

APPLICATION NOTES

Application Note for Mill-Max 2956-X-00-XX-00-00-03-0

The 2956-0 and 2956-1 are surface mount header pins primarily designed for packaging in insulators to make connectors. The pins differ only in the diameter of their bases; the base diameter of 2956-0 is .038" while the 2956-1 is .063".

Question: Can these parts be used as single pin interconnects?

Answer: Though designed for assembly into connector housings, it is possible to use them as single pin interconnects. The 2956-0 works best when the .038" diameter base is set into a blind via hole to provide stability and perpendicularity. (Figs. 1 & 2) The pin can then be reflow soldered to the circuit board pad. The 2956-1 with its larger base can be SMT soldered without the need for the blind via, although if space allows, it would also improve stability. (Fig. 3)



Figure 1:
MM 2956-0 soldered into
blind via holes on PCB for
stability.

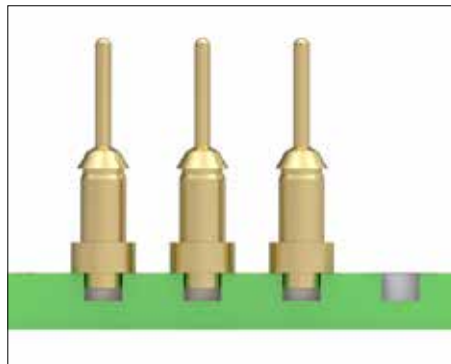


Figure 2:
Transparent view of MM
2956-0 soldered into blind
via holes on PCB for stability.



Figure 3:
MM 2956-1 surface mount
soldered on PCB.

Question: Can these pins be packaged on tape and reel?

Answer: This would not be ideal. The 2956 pins, due to their geometry, would have difficulty maintaining a consistent position in the deep drawn tape pocket. This would lead to low through put on the automatic assembly line and negatively impact production.



Question: Can these pins be packaged into connector assemblies?

Answer: Yes. The 2956-0 and 2956-1 are press-fit into high temperature thermoplastic insulators to create single and double row SMT headers. The 2956-0 is used in the double row series 429-10-2XX-00-560000 and the 2956-1 is used in the single row series 329-10-1XX-00-560000. (Figs. 4 & 5) These connectors feature the ability for the pins to float vertically and laterally in the insulator avoiding stress in the insulator housing as it expands and contracts during the soldering process. (Fig. 6) The float also allows the connector to self-level in response to board surface and solder paste irregularities. Beyond the standard connectors these pins can be utilized to make connectors in DIP configurations or other custom footprints in molded plastic or machined Fr-4 epoxy.

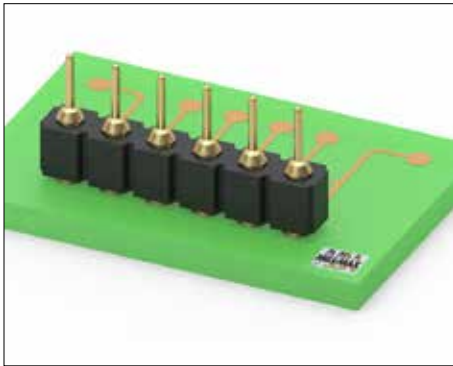


Figure 4:
MM 329 series with 2956-1
pins SMT soldered on PCB.

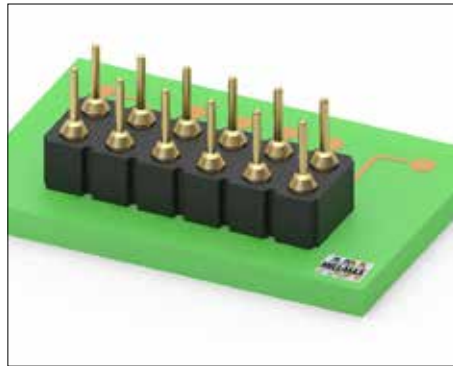


Figure 5:
MM 429 series with 2956-0
pins soldered into blind via
holes on PCB for stability.

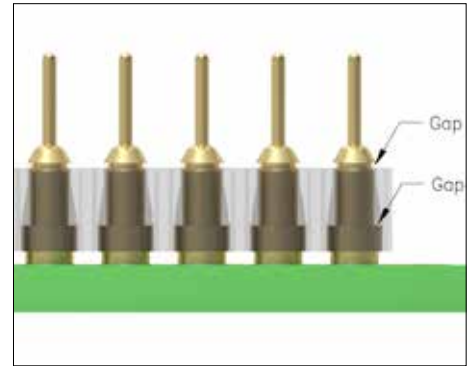


Figure 6:
Transparent view showing MM
2956-1 packaged in SIP
insulator. Note insulator is
captured between top pin
shoulder and counterbored
feature at bottom shoulder.

Question: What are the packaging options for connectors like the types described above and what methods are used for delivering them to the board?

Answer: The standard 329 and 429 connectors mentioned above come standard packaged in tubes. They can be packaged on tape and reel upon request. Custom socket configurations may be packaged in bulk, tube or in tape and reel depending on the connector design. In bulk or in tubes the parts may be hand placed. On tape and reel or in tubes the parts may be automatically vacuum pick and placed. Any of these methods would be followed by processing through a reflow solder oven.

