

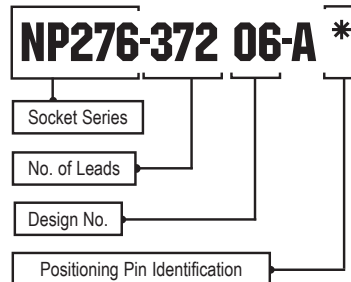
NP276 Series

Characteristics

| | |
|------------------------|-------------------------------------|
| Insulation Resistance: | 1,000MΩ or more at 100 VDC |
| Withstanding Voltage: | 100 VAC for 1 Minute |
| Contact Resistance: | 30mΩ or less at 10mA/20mV (Initial) |
| Operating Temperature: | -55°C ~ +150°C |

Material

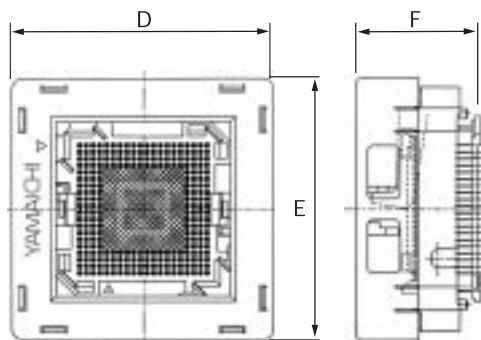
| | |
|------------|----------------------------|
| Insulator: | PEI (Glass Filled) UL94V-0 |
| Contact: | Beryllium Copper |
| Plating: | Gold over Nickel |



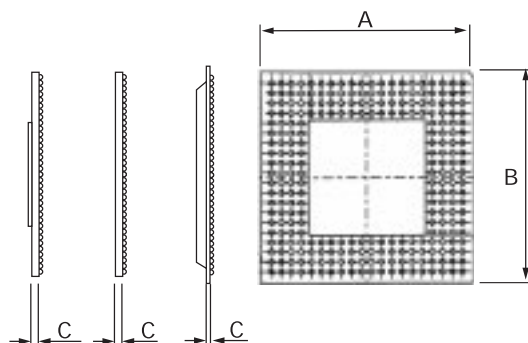
Depopulated Versions Available

Applicable Socket and IC Dimensions (Reference Only)

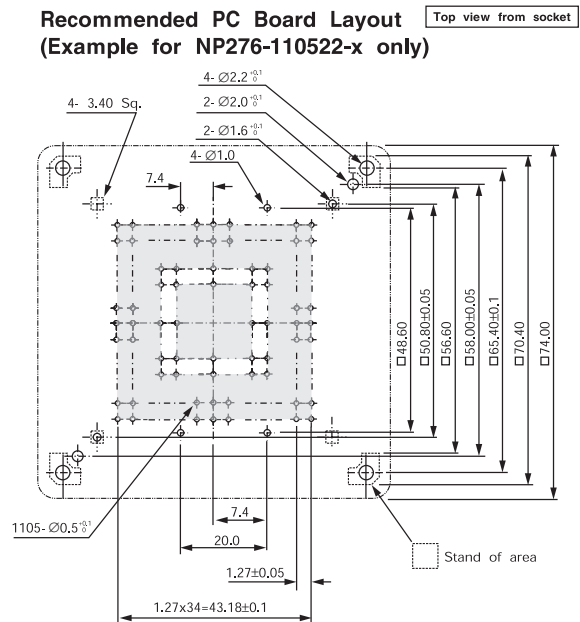
Outline Socket Dimensions



Matching IC Dimensions



Recommended PC Board Layout (Example for NP276-110522-x only)



Please contact Yamaichi directly concerning available PC-Board layouts for this series

BGA

NP276 Series

| Part Number | Pin Count | Type | Pitch | Grid Size | IC Body Size (A x B x C) | Socket Dimensions (D x E x F) |
|------------------------|-----------|------|-------|-----------|--------------------------|-------------------------------|
| NP276-11935 | 119 | BGA | 1.27 | 7 X 17 | 14 X 22 X 0.4 ~ 2.5 | 28.40 X 33.20 X 17.00 |
| NP276-37206-AC03143 | 144 | SBGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-15334-* | 153 | BGA | 1.27 | 9 X 17 | 14 X 22 X 0.4 ~ 2.5 | 28.40 X 33.20 X 17.00 |
| NP276-37206-A*-AC09608 | 160 | SBGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-37206-AC05638 | 204 | BGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-25626-AC06672 | 225 | BGA | 1.27 | 16 X 16 | 21 X 21 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-25626-* | 256 | BGA | 1.27 | 16 X 16 | 21 X 21 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-37206-AC03327 | 256 | BGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-37206-AC03145 | 256 | SBGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-59608-AC05634 | 262 | BGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-37206-AC03134 | 272 | BGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-37206-AC03140 | 292 | BGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-37206-AC04484 | 300 | BGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-52929-AC12409 | 304 | SBGA | 1.27 | 23 X 23 | 31 X 31 X 0.4 ~ 2.0 | 58.40 X 58.40 X 21.50 |
| NP276-62525-AC11317 | 313 | BGA | 1.27 | 25 X 25 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-37206-AC04474 | 316 | BGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-40009-*-AC06524 | 320 | BGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 0.7 | 49.40 X 49.40 X 19.10 |
| NP276-37206-AC07094 | 324 | BGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-37206-AC05627 | 328 | BGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-37206-AC05610 | 328 | BGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-59609-AC08337 | 336 | BGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-59608-AC03329 | 340 | BGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-59608-AC03328 | 352 | BGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-59608-AC03146 | 352 | SBGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-59608-AC03149 | 356 | SBGA | 1.27 | 26 X 26 | 27 X 27 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-37206-A* | 372 | BGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 3.1 | 49.40 X 49.40 X 19.10 |
| NP276-59608-AC03137 | 388 | BGA | 1.27 | 26 X 26 | 27 X 27 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-40009-* | 400 | BGA | 1.27 | 20 X 20 | 27 X 27 X 0.3 ~ 0.7 | 49.40 X 49.40 X 19.10 |
| NP276-76820-AC06127 | 416 | BGA | 1.27 | 30 X 30 | 40 X 40 X 0.3 ~ 3.1 | 68.00 X 68.00 X 22.50 |
| NP276-59608-AC05955 | 420 | BGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-59608-AC09801 | 420 | SBGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-87318-AC05621 | 432 | BGA | 1.27 | 31 X 31 | 40 X 40 X 0.3 ~ 3.1 | 68.00 X 68.00 X 22.50 |
| NP276-87318-AC05630 | 432 | SBGA | 1.27 | 26 X 26 | 40 X 40 X 0.3 ~ 3.1 | 68.00 X 68.00 X 22.50 |
| NP276-59608-AC03156 | 436 | BGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-59608-AC04460 | 456 | BGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-59608-AC03142 | 480 | BGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-59608-AC05717 | 480 | SBGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-59608-AC03035 | 484 | BGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 0.7 | 58.40 X 58.40 X 21.50 |
| NP276-59608-AC07102 | 492 | BGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-75319-AC09783 | 493 | BGA | 1.27 | 29 X 29 | 37.5 X 37.5 X 0.3~3.1 | 68.00 X 68.00 X 25.00 |
| NP276-59608-AC08302 | 516 | BGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-52928-B* | 529 | BGA | 1.27 | 23 X 23 | 31 X 31 X * | 58.40 X 58.40 X 21.50 |
| NP276-76820-AC08955 | 576 | SBGA | 1.27 | 30 X 30 | 40 X 40 X 0.3 ~ 3.1 | 68.00 X 68.00 X 22.50 |
| NP276-75319-AC07115 | 584 | BGA | 1.27 | 29 X 29 | 37.5 X 37.5 X 0.3 ~ 3.1 | 68.00 X 68.00 X 25.00 |
| NP276-65227-AC07614 | 587 | BGA | 1.27 | 28 X 28 | 37.5 X 37.5 X 0.3 ~ 3.1 | 68.00 X 68.00 X 25.00 |
| NP276-59608-A* | 596 | BGA | 1.27 | 26 X 26 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-62525-A* | 625 | BGA | 1.27 | 25 X 25 | 35 X 35 X 0.3 ~ 3.1 | 58.40 X 58.40 X 21.50 |
| NP276-110522-AC09796 | 600 | SBGA | 1.27 | 35 X 35 | 45 X 45 X 0.3 ~ 3.1 | 74.00 X 74.00 X 25.00 |
| NP276-110522-AC12425 | 600 | BGA | 1.27 | 35 X 35 | 45 X 45 X 0.3 ~ 3.1 | 74.00 X 74.00 X 25.00 |
| NP276-110522-AC11940 | 640 | SBGA | 1.27 | 35 X 35 | 45 X 45 X 0.3 ~ 3.1 | 74.00 X 74.00 X 25.00 |
| NP276-65227-* | 652 | BGA | 1.27 | 28 X 28 | 37.5 X 37.5 X 0.3 ~ 3.1 | 68.00 X 68.00 X 25.00 |
| NP276-97623-AC06017 | 672 | SBGA | 1.27 | 34 X 34 | 45 X 45 X 0.3 ~ 3.1 | 74.00 X 74.00 X 25.00 |
| NP276-75319-* | 753 | BGA | 1.27 | 29 X 29 | 37.5 X 37.5 X 0.3~3.1 | 68.00 X 68.00 X 22.50 |
| NP276-76820-* | 768 | BGA | 1.27 | 30 X 30 | 40 X 40 X 0.3 ~ 3.1 | 68.00 X 68.00 X 22.50 |
| NP276-87318-* | 873 | BGA | 1.27 | 31 X 31 | 40 X 40 X 0.3 ~ 3.1 | 68.00 X 68.00 X 22.50 |
| NP276-96924-* | 969 | BGA | 1.27 | 33 X 33 | 42.5 X 42.5 X 0.3~3.1 | 74.00 X 74.00 X 25.00 |
| NP276-97623-* | 976 | BGA | 1.27 | 34 X 34 | 45 X 45 X 0.3~3.1 | 74.00 X 74.00 X 25.00 |
| NP276-110522-* | 1105 | BGA | 1.27 | 35 X 35 | 45 X 45 X 0.3~3.1 | 74.00 X 74.00 X 25.00 |

* No latch included.

Note: Please contact Yamaichi Electronics for other pin counts.