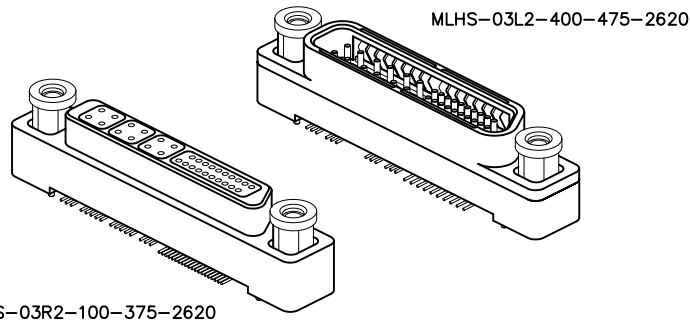




# Rugged Vertical SMT Fixed Hardware

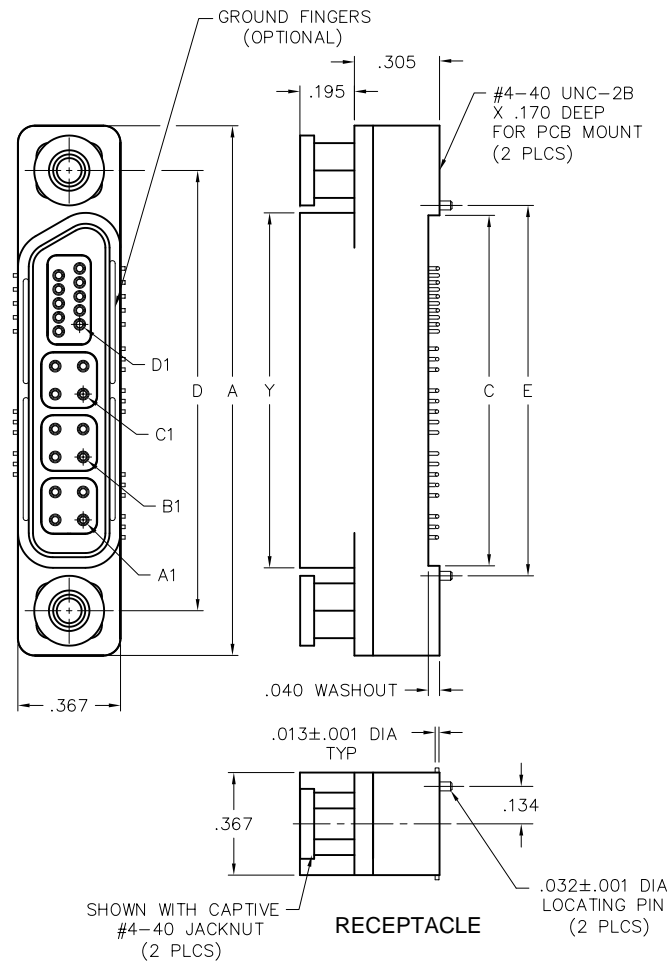
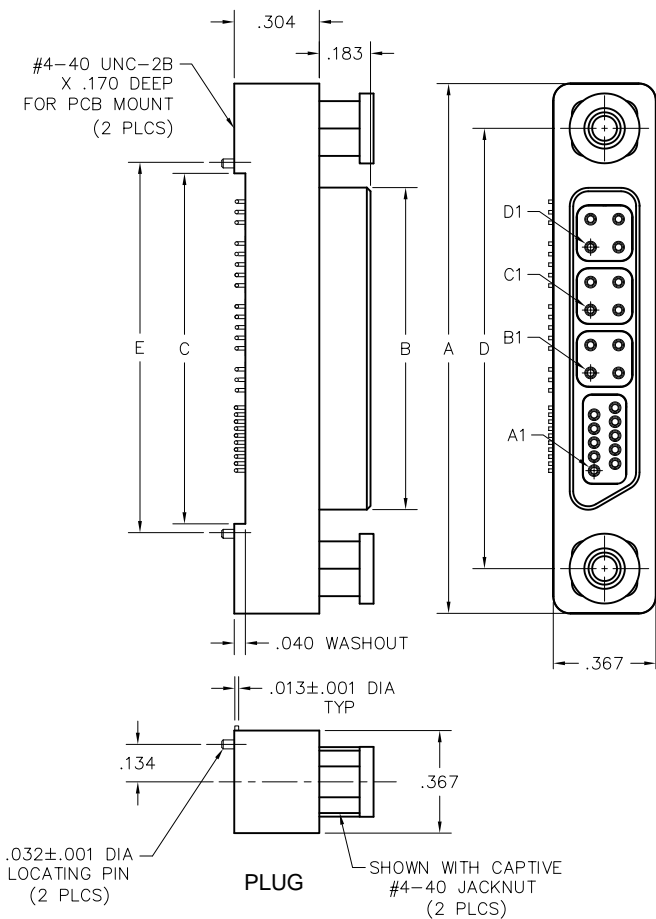
1 thru 10 High Speed Modules  
0 thru 50 Signal Contacts

**MLHS**

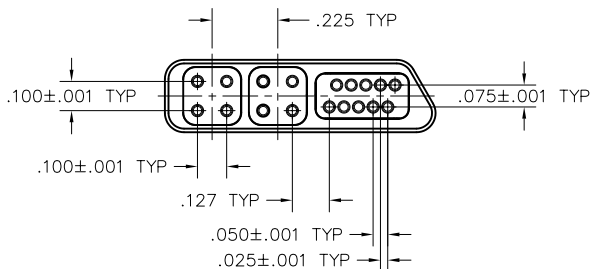


SINGLE-SIDED  
LEADS SHOWN

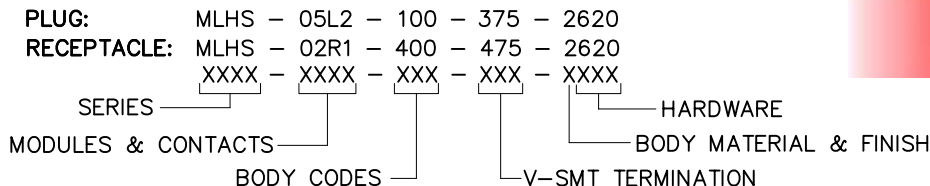
STAGGERED  
LEADS SHOWN



INTERFACE DIMENSIONS



DIMENSIONS	
A	OVERALL LENGTH PER TABLE CALCULATION (SEE PAGE 6)
B	"A" MINUS 0.744
C	"A" MINUS 0.640
D	"A" MINUS 0.320
E	"A" MINUS 0.570
Y	"A" MINUS 0.624



## PLUG

### SERIES

MLHS HIGH SPEED Rugged Metal Vertical SMT  
(MLHS mates with MMHS, MJHS receptacles)

### HIGH SPEED MODULES

- 01 1 High Speed Module
- 02 2 High Speed Modules
- 03 3 High Speed Modules
- 04 4 High Speed Modules
- 05 5 High Speed Modules (Max Signal Count 40)
- 06 6 High Speed Modules (Max Signal Count 30)
- 07 7 High Speed Modules (Max Signal Count 20)
- 08 8 High Speed Modules (Max Signal Count 10)
- 09 9 High Speed Modules (Max Signal Count 10)
- 0A 10 High Speed Modules (No Signals)

### SIGNAL CONTACTS\*

- L0 Left Side Key - No Signal Contacts
- L1 Left Side Key - 10 Signal Contacts
- L2 Left Side Key - 20 Signal Contacts
- L3 Left Side Key - 30 Signal Contacts
- L4 Left Side Key - 40 Signal Contacts
- L5 Left Side Key - 50 Signal Contacts
- R0 Right Side Key - No Signal Contacts
- R1 Right Side Key - 10 Signal Contacts
- R2 Right Side Key - 20 Signal Contacts
- R3 Right Side Key - 30 Signal Contacts
- R4 Right Side Key - 40 Signal Contacts
- R5 Right Side Key - 50 Signal Contacts

### BODY STYLE

- 100 Plug

### CONTACT TERMINATION

- 37 Pin, Vertical SMT, Staggered Leads - All
- 57 Pin, Vertical SMT, Staggered Leads - High Speed Single-Sided Leads - Signals
- 77 Pin, Vertical SMT, Single-Sided Leads - High Speed Staggered Leads - Signals
- A7 Pin, Vertical SMT, Single-Sided Leads - All

### TERMINATION PLATING

- 5 50 micro" Gold Contact, Sn/Pb Alloy Termination
- 7 50 micro" Gold Contact, SAC305 Plated Termination

### BODY PLATING (LCP INSULATORS)

- 2 Electroless Nickel Plated Aluminum Shell
- 3 Electrodeposited Cadmium Plated Aluminum Shell
- 6 Gold Plated Aluminum Shell

### HARDWARE

- 000 No Hardware
- 620 Two Fixed Jacknuts - Captivated \*\*
- NXX Keying Jackpost Hardware, See Options \*\*\*

## RECEPTACLE

### SERIES

MLHS HIGH SPEED Rugged Metal Vertical SMT  
(MLHS mates with MMHS, MJHS plugs)

### HIGH SPEED MODULES

- 01 1 High Speed Module
- 02 2 High Speed Modules
- 03 3 High Speed Modules
- 04 4 High Speed Modules
- 05 5 High Speed Modules (Max Signal Count 40)
- 06 6 High Speed Modules (Max Signal Count 30)
- 07 7 High Speed Modules (Max Signal Count 20)
- 08 8 High Speed Modules (Max Signal Count 10)
- 09 9 High Speed Modules (Max Signal Count 10)
- 0A 10 High Speed Modules (No Signals)

### SIGNAL CONTACTS\*

- L0 Left Side Key - No Signal Contacts
- L1 Left Side Key - 10 Signal Contacts
- L2 Left Side Key - 20 Signal Contacts
- L3 Left Side Key - 30 Signal Contacts
- L4 Left Side Key - 40 Signal Contacts
- L5 Left Side Key - 50 Signal Contacts
- R0 Right Side Key - No Signal Contacts
- R1 Right Side Key - 10 Signal Contacts
- R2 Right Side Key - 20 Signal Contacts
- R3 Right Side Key - 30 Signal Contacts
- R4 Right Side Key - 40 Signal Contacts
- R5 Right Side Key - 50 Signal Contacts

### BODY STYLE

- 200 Receptacle
- 400 Receptacle with Ground Fingers (Preferred)

### CONTACT TERMINATION

- 47 Pin, Vertical SMT, Staggered Leads - All
- 67 Pin, Vertical SMT, Staggered Leads - High Speed Single-Sided Leads - Signals
- 87 Pin, Vertical SMT, Single-Sided Leads - High Speed Staggered Leads - Signals
- B7 Pin, Vertical SMT, Single-Sided Leads - All

### TERMINATION PLATING

- 5 50 micro" Gold Contact, Sn/Pb Alloy Termination
- 7 50 micro" Gold Contact, SAC305 Plated Termination

### BODY PLATING (LCP INSULATORS)

- 2 Electroless Nickel Plated Aluminum Shell
- 3 Electrodeposited Cadmium Plated Aluminum Shell
- 6 Gold Plated Aluminum Shell

### HARDWARE

- 000 No Hardware
- 620 Two Fixed Jacknuts - Captivated \*\*
- NXX Keying Jackpost Hardware, See Options \*\*\*

#### NOTES:

1. All high-speed receptacles have fluoropolymer interfacial seals.
2. Staggered leads always start on the major side for the first high speed module.
3. Single-sided leads are always on the major side.

= Option not RoHS compliant

\* = Left and right key is determined by looking at the PLUG interface with the LONG SIDE downward. The key is the angled side of the interface.

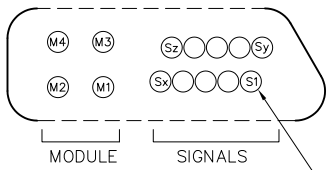
\*\* = Captivated hardware is factory installed and non-removable.

\*\*\* = Refer to catalog Page 29 for keying options.

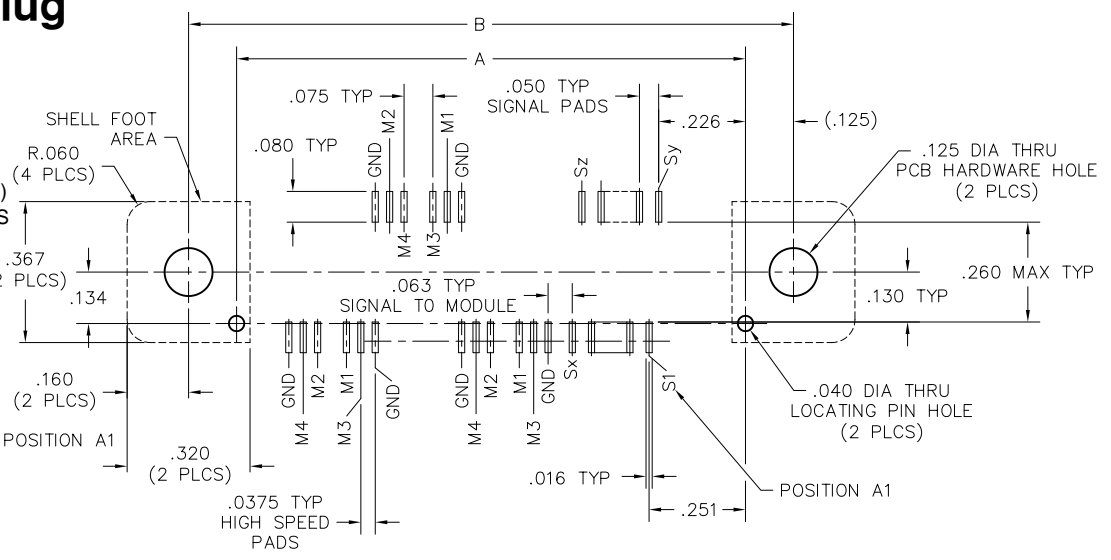
# Recommended PC Board Layout, Plug

RUGGED V-SMT  
FIXED HARDWARE  
STAGGERED LEADS

CONNECTOR MATING FACE (PLUG)  
INSULATOR A = SIGNAL CONTACTS  
RIGHT SIDE KEY



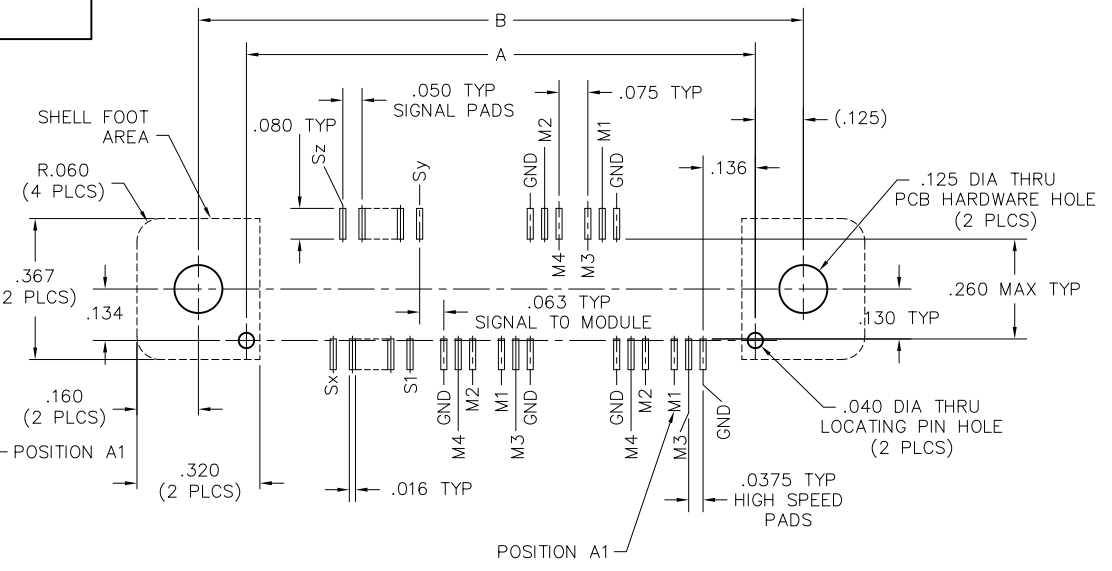
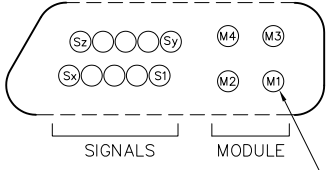
**PLUG, RIGHT SIDE KEY**  
INSULATOR A = SIGNAL CONTACTS  
3 MODULES + SIGNAL SHOWN  
PC BOARD LAYOUT  
COMPONENT SIDE



DIMENSIONS	
A	BODY LENGTH PER TABLE CALCULATION (SEE PAGE 6) MINUS 0.570
B	"A" PLUS 0.250

**PLUG, LEFT SIDE KEY**  
INSULATOR A = MODULE CONTACTS  
3 MODULES + SIGNAL SHOWN  
PC BOARD LAYOUT  
COMPONENT SIDE

CONNECTOR MATING FACE (PLUG)  
INSULATOR A = MODULE CONTACTS  
LEFT SIDE KEY



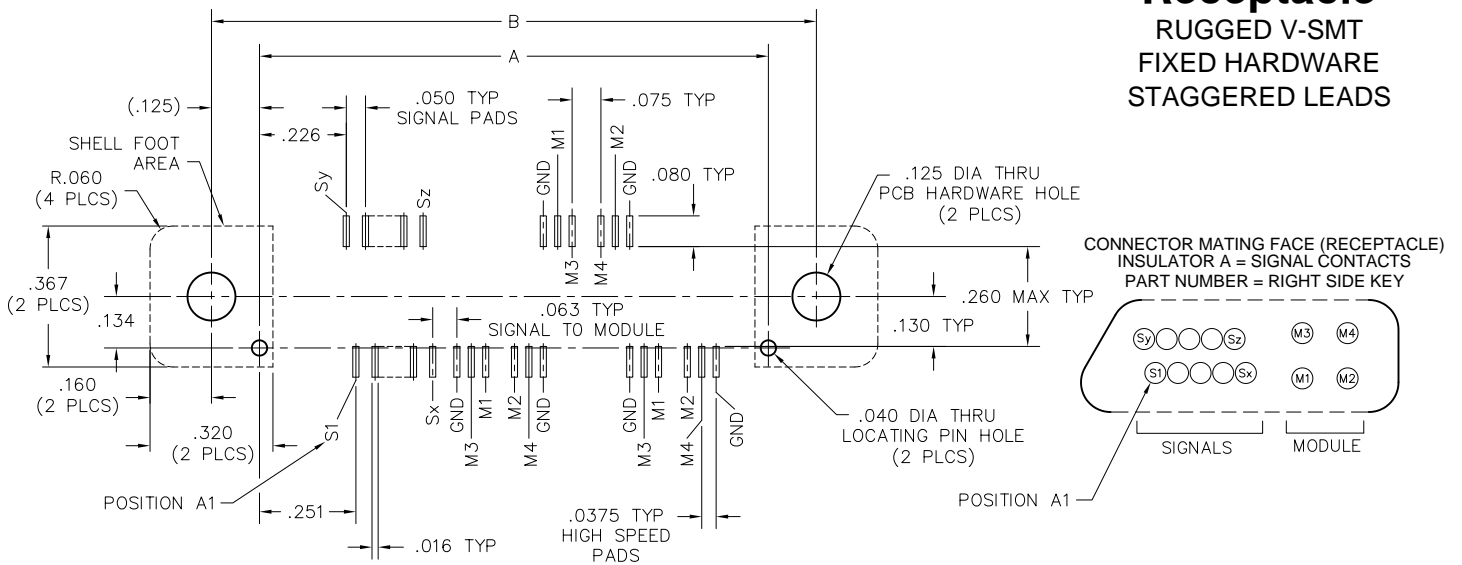
SIGNAL CONTACT NUMBERING					
	SIG10	SIG20	SIG30	SIG40	SIG50
Sx	5	10	15	20	25
Sy	6	11	16	21	26
Sz	10	20	30	40	50

- NOTES:
1. For module leads exiting the MAJOR SIDE, leads M3 and M4 are .080" longer than M1 and M2.
  2. For module leads exiting the MINOR SIDE, leads M1 and M2 are .080" longer than M3 and M4.
  3. PCB traces or IC programming will be required to compensate for lead length variation.

**RECEPTACLE, RIGHT SIDE KEY**  
**INSULATOR A = SIGNAL CONTACTS**  
**3 MODULES + SIGNAL SHOWN**  
**PC BOARD LAYOUT**  
**COMPONENT SIDE**

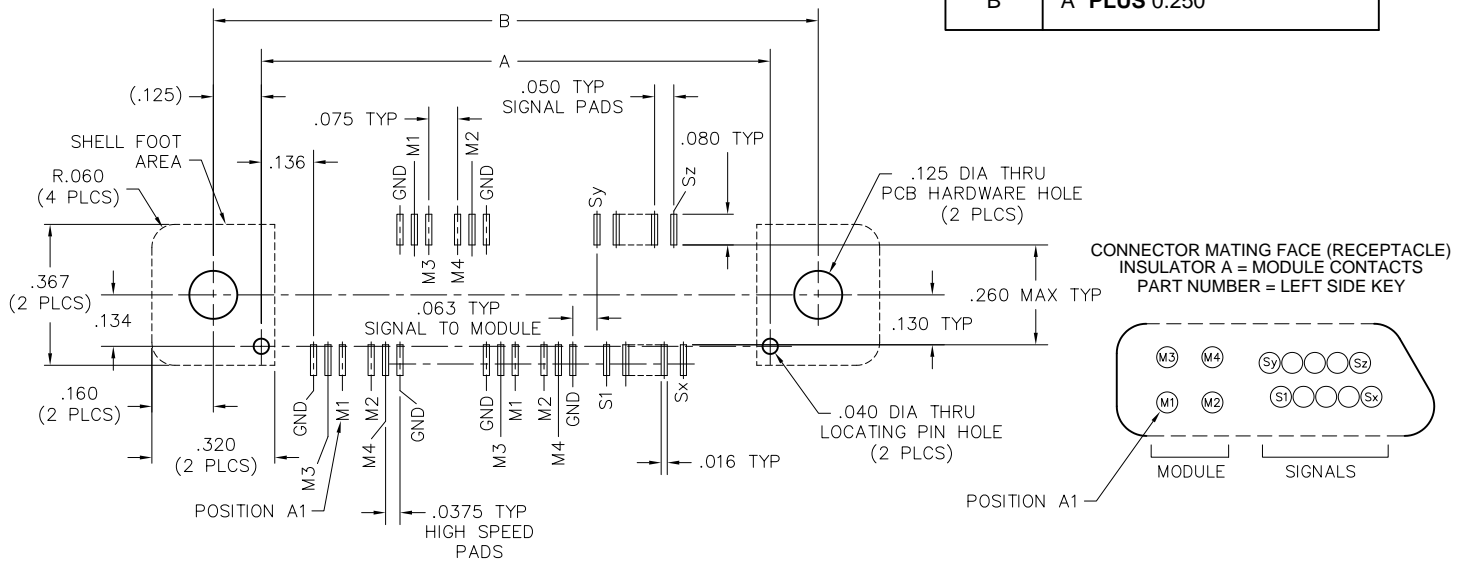
**Recommended PC**  
**Board Layout**  
**Receptacle**

**RUGGED V-SMT**  
**FIXED HARDWARE**  
**STAGGERED LEADS**



**RECEPTACLE, LEFT SIDE KEY**  
**INSULATOR A = MODULE CONTACTS**  
**3 MODULES + SIGNAL SHOWN**  
**PC BOARD LAYOUT**  
**COMPONENT SIDE**

DIMENSIONS	
A	BODY LENGTH PER TABLE CALCULATION (SEE PAGE 6) MINUS 0.570
B	"A" PLUS 0.250



**NOTES:**

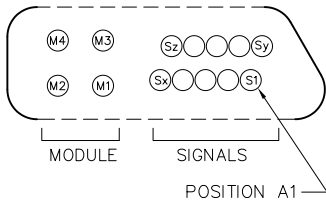
1. For module leads exiting the MAJOR SIDE, leads M3 and M4 are .080" longer than M1 and M2.
2. For module leads exiting the MINOR SIDE, leads M1 and M2 are .080" longer than M3 and M4.
3. PCB traces or IC programming will be required to compensate for lead length variation.
4. Receptacle interface key is swapped left-to-right from part number callout when looking at the receptacle interface.

SIGNAL CONTACT NUMBERING					
	SIG10	SIG20	SIG30	SIG40	SIG50
Sx	5	10	15	20	25
Sy	6	11	16	21	26
Sz	10	20	30	40	50

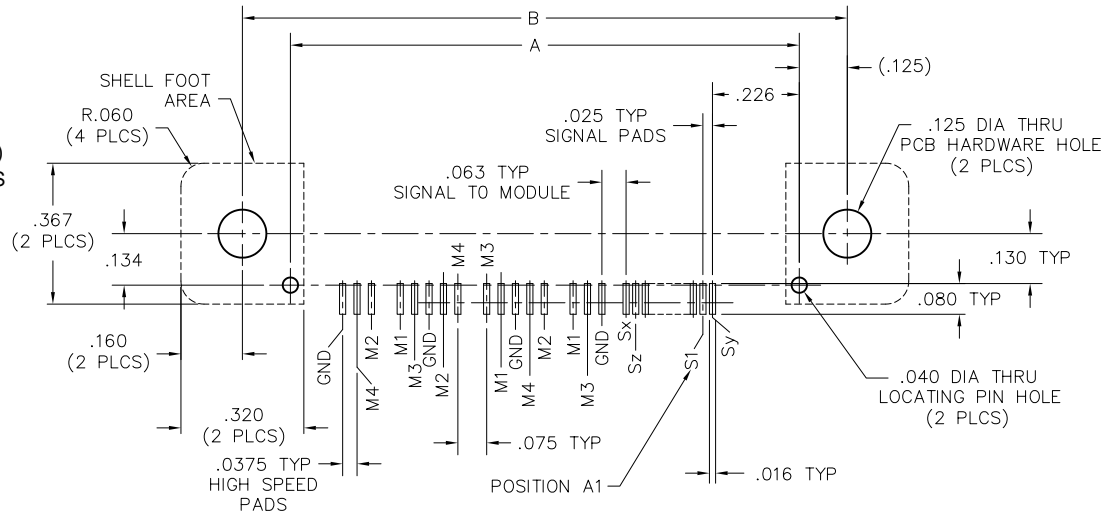
# Recommended PC Board Layout, Plug

RUGGED V-SMT  
FIXED HARDWARE  
SINGLE-SIDED LEADS

CONNECTOR MATING FACE (PLUG)  
INSULATOR A = SIGNAL CONTACTS  
RIGHT SIDE KEY



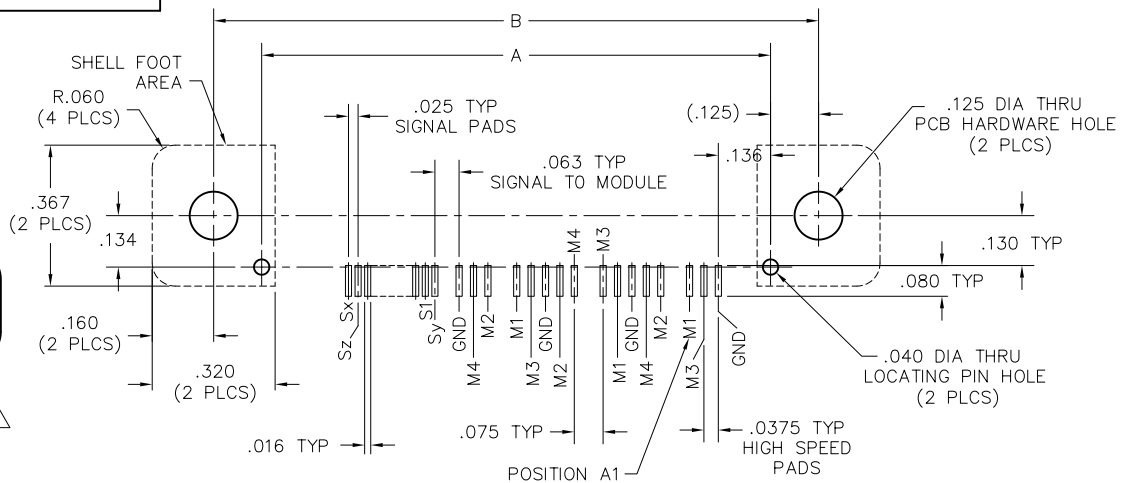
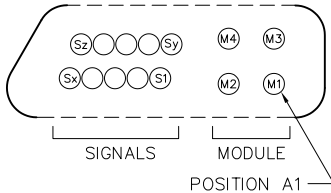
**PLUG, RIGHT SIDE KEY**  
INSULATOR A = SIGNAL CONTACTS  
3 MODULES + SIGNAL SHOWN  
PC BOARD LAYOUT  
COMPONENT SIDE



DIMENSIONS	
A	BODY LENGTH PER TABLE CALCULATION (SEE PAGE 6) MINUS 0.570
B	"A" PLUS 0.250

**PLUG, LEFT SIDE KEY**  
INSULATOR A = MODULE CONTACTS  
3 MODULES + SIGNAL SHOWN  
PC BOARD LAYOUT  
COMPONENT SIDE

CONNECTOR MATING FACE (PLUG)  
INSULATOR A = MODULE CONTACTS  
LEFT SIDE KEY



SIGNAL CONTACT NUMBERING					
	SIG10	SIG20	SIG30	SIG40	SIG50
Sx	5	10	15	20	25
Sy	6	11	16	21	26
Sz	10	20	30	40	50

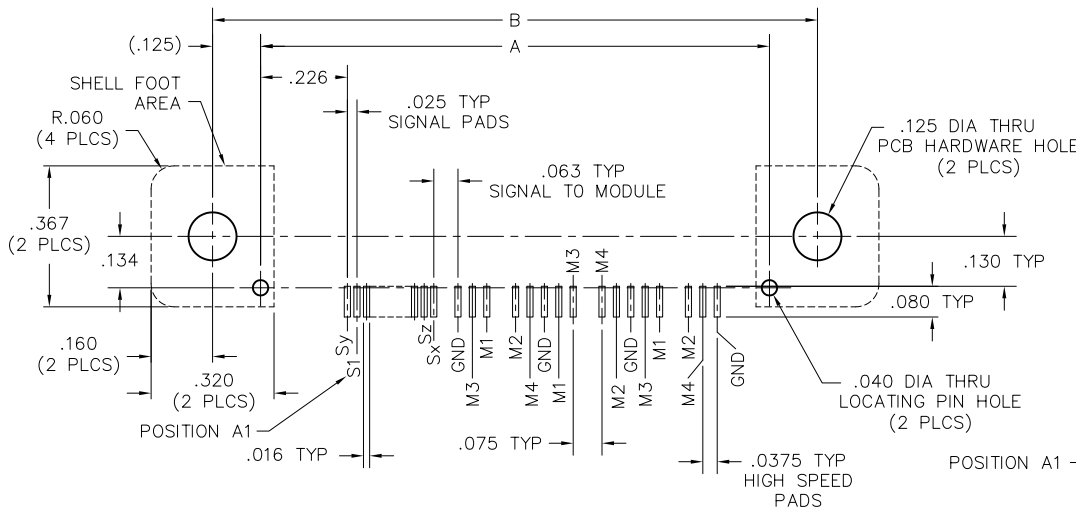
**NOTES:**

1. For Module leads exiting the MAJOR SIDE, leads M3 and M4 are .080" longer than M1 and M2.
2. For Module leads exiting the MINOR SIDE, leads M1 and M2 are .080" longer than M3 and M4.
3. PCB traces or IC programming will be required to compensate for lead length variation.

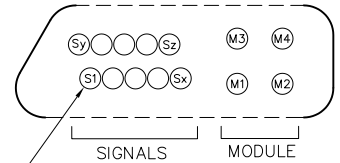
# Recommended PC Board Layout Receptacle

RUGGED V-SMT  
FIXED HARDWARE  
SINGLE-SIDED LEADS

## RECEPTACLE, RIGHT SIDE KEY INSULATOR A = SIGNAL CONTACTS 3 MODULES + SIGNAL SHOWN PC BOARD LAYOUT COMPONENT SIDE

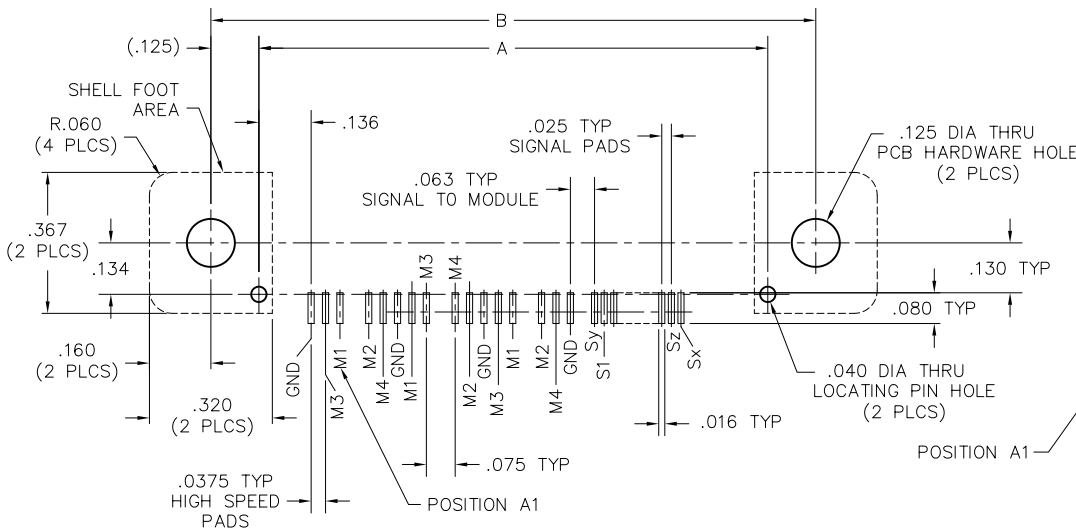


CONNECTOR MATING FACE (RECEPTACLE)  
INSULATOR A = SIGNAL CONTACTS  
PART NUMBER = RIGHT SIDE KEY

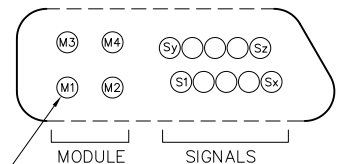


DIMENSIONS	
A	BODY LENGTH PER TABLE CALCULATION (SEE PAGE 6) MINUS 0.570
B	"A" PLUS 0.250

## RECEPTACLE, LEFT SIDE KEY INSULATOR A = MODULE CONTACTS 3 MODULES + SIGNAL SHOWN PC BOARD LAYOUT COMPONENT SIDE



CONNECTOR MATING FACE (RECEPTACLE)  
INSULATOR A = MODULE CONTACTS  
PART NUMBER = LEFT SIDE KEY



### NOTES:

1. For module leads exiting the MAJOR SIDE, leads M3 and M4 are .080" longer than M1 and M2.
2. For module leads exiting the MINOR SIDE, leads M1 and M2 are .080" longer than M3 and M4.
3. PCB traces or IC programming will be required to compensate for lead length variation.
4. Receptacle interface key is swapped left-to-right from part number callout when looking at the receptacle interface.

SIGNAL CONTACT NUMBERING					
	SIG10	SIG20	SIG30	SIG40	SIG50
Sx	5	10	15	20	25
Sy	6	11	16	21	26
Sz	10	20	30	40	50