 2-Row (9-69 contacts)

BODY STYLE
F – Receptacle, right-angle, plated though-hole

BODY MATERIAL
2 – Liquid crystal polymer with electroless nickel shell
4 – Liquid crystal polymer 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
065 – 65 Contacts
069 – 69 Contacts

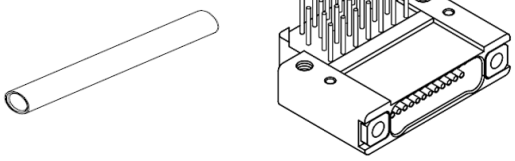
CONTACT/TERMINATION TYPE
43 – Socket, right-angle, 0.109" x 0.010" dia.
44 – Socket, right-angle, 0.140" x 0.010" dia.
45 – Socket, right-angle, 0.172" x 0.010" dia.

PLATING
3 – 50 µm Au contacts; Au terminations

HARDWARE
00 – No hardware
TH – Threaded hole, #0-80 UNF*

WIRING
00 – None

NKHT-2F2-025-435-TH00



DRAWN TUBE, CRIMP (SOCKET)

PERFORMANCE

Contact Rating	1 ampere maximum
Solderability	Terminals (except crimp) tested per MIL-STD-202, method 28
Wire Size	Stranded #30 and #3C2 AWG or solid #30 AWG standard (consult factory for other sizes and types)
Test Voltage	250V, RMS, 60 Hz
Insulation Resistance	5,000 megohms minimum at 100 VDC
Durability	200 connector mating cycles
Vibration	Tested per MIL-STD-1344, method 2005, cond. IV
Shock	Tested per MIL-STD-1344, method 2004, cond. G
Salt Spray	Tested (mated) per MIL-STD-1344, method 1001, cond. B
Humidity	Tested (mated) per MIL-STD-1344, method 1002, type II (except steps 7a and 7b)
Thermal Shock	Tested to temperature extremes of MIL-STD-1344, method 1003, condition A (except step 3, temperature shall be 125° C)
Contact Resistance	0.022 V max drop at 1.0 amps (0.022 ohms)
Contact Engaging Force	5.0 oz max with minimum diameter test sleeve
Contact Separating Force	0.4 oz min with minimum diameter test sleeve
Crimp Strength	1 pound min tensile strength

NOTES

*0.050 hex key (#0-80 thread)

Recommended torque value: 1.0 inch-lbs. max (#0-80 thread).

Ball end hex wrench not recommended.

Hex wrench key/bit conforming to the requirements of ASME/ANSI B-18.3 is recommended.

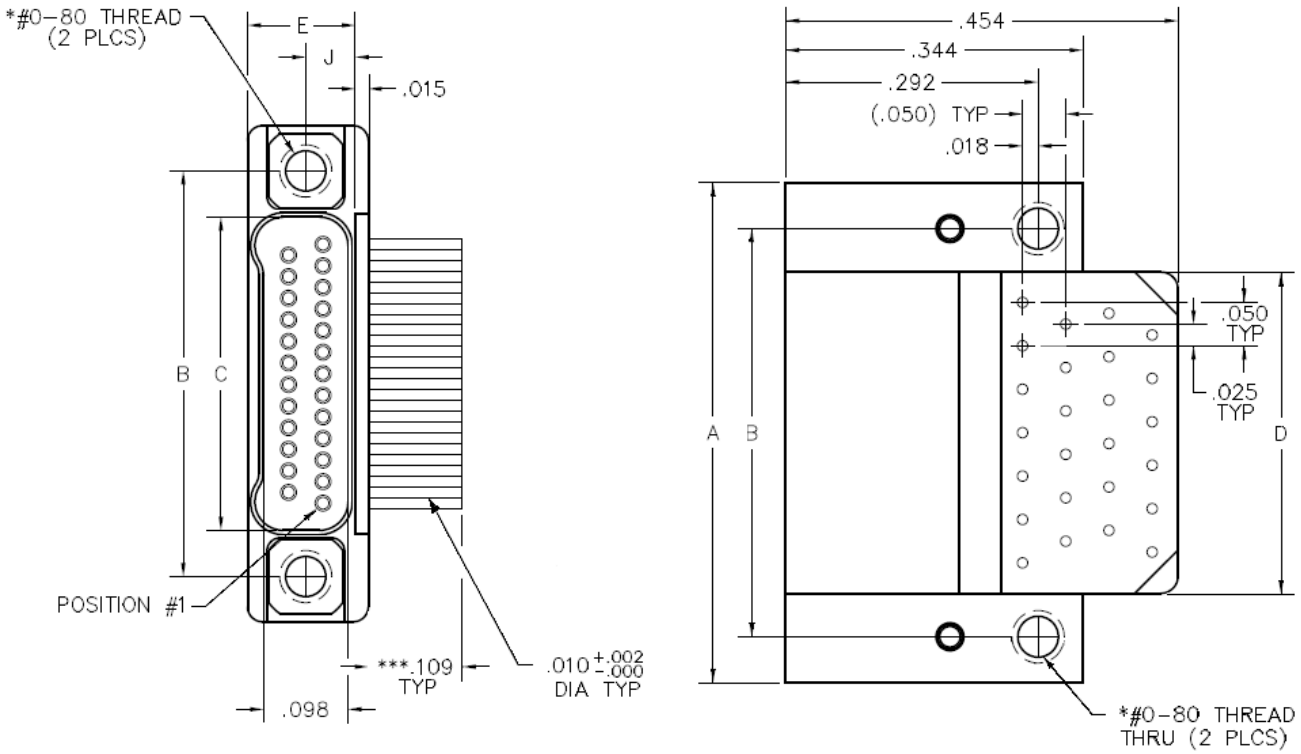
0.050" hex L-key long arm wrench: order Molex Part Njumber CDG14148

MATERIALS AND FINISHES

Sockets	BeCu per ASTM B194, or NiAg per ASTM B194
Contact Finish	Gold plate per ASTM B488, SAE AMS-2422
Shell	Aluminum with electroless nickel per SAE AMS-C-26074, 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 (unless otherwise specified)	Angles: ±2° Decimals: ±0.005" Wire lengths: insulated/stranded: +1.0"/-0.0" uninsulated/solid: +0.2"/-0.0"
Note: Molex can manufacture special configurations to your exact specifications.	

NKHT FEMALE DRAWINGS

RIGHT-ANGLE BOARD-MOUNT PLATED THROUGH-HOLE

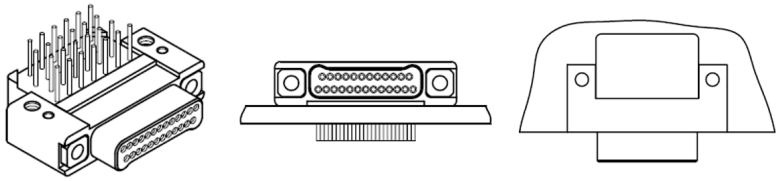


PLEASE CONSULT THE MOLEX WEBSITE FOR THE LATEST VERSION OF THIS DOCUMENT PRIOR TO BEGINNING ANY DESIGN WORK.
*OTHER LENGTHS AS REQUIRED

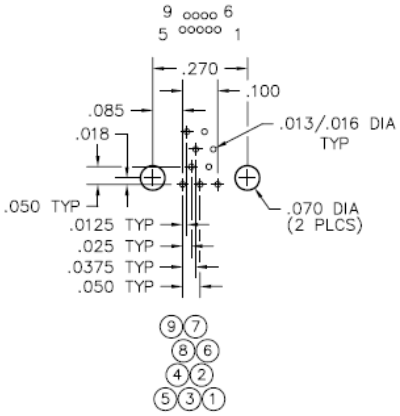
DIMENSIONS							
Size	A	B	C	D	E	J	Hardware
9	0.375	0.270	0.163	0.170	0.1250	0.0575	#0-80 Thread
15	0.450	0.345	0.238	0.245			
21	0.525	0.420	0.313	0.320			
25	0.575	0.470	0.363	0.370			
31	0.650	0.545	0.438	0.445			
37	0.725	0.620	0.513	0.520			
51	0.900	0.795	0.688	0.695			
65	1.075	0.970	0.863	0.870			
69	1.125	1.020	0.913	0.920			

RECOMMENDED PC BOARD LAYOUTS – NKHT MALE

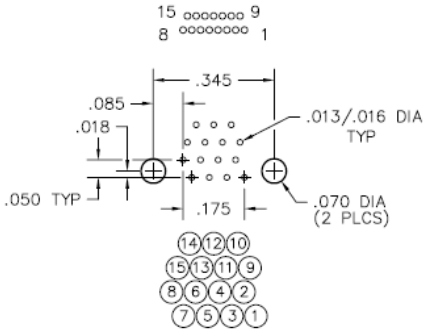
RIGHT-ANGLE PLATED THROUGH-HOLE SIZES 9–31



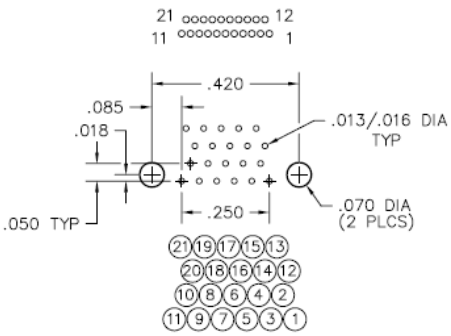
9 POSITION



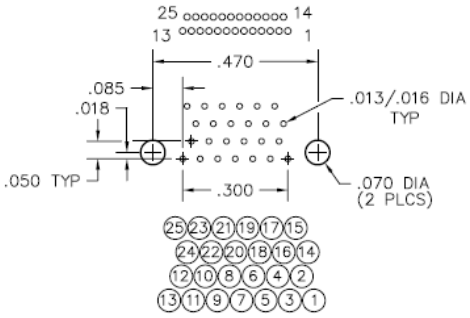
15 POSITION



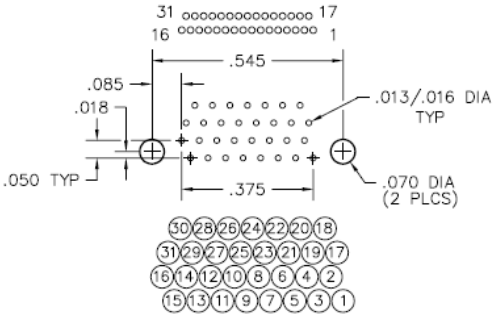
21 POSITION



25 POSITION

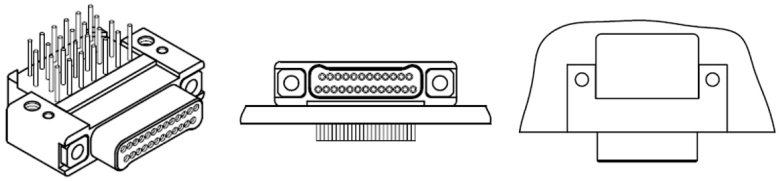


31 POSITION

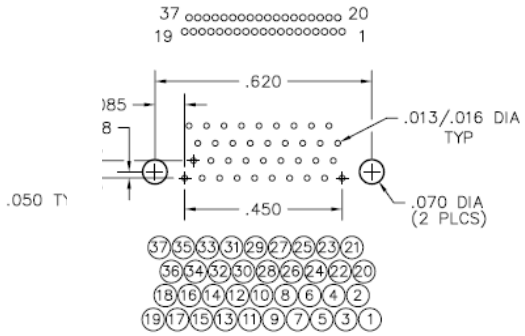


RECOMMENDED PC BOARD LAYOUTS – NKHT MALE

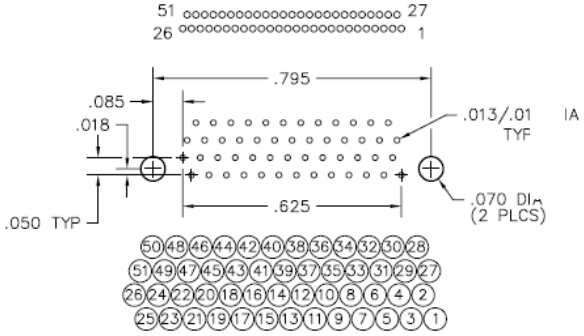
RIGHT-ANGLE PLATED THROUGH-HOLE SIZES 37–69



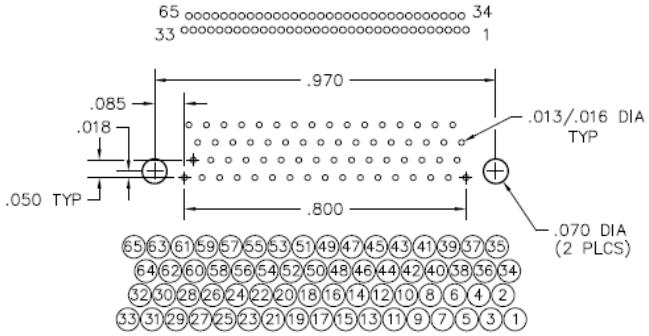
37 POSITION



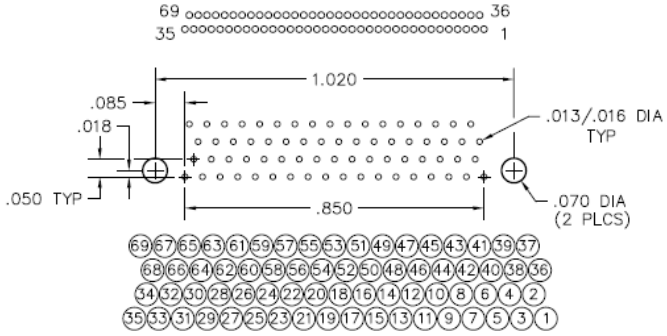
51 POSITION



65 POSITION

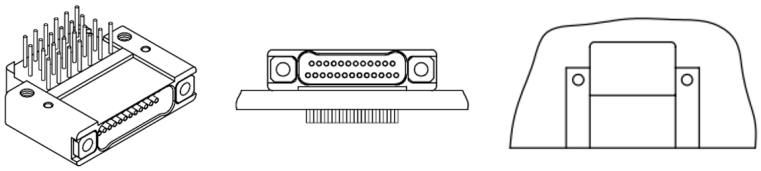


69 POSITION

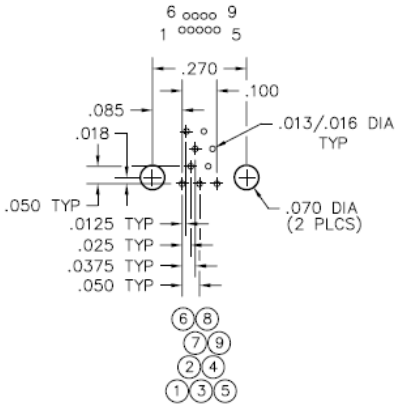


RECOMMENDED PC BOARD LAYOUTS – NKHT FEMALE

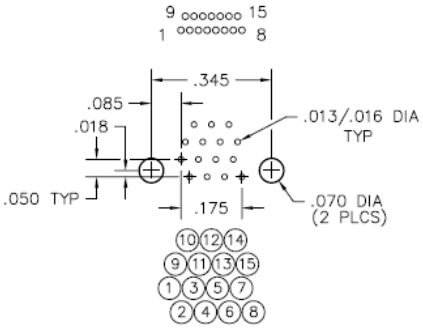
RIGHT-ANGLE PLATED THROUGH-HOLE SIZES 9–31



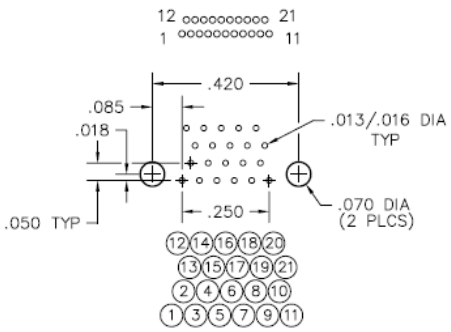
9 POSITION



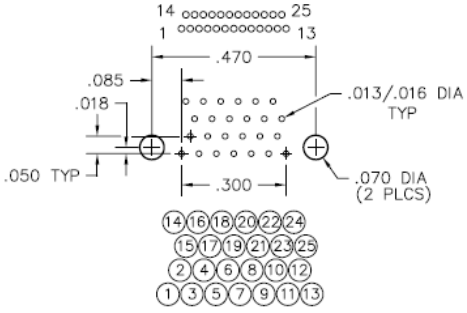
15 POSITION



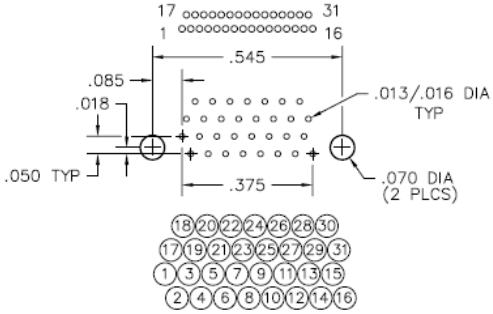
21 POSITION



25 POSITION

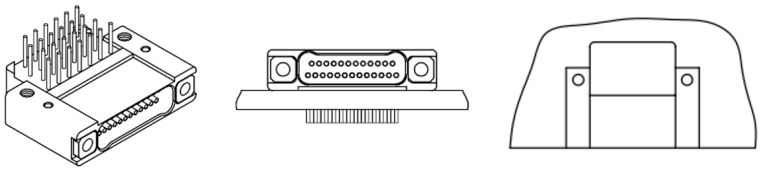


31 POSITION

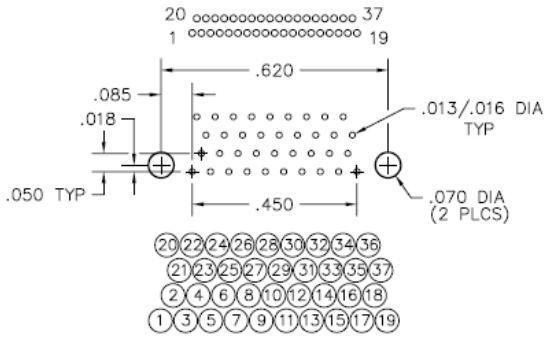


RECOMMENDED PC BOARD LAYOUTS – NKHT FEMALE

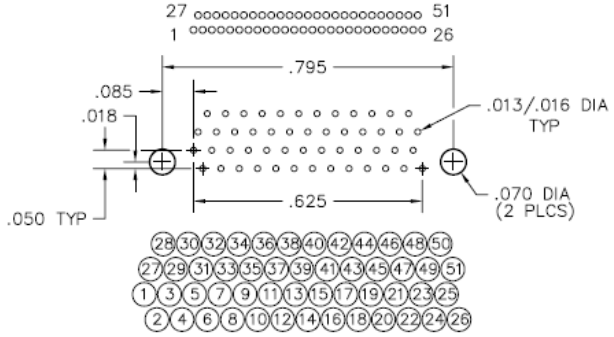
RIGHT-ANGLE PLATED THROUGH-HOLE SIZES 37–69



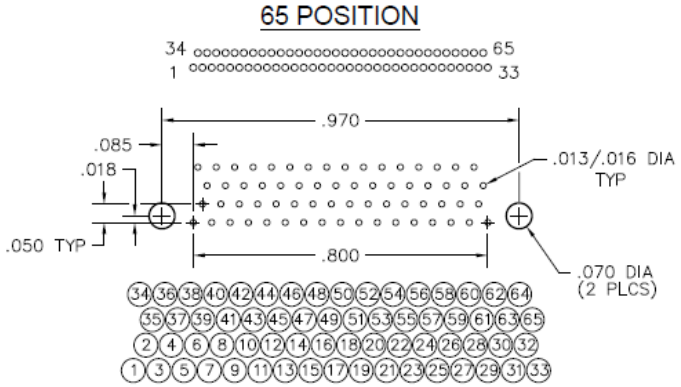
37 POSITION



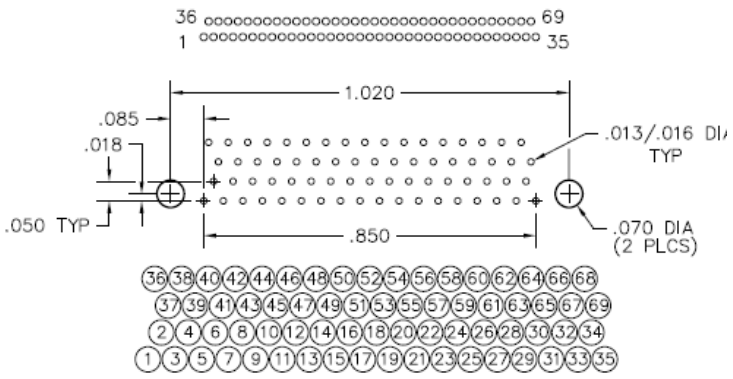
51 POSITION



65 POSITION



69 POSITION



Wire Codes – AirBorn N Series

WIRE CODE	WIRE SIZE	WIRE SPEC	WIRE COLOR	WIRE LENGTH (+1.0"/-0.0")
AA	30 AWG	NEMA HP3	COLOR CODED*	6.0
AB	30 AWG	NEMA HP3	COLOR CODED*	12.0
AC	30 AWG	NEMA HP3	COLOR CODED*	18.0
AD	30 AWG	NEMA HP3	COLOR CODED*	36.0
AE	30 AWG	NEMA HP3	WHITE	6.0
AF	30 AWG	NEMA HP3	WHITE	12.0
AG	30 AWG	NEMA HP3	WHITE	18.0
AH	30 AWG	NEMA HP3	WHITE	36.0
AJ	30 AWG	NEMA HP3	YELLOW	6.0
AK	30 AWG	NEMA HP3	YELLOW	12.0
AL	30 AWG	NEMA HP3	YELLOW	18.0
AM	30 AWG	NEMA HP3	YELLOW	36.0

WIRE CODE	WIRE SIZE	WIRE SPEC	WIRE COLOR	WIRE LENGTH (+1.0"/-0.0")
AN	32 AWG	NEMA HP3	COLOR CODED*	6.0
AP	32 AWG	NEMA HP3	COLOR CODED*	12.0
AQ	32 AWG	NEMA HP3	COLOR CODED*	18.0
AR	32 AWG	NEMA HP3	COLOR CODED*	36.0
AS	32 AWG	NEMA HP3	WHITE	6.0
AT	32 AWG	NEMA HP3	WHITE	12.0
AU	32 AWG	NEMA HP3	WHITE	18.0
AV	32 AWG	NEMA HP3	WHITE	36.0
AW	32 AWG	NEMA HP3	YELLOW	6.0
AX	32 AWG	NEMA HP3	YELLOW	12.0
AY	32 AWG	NEMA HP3	YELLOW	18.0
AZ	32 AWG	NEMA HP3	YELLOW	36.0

WIRE CODE	WIRE SIZE	WIRE SPEC	WIRE COLOR	WIRE LENGTH (+1.0"/-0.0")
BA	30 AWG	SAE-AS22759/33 **[x]**	COLOR CODED*	6.0
BB	30 AWG	SAE-AS22759/33 **[x]**	COLOR CODED*	12.0
BC	30 AWG	SAE-AS22759/33 **[x]**	COLOR CODED*	18.0
BD	30 AWG	SAE-AS22759/33 **[x]**	COLOR CODED*	36.0
BE	30 AWG	SAE-AS22759/33 **[x]**	WHITE	6.0
BF	30 AWG	SAE-AS22759/33 **[x]**	WHITE	12.0
BG	30 AWG	SAE-AS22759/33 **[x]**	WHITE	18.0
BH	30 AWG	SAE-AS22759/33 **[x]**	WHITE	36.0

NOTES

*Color coding in accordance with MIL-STD-681, System I, except using ten solid colors, only, in repeating sequence

[x] Option is not RoHS-compliant

NEMA HP3 has replaced MIL-W-16878/6 TFE 7-strand ET. Consult factory for other available wire types.

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