## Single Row Nano Strip

## HORIZONTAL SMT (TYPE AA)

Single Row Horizontal Nano Strip connectors offer an extremely low profile package that is well suited for pick and place methods. They have a very tight pitch of $.025^{\prime \prime}(64 \mathrm{~mm})$ centerlines. These connectors feature Omnetics' highly reliable gold plated Flex Pin contact system, conforming to the requirements of MIL-DTL-32139. These durable lightweight connectors are perfect for the most demanding applications.

These connectors are available in standard sizes ranging from 2 to 60 positions, as well as custom configurations.


## ELECTRO-MECHANICAL SPECS

- Durability: 2000 Cycles
- Temperature: $-55^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}\left(200^{\circ} \mathrm{C}\right.$ w/HTE)
- Current rating: 1 AMP per contact
- Voltage Rating (DWV): 250 VAC RMS Sea Level
- Insulation Resistance: 5,000 Megohms min @ 100 VDC
- Shock: 100 G's discontinuity < 10 nanoseconds
- Vibration: 20 G's discontinuity < 10 nanoseconds
- Thermal Vacuum Outgassing: NASA SP-R-0022
- Contact Resistance:

71 Milliohms max (71 mV max @ 1 AMP)

- Mating/Unmating Force:
$2.5 \mathrm{oz}(71 \mathrm{~g})$ typical per contact


## MATERIAL SPECIFICATIONS

- Standard Socket PCB Tail Termination:
- Standard Pin PCB Tail Termination:
- RoHS Pin PCB Tail Termination:
- RoHS Socket PCB Tail Termination:
- Insulator:
- Pin:
- Socket:
- Encapsulant:

Soldered per J-STD-006 (Non-RoHS)
Solder plated per AMS-P-81728 (Non-RoHS)
Hard gold plated per ASTM B488
Hard gold plated per ASTM B488
Polyphenylene Sulfide per MIL-M-24519
Gold Plated BeCu
Gold Plated Copper Alloy
Epoxy

## Single Row Nano Strip

## NPS-AA LAYOUT


$.050[1.27]$ UP TO 40 CONTACTS
.060 [1.52] UP TO 60 CONTACTS




## DIMENSIONS FOR "A"

To determine connector length " $A$ ":
Add the total number of contacts
Add 1 contact cavity for each guide post hole
Add 3 contact cavities for each mounting hole
Total contact cavities
Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$
Add fixed end length constant
Total Length (Dimension A)

Notes: Maximum length @ .050"thick $=1.015^{\prime \prime}$ (25.78). Maximum number of contact cavities is 60 . Maximum length @ .060" thick = $1.515^{\prime \prime}$ (38.48). Number of contacts must be reduced to accommodate guide post holes and mounting holes. Default locations for guide post holes may be changed by customer.

## DIMENSIONS FOR"B"

To determine pad pattern layout length " $B$ ":
Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$
If hardware features are within the contact area:
Add $.025^{\prime \prime}$ (1 contact cavity) for each guide post hole
Add $.075^{\prime \prime}$ (3 contact cavities) for each mounting hole
Total Length (Dimension B)

Notes: Maximum pattern length @ .050" thick is .975" (24.76).
Maximum pattern length @ .060" thick is $1.475^{\prime \prime}$ (37.46). Add .050 " from center of mounting hole to first pad (if the first contact cavity is used for a guide post hole, .050 " dimension must be adjusted).

Dimensions in [ ] are in Millimeters unless otherwise noted and are for reference only.

## Single Row Nano Strip

NSS-AA LAYOUT


COnNector face-
SUGGESTED PAD LAYOUT


DIMENSIONS FOR "A"
To determine connector length " A ":

| Add the total number of contacts |  |
| :--- | :--- |
| Add 1 contact cavity for each guide post hole |  |
| Add 3 contact cavities for each mounting hole | - |
| Total contact cavities | - |
| Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$ | - |
| Add fixed end length constant |  |
| Total Length (Dimension A) |  |

Notes: Maximum length @ .050" thick = 1.015" (25.78). Maximum number of contact cavities is 60 . Maximum length @ .060" thick $=1.515^{\prime \prime}$ (38.48). Number of contacts must be reduced to accommodate guide post holes and mounting holes. Default locations for guide post holes may be changed by customer.

## DIMENSIONS FOR "B"

To determine pad pattern layout length " $B$ ":
Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$
If hardware features are within the contact area:
Add $.025^{\prime \prime}$ (1 contact cavity) for each guide post hole
Total Length (Dimension B)

Notes: Maximum pattern length @ .050" thick is $.975^{\prime \prime}$ (24.76).
Maximum pattern length @ .060" thick is $1.475^{\prime \prime}(37.46)$.

Dimensions in [ ] are in Millimeters unless otherwise noted and are for reference only.

## Single Row Nano Strip

## HORIZONTAL SMT (TYPE AA) ORDERING GUIDE



EXAMPLES:

NPS-18-AA



NSS-22-AA

## Single Row Nano Strip

## STRAIGHT TAIL (TYPE DD)

Single Row Nano Strip connectors can be loaded with simple straight tails (Integral or Crimped). Suitable for vertical thruhole mounting to fine pitched flex circuits, they are designed on $.025^{\prime \prime}(.64 \mathrm{~mm})$ centerlines. The straight solid tails are also commonly used in ultra fine wire wrap terminations, such as electrophysiology. These connectors feature Omnetics' highly reliable gold plated Flex Pin contact system conforming to the requirements of MIL-DTL-32139. These connectors are available in standard sizes ranging from 2 through 60 positions as well as custom configurations.


Flex design and installation service is also available from Omnetics. Please contact us for more information.

## ELECTRO-MECHANICAL SPECS

- Durability:_2000 Cycles
- Temperature: $-55^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}\left(200^{\circ} \mathrm{C}\right.$ w/HTE $)$
- Current rating: 1 AMP per contact
- Voltage Rating (DWV): 250 VAC RMS Sea Level
- Insulation Resistance:

5,000 Megohms min @ 100 VDC

- Shock: 100 G's discontinuity < 10 nanoseconds
- Vibration: 20 G's discontinuity < 10 nanoseconds
- Thermal Vacuum Outgassing: NASA SP-R-0022
- Contact Resistance:

71 Milliohms max (71 mV max @ 1 AMP)

- Mating/Unmating Force: $2.5 \mathrm{oz}(71 \mathrm{~g})$ typical per contact


## MATERIAL SPECIFICATIONS

- Standard Socket PCB Tail Termination:
- Standard Pin PCB Tail Termination:
- RoHS Pin PCB Tail Termination:
- RoHS Socket PCB Tail Termination:
- Insulator:
- Pin:
- Socket:
- Encapsulant:

Soldered per J-STD-006 (Non-RoHS) Solder plated per AMS-P-81728 (Non-RoHS) Hard gold plated per ASTM B488 Hard gold plated per ASTM B488

Polyphenylene Sulfide per MIL-M-24519
Gold Plated BeCu
Gold Plated Copper Alloy
Epoxy

## Single Row Nano Strip

NPS-DD LAYOUT



## DIMENSIONS FOR "A"

To determine connector length " A ":
Add the total number of contacts
Add 1 contact cavity for each guide post hole
Add 3 contact cavities for each mounting hole
Total contact cavities
Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$
Add fixed end length constant
Total Length (Dimension A)

Notes: Maximum length @ .050" thick = 1.015" (25.78). Maximum number of contact cavities is 60 . Maximum length @ .060" thick $=1.515^{\prime \prime}(38.48)$. Number of contacts must be reduced to accommodate guide post holes and mounting holes. Default locations for guide post holes may be changed by customer.

## DIMENSIONS FOR "B"

To determine pad pattern layout length " $B$ ":
Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$
If hardware features are within the contact area:
Add $.025^{\prime \prime}$ (1 contact cavity) for each guide post hole
Add . $075^{\prime \prime}$ (3 contact cavities) for each mounting hole
Total Length (Dimension B)

Notes: Maximum pattern length @ .050"thick is $.975^{\prime \prime}$ (24.76).
Maximum pattern length @ .060" thick is $1.475^{\prime \prime}$ (37.46). Add .050 " from center of mounting hole to first pad (if the first contact cavity is used for a guide post hole, .050 " dimension must be adjusted).

Dimensions in [ ] are in Millimeters unless otherwise noted and are for reference only.

## Single Row Nano Strip

NSS-DD LAYOUT


DIMENSIONS FOR "A"
To determine connector length " A ":

| Add the total number of contacts |  |
| :--- | :--- |
| Add 1 contact cavity for each guide post hole | - |
| Add 3 contact cavities for each mounting hole |  |
| Total contact cavities | - |
| Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$ | - |
| Add fixed end length constant |  |
| Total Length (Dimension A) |  |

Notes: Maximum length @ .050" thick = 1.015" (25.78). Maximum number of contact cavities is 60 . Maximum length @ .060" thick $=1.515^{\prime \prime}$ (38.48). Number of contacts must be reduced to accommodate guide post holes and mounting holes. Default locations for guide post holes may be changed by customer.


## DIMENSIONS FOR "B"

To determine pad pattern layout length " $B$ ":
Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$
If hardware features are within the contact area:
Add $.025^{\prime \prime}$ (1 contact cavity) for each guide post hole
Total Length (Dimension B)

Notes: Maximum pattern length @ .050" thick is $.975^{\prime \prime}$ (24.76).
Maximum pattern length @ .060" thick is $1.475^{\prime \prime}(37.46)$.

Dimensions in [ ] are in Millimeters unless otherwise noted and are for reference only.

## Single Row Nano Strip

STRAIGHT TAIL (TYPE DD) ORDERING GUIDE


EXAMPLES:


NPS-22-DD-G


NSS-22-DD-RoHS

## Single Row Nano Strip

## LONG/SHORT ALT. THRU-HOLE (TYPE H2)

The Single Row Nano Strip connectors have contacts arranged on . 025 $(.64 \mathrm{~mm})$ centerlines. The thru-hole tails are arranged in a $.050^{\prime \prime} \times .0 .50^{\prime \prime}$ grid, allowing space for traces and annular rings. These connectors feature Omnetics' highly reliable gold plated Flex Pin contact system, conforming to the requirements of MIL-DTL-32139. These durable lightweight connectors are perfect for the most demanding applications. They are available with mounting holes suitable for PCB and flex mounting.

These connectors are available in standard sizes ranging from 2 to 60 positions, as well as custom configurations.


## ELECTRO-MECHANICAL SPECS

- Durability: 2000 Cycles
- Temperature: $-55^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}\left(200^{\circ} \mathrm{C}\right.$ w/HTE)
- Current rating: 1 AMP per contact
- Voltage Rating (DWV):
- Insulation Resistance:
- Shock:
- Vibration:
- Thermal Vacuum Outgassing: 250 VAC RMS Sea Level 5,000 Megohms min @ 100 VDC 100 G's discontinuity < 10 nanoseconds 20 G's discontinuity < 10 nanoseconds
- Contact Resistance: NASA SP-R-0022
- Mating/Unmating Force:

71 Milliohms max (71 mV max @ 1 AMP)
$2.5 \mathrm{oz}(71 \mathrm{~g})$ typical per contact

## MATERIAL SPECIFICATIONS

- Standard Socket PCB Tail Termination:
- Standard Pin PCB Tail Termination:
- RoHS Pin PCB Tail Termination:
- RoHS Socket PCB Tail Termination:
- Insulator:
- Pin:
- Socket:
- Encapsulant:

Soldered per J-STD-006 (Non-RoHS)
Solder plated per AMS-P-81728 (Non-RoHS)
Hard gold plated per ASTM B488 Hard gold plated per ASTM B488

Polyphenylene Sulfide per MIL-M-24519
Gold Plated BeCu
Gold Plated Copper Alloy
Epoxy

## Single Row Nano Strip

NPS-H2 LAYOUT

.050 [1.27] UP TO 40 CONTACTS .060 [1.52] UP TO 60 CONTACTS



SUGGESTED HOLE LAYOUT PATTERN

tall dimensionsapply at plane A


## DIMENSIONS FOR "A"

To determine connector length " A ":
Add the total number of contacts
Add 1 contact cavity for each guide post hole
Add 3 contact cavities for each mounting hole
Total contact cavities
Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$
Add fixed end length constant
Total Length (Dimension A)

Notes: Maximum length @ .050" thick = 1.015" (25.78). Maximum number of contact cavities is 60 . Maximum length @ .060" thick = $1.515^{\prime \prime}$ (38.48). Number of contacts must be reduced to accommodate guide post holes and mounting holes. Default locations for guide post holes may be changed by customer.

## DIMENSIONS FOR"B"

To determine pad pattern layout length " B ":
Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$
If hardware features are within the contact area:
Add $.025^{\prime \prime}$ (1 contact cavity) for each guide post hole
Add . $075^{\prime \prime}$ (3 contact cavities) for each mounting hole
Total Length (Dimension B)

Notes: Maximum pattern length @ .050"thick is $.975^{\prime \prime}$ (24.76).
Maximum pattern length @ .060" thick is $1.475^{\prime \prime}$ (37.46). Add .050 " from center of mounting hole to first pad (if the first contact cavity is used for a guide post hole, .050 " dimension must be adjusted).

Dimensions in [ ] are in Millimeters unless otherwise noted and are for reference only.

## Single Row Nano Strip

NSS-H2 LAYOUT


## DIMENSIONS FOR "A"

To determine connector length " A ":

| Add the total number of contacts |  |
| :--- | :--- |
| Add 1 contact cavity for each guide post hole | - |
| Add 3 contact cavities for each mounting hole | - |
| Total contact cavities | - |
| Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$ | $-.040^{\prime \prime}$ |
| Add fixed end length constant |  |
| Total Length (Dimension A) |  |

Notes: Maximum length @ .050" thick=1.015" (25.78). Maximum number of contact cavities is 60 . Maximum length @ .060" thick = 1.515" (38.48). Number of contacts must be reduced to accommodate guide post holes and mounting holes. Default locations for guide post holes may be changed by customer.

## DIMENSIONS FOR"B"

To determine pad pattern layout length " B ":
Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$
If hardware features are within the contact area:
Add $.025^{\prime \prime}$ (1 contact cavity) for each guide post hole
Total Length (Dimension B)

Notes: Maximum pattern length @ .050" thick is .975" (24.76).
Maximum pattern length @ $060^{\prime \prime}$ thick is $1.475^{\prime \prime}(37.46)$.

Dimensions in [ ] are in Millimeters unless otherwise noted and are for reference only.

## Single Row Nano Strip

## SHORT/LONG ALT. THRU HOLE TAIL (TYPE H2) ORDERING GUIDE



## EXAMPLES:



NPS-18-H2


NSS-24-H2-RoHS

## Single Row Nano Strip

## VERTICAL SMT (TYPE VV)

The Single Row VV Nano Strip connectors have contacts arranged on .025 (. 64 mm ) centerlines. These connectors feature Omnetics' highly reliable gold plated Flex Pin contact system, conforming to the requirements of MIL-DTL-32139. These durable lightweight connectors are perfect for the most demanding applications.

These connectors are available in standard sizes ranging from 2 to 60 positions, as well as custom configurations.


## ELECTRO-MECHANICAL SPECS

- Durability:

2000 Cycles

- Temperature:
$-55^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}\left(200^{\circ} \mathrm{C}\right.$ w/HTE)
- Current rating:

1 AMP per contact

- Voltage Rating (DWV):

250 VAC RMS Sea Level

- Insulation Resistance:

5,000 Megohms min @ 100 VDC

- Shock: 100 G's discontinuity < 10 nanoseconds
- Vibration: 20 G's discontinuity < 10 nanoseconds
- Thermal Vacuum Outgassing: NASA SP-R-0022
- Contact Resistance:

71 Milliohms max (71 mV max @ 1 AMP)

- Mating/Unmating Force:
$2.5 \mathrm{oz}(71 \mathrm{~g})$ typical per contact


## MATERIAL SPECIFICATIONS

- Standard Socket PCB Tail Termination:
- Standard Pin PCB Tail Termination:
- RoHS Pin PCB Tail Termination:
- RoHS Socket PCB Tail Termination:
- Insulator:
- Pin:
- Socket:
- Encapsulant:

Soldered per J-STD-006 (Non-RoHS)
Solder plated per AMS-P-81728 (Non-RoHS)
Hard gold plated per ASTM B488
Hard gold plated per ASTM B488
Polyphenylene Sulfide per MIL-M-24519
Gold Plated BeCu
Gold Plated Copper Alloy
Epoxy

## Single Row Nano Strip

NPS-VV LAYOUT

.050 [1.27] UP TO 40 CONTACTS


SUGGESTED PAD LAYOUT

tail dimensions apply at plane A


## DIMENSIONS FOR "A"

To determine connector length " A ":
Add the total number of contacts
Add 1 contact cavity for each guide post hole
Add 3 contact cavities for each mounting hole
Total contact cavities
Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$
Add fixed end length constant
Total Length (Dimension A)

Notes: Maximum length @ .050" thick = 1.015" (25.78). Maximum number of contact cavities is 60 . Maximum length @ .060" thick $=1.515^{\prime \prime}(38.48)$. Number of contacts must be reduced to accommodate guide post holes and mounting holes. Default locations for guide post holes may be changed by customer.

## DIMENSIONS FOR"B"

To determine pad pattern layout length " $B$ ":
Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$
If hardware features are within the contact area:
Add $.025^{\prime \prime}$ (1 contact cavity) for each guide post hole
Add . $075^{\prime \prime}$ (3 contact cavities) for each mounting hole
Total Length (Dimension B)

Notes: Maximum pattern length @ .050"thick is $.975^{\prime \prime}$ (24.76).
Maximum pattern length @ .060" thick is $1.475^{\prime \prime}$ (37.46). Add .050 " from center of mounting hole to first pad (if the first contact cavity is used for a guide post hole, .050 " dimension must be adjusted).

Dimensions in [ ] are in Millimeters unless otherwise noted and are for reference only.

## Single Row Nano Strip

NSS-VV LAYOUT


DIMENSIONS FOR "A"
To determine connector length " A ":

| Add the total number of contacts |  |
| :--- | :--- |
| Add 1 contact cavity for each guide post hole | - |
| Add 3 contact cavities for each mounting hole | - |
| Total contact cavities | - |
| Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$ | $-.040^{\prime \prime}$ |
| Add fixed end length constant |  |
| Total Length (Dimension A) |  |

Notes: Maximum length @ .050" thick = 1.015" (25.78). Maximum number of contact cavities is 60 . Maximum length @ .060" thick $=1.515^{\prime \prime}$ (38.48). Number of contacts must be reduced to accommodate guide post holes and mounting holes. Default locations for guide post holes may be changed by customer.

## DIMENSIONS FOR "B"

To determine pad pattern layout length " $B$ ":
Multiply the number of contact cavities minus 1 by $.025^{\prime \prime}$
If hardware features are within the contact area:
Add $.025^{\prime \prime}$ (1 contact cavity) for each guide post hole
Total Length (Dimension B)

Notes: Maximum pattern length @ .050" thick is $.975^{\prime \prime}$ (24.76).
Maximum pattern length @ .060" thick is $1.475^{\prime \prime}(37.46)$.

Dimensions in [ ] are in Millimeters unless otherwise noted and are for reference only.

## Single Row Nano Strip

## VERTICAL SURFACE MOUNT TAIL (TYPE VV) ORDERING GUIDE

## SERIES \# OF CONTACTS TERMINATION TYPE COMMON OPTIONS

NPS 02-60 VV
PIN CONNECTOR


NSS
SOCKET CONNECTOR


41 THRU 60
(.060"THICK BODY)


G GUIDE POST/HOLE GS MULTIPLE GUIDE POSTS/ HOLES


M MOUNTING HOLE


HT HIGH TEMP

RoHS RoHS COMPLIANT
RoHS

COMPLIANT

EXAMPLES:


NPS-22-VV-GS


NSS-23-VV

## Single Row Nano Strip

PRE-WIRED/CABLE (TYPE WD/WC)

Pre-wired Single Row Nano Strip connectors are available with 30 AWG or smaller stranded wire. These assemblies are crimped using proprietary semi-automated crimping systems. Due to their small size and precision required to make these quality crimps, hand crimping is not an option. Precrimped wires and contacts are potted in place further protecting the integrity of the crimp joint. Building these parts to order allows for maximum flexibility in wire type, size and color coding. Commercial Off The Shelf (COTS) versions are also available with 18 " of color coded 30 AWG Teflon ${ }^{\ominus}$
 wire for quick turn around.

These connectors are available in standard sizes ranging from 2 through 60 positions as well as custom configurations.

## ELECTRO-MECHANICAL SPECS

- Durability: 2000 Cycles
- Temperature: $-55^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}\left(200{ }^{\circ} \mathrm{C}\right.$ w/HTE)
- Current rating: 1 AMP per contact
- Voltage Rating (DWV): 250 VAC RMS Sea Level
- Insulation Resistance:

5,000 Megohms min @ 100 VDC

- Shock: 100 G's discontinuity < 10 nanoseconds
- Vibration: 20 G's discontinuity < 10 nanoseconds
- Thermal Vacuum Outgassing: NASA SP-R-0022
- Contact Resistance:

71 Milliohms max (71 mV max @ 1 AMP)

- Mating/Unmating Force:
$2.5 \mathrm{oz}(71 \mathrm{~g})$ typical per contact


## MATERIAL SPECIFICATIONS

- Standard Wire:
- Insulator:
- Pin:
- Socket:
- Encapsulant:

32 AWG, Teflon Insulated per NEMA-HP3
Polyphenylene Sulfide per MIL-M-24519
Gold Plated BeCu
Gold Plated Copper Alloy
Epoxy

## Single Row Nano Strip

NPS-WD/WC LAYOUT

.050 [1.27] UP TO 40 CONTACTS

. 060 [1.52] UP TO 60 CONTACTS

## DIMENSIONS FOR "A"

To determine connector length " $A$ ":
Add the total number of contacts
Add 1 contact cavity for each guide post hole
Add 3 contact cavities for each mounting hole
Total contact cavities
Subtract 1 from the total to get the number of cavity spaces and mulitply by $.025^{\prime \prime}$
Add fixed end length constant
Total Length (Dimension A):

Notes: Maximum length @ .050" thick = 1.015" (25.78). Maximum number of contact cavities is 60. Maximum length @ .060" thick = 1.515" (38.48). Number of contacts must be reduced to accommodate guide post holes and mounting holes. Default locations for guide post holes may be changed by customer. Dimensions in [ ] are in Millimeters unless otherwise noted and are for reference only.

## Single Row Nano Strip

## NSS-WD/WC LAYOUT



## DIMENSIONS FOR "A"

To determine connector length " A ":
Add the total number of contacts
Add 1 contact cavity for each guide post
Total contact cavities
Subtract 1 from the total to get the number of cavity spaces and mulitply by $.025^{\prime \prime}$
Add fixed end length constant
Total Length (Dimension A):


Notes: Maximum length @ $050^{\prime \prime}$ thick $=1.015^{\prime \prime}(25.78)$. Maximum number of contact cavities is 60 . Maximum length @ .060 " thick $=1.515^{\prime \prime}(38.48)$. Number of contacts must be reduced to accommodate guide post holes and mounting holes. Default locations for guide post holes may be changed by customer. Dimensions in [ ] are in Millimeters unless otherwise noted and are for reference only.

## Single Row Nano Strip

PRE-WIRED/CABLE (TYPE WD/WC) ORDERING GUIDE


## EXAMPLES:

