

Molex's push-push micro-SIM sockets provide superior electrical reliability, card retention and usability compared to competitive versions for space-constrained applications such as smart phones and tablet PCs

The recent move from 2G to 3G and 4G/LTE networks combined with the continuing downsizing of mobile equipment has given rise to a new smaller form factor of the Subscriber Identification Module (SIM) format called micro-SIM. This latest edition to the SIM family is 52% smaller than its predecessor the Mini-SIM. Molex has been an early leader in connector designs for the new micro-SIM format. The competition has quickly followed, focused primarily on trying to reduce the profile height.

Molex has also focused on compactness for our micro-SIM connector designs, but more importantly, on reliability. The micro-SIM format, unlike microSD, does not have an independent locking mechanism to help provide card retention. That has required makers to build card retention and reliability into the terminal design.

Molex's new 503960 series micro-SIM socket is the only version on the market that has been independently tested by some of the major mobile manufacturers to achieve a contact force of 0.3N. The design accomplishes this through a unique contact design.

Molex's new 104118 series micro-SIM socket has a unique detect switch design built into it to offer reliability in the area of card retention. The detect terminal for this version exerts its spring force on the cam instead of the card, which reduces outward force on the card and provides additional card retention assurance in cases of shock or vibration. The 503960 series comes in the industry-standard 6-circuit style, while the 104118 series includes 8-circuits to support applications requiring additional pin assignments.

Card-Tray Type

Molex's most recent push-push micro-SIM connectors (504030/504040) include a metal tray to hold the card. This feature locks the card in place for maximum retention assurance. It also makes it easier for users to grab and extract the card from the side of mobile devices. A smooth extraction design helps prevent card flyout and simplifies the design for the manufacturer. The new tray version offers similar robust features such as secure contact force and anti-stubbing terminal design as Molex's non-tray push-push micro-SIM versions.

For additional information visit: www.molex.com/link/micro-sim.html

micro-SIM Card Sockets, Push-Push, Normal Mount, With Detect Switch

503960 6-circuit, 1.42mm Height

104118 8-circuit, 1.60mm Height

504030/504040 6-circuit, 1.52mm Height, Socket/Tray



Molex push-push micro-SIM connectors, 104118 series (upper left) and 503960 series (bottom right)



Molex's latest push-push micro-SIM connector with tray (504030/504040)

FEATURES AND BENEFITS

Features

- Compact card sockets with small footprint and low profile height
- Unique contact design
- Card polarization features
- Multiple PCB solder tabs for secure hold-down
- Metal card-holding tray version (504030/504040)

Benefits

- Optimum PCB real estate and vertical space savings
- Provides reliable electrical performance and prevents contact stubbing during insertion
- Prevents micro-SIM card from being inserted in the wrong direction
- Secure PCB retention
- Provides card locking/retention assurance, easy card extraction and flyout prevention

SPECIFICATIONS

Reference Information

- Packaging: Embossed tape
- Designed In: mm
- RoHS: Yes
- Low-Halogen Status: Low-Halogen

Mechanical

- Insertion/Withdrawal Force:
 - 503960, 504030/504040: 15N max.
 - 104118: 5 +/-2N
- Durability:
 - 503960, 504030/504040: 2,000 cycles
 - 104118: 5,000 cycles

Electrical

- Voltage (max.): 10V
- Current (max.): 0.5A max.
- Contact Resistance: 100 milliohms max.
- Dielectric Withstanding Voltage:
 - 500V AC for 1 minute
- Insulation Resistance: 1,000 Megohms minimum

Physical

- Housing: LCP, UL 94V-0, Black
- Contact: Copper Alloy
- Plating:
 - Contact Area: Gold
 - Solder Tail Area: Gold
 - Underplating: Nickel
- Operating Temperature: -25 to +85°C

MARKETS AND APPLICATIONS

- Mobile phones
- Smart phones
- Tablet PCs
- Navigation tracking devices



micro-SIM Card Sockets, Push-Push, Normal Mount, With Detect Switch

503960 6-circuit, 1.42mm
Height

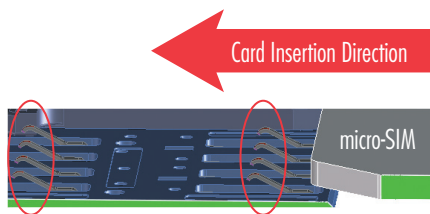
104118 8-circuit, 1.60mm
Height

504030/504040 6-circuit,
1.52mm Height, Socket/Tray

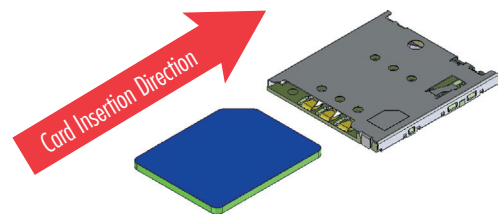
ADDITIONAL FEATURES

Anti-Stubbing Feature

104118

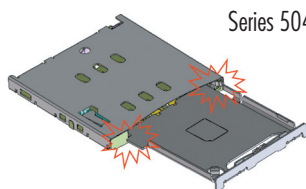


503960

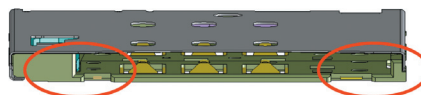


A unique terminal design on Molex's micro-SIM sockets allows for a gradual lead-in that prevents contact stubbing and provides smoother card insertion and withdrawal.

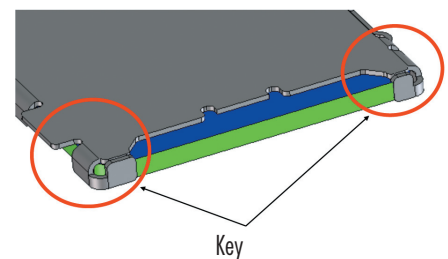
Card Polarization Features: Card-Tray Type



Series 504030/504040



Tray is blocked by housing shape feature



Molex's 504030/504040 card-tray micro-SIM design prevents reverse or improper mating of the micro-SIM card. If the tray is inserted incorrectly, it will be blocked by the housing shape but will not damage the connector.

ORDERING INFORMATION

Socket and Card-Holder Tray

Circuits	Order No.		Mated Height
	Socket	Card-Holder Tray (Use With)	
6	503960-0693	N/A	1.42mm
6	504030-0691	504040-0009	1.52mm
8	104118-0811	N/A	1.60mm