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Surpassing industry equivalents in space and cost-savings, Molex's push-pull and hinged micro-SIM card sockets combine superior anti-short, card detection and polarization features for wireless mobile devices

Combining best-in-class features including the lowest (1.18mm) profile height with unique card-detect-and-activation mechanism, the series 78755, push-pull micro-SIM card socket leads the industry in space and cost savings for ultra-slim smartphone, tablet PC, GSM/UMTS* modem and WLAN (Wireless LAN) applications.

Other push-pull variants include: the miniature footprint series 78723 socket with its high normal force delivering robust terminal-to-card connectivity and high electrical reliability; the series 78727 socket with patented socket-damage-prevention designs; the series 78723 socket with anti-short capabilities, detect switch and wide finger areas for easy card insertion and removal; and the 1.45mm height series 78646 socket with anti-short and multiple soldering points for robust PCB hold-down.

Molex also offers a hinged, series 78800 socket that fits tight-spaced, top-loading style applications. Designed for mid-board layouts that preclude the use of front- or side-entry style sockets, this socket is highly compact and allows partial tilt or full opening of the lid to allow for unobstructed placement or removal of SIM card.

Molex supplies standard 6-circuit micro-SIM card sockets and can support applications requiring justifiably high volume 8-circuit push-pull style sockets. Parts are shipped in tape-on-reel packaging.

For more information, visit our website at:
www.molex.com/link/micro-sim.html

micro-SIM Card Sockets, 6-Circuit, Halogen-free, Lead-free 1.40mm Hinged and 1.15, 1.35, 1.40 and 1.45mm Height Push-Pull Styles

Hinged style

78800 1.40mm Height, without detect switch

Push-pull style

78755 1.18mm Height, with detect switch

78723 1.35mm Height, without detect switch

78727 1.40mm Height, with detect switch

78646 1.45mm Height, without detect switch

Features and Benefits

Ultra-low-profile height of 1.18mm (78755), 1.35mm (78723), 1.40mm (78727 and 78800)	Ideal for ultra-slim smart phone applications
Specially designed detect spring (78755)	Ensures that a wrongly inserted micro-SIM card will not activate the card detection switch
Detect Switch with First-Mate-Last-Break capability (78727)	Enables micro-SIM card detection
Integral metal-shell spring tab (78723)	Ensures high normal force (0.30N) and good electrical contact with inserted micro-SIM card
Anti-short feature using raised housing walls of the socket (78723, 78727) and kinked shell design (78646)	Prevents shorting of any exposed edge of (improperly pared) SIM card contact pads with the surrounding metal shell
Top-loading style socket allowing 180-degree opening of lid (78800)	Eliminates any possibility of terminal crush with top-loading of SIM card
Card polarization features (all series)	Ensure correct card orientation when used with socket

Molex's Hinged and Push-Pull Style Micro-SIM Card Sockets
(Front row from left to right: Series 78755, 78723;
Back row from left to right: 78646, 78800, 78727)

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Specifications

Reference Information
Packaging: Embossed Tape on Reel
Use With: micro-SIM card
Designed In: mm
RoHS: Yes
Halogen Free: Yes
Glow Wire Compliant: No

Electrical
Voltage (max.): 5V (78723, 78800),
  10V (78727, 78755), 15V DC (78646)
Current (max.): 0.5A per contact
Low Level Contact Resistance (max.): 100 milliohms
Dielectric Withstanding Voltage: 500 VAC
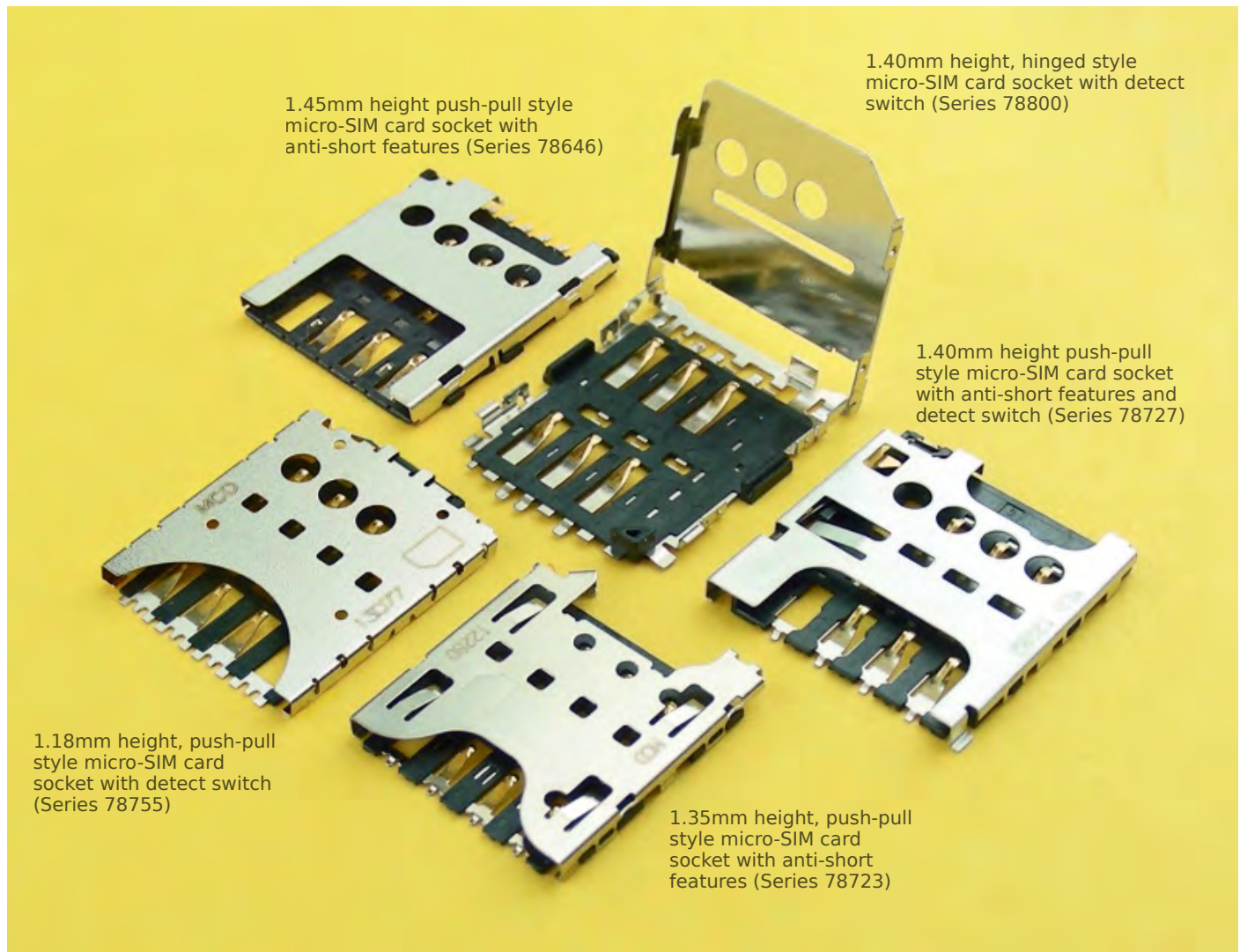Insulation Resistance (min.): 1000 megaohms

Mechanical
Contact Normal Force (min.):
  0.30N (78723, 78727, 78755)
  0.20N at min. deflection (78646)
  0.20N at 0.32mm working height (78800)
Lock/Unlock Force:
  15N max./0.5N min. respectively (78800)
Contact Normal Force:
  0.30N min. (78755); 0.20N(min.) (others);
  1.30N (max.) (78800)
Card Insertion Force (max.):
  6N (78755); 8N (78723), 10N (78727)
Card Withdrawal Force (min.):
  0.7N (78723), 0.5N (78727, 78755)
Durability (max.):
  :500 cycles at 100 milliohms (78723 and 78727)
  :1500 cycles at 100 milliohms (78646)
  :5,000 cycles (78755, 78800)
  :500 cycles at 100 milliohms LLCR with 15N (max.)
    Locking Force and 0.50N (min.) Unlocking Force
    (78800)

Physical
Housing: LCP (glass-filled), UL94V-0, Black
Contact: Titanium Copper
Metal Shell:
  Stainless Steel (no plating for Series 78800)
Plating:
  Contact Area — 0.38µm (15µ") Gold (Au)
  Solder Tail — 1.27µm (50µ") Matte Tin (Sn)
  Underplating — 1.27µm (50µ") Nickel (Ni)
Shell Solder Tab:
  0.025µm 1(µ")Gold (Au) (78755 only)
  1.27µm (50µ") Matte Tin (Sn) over (other series)
  1.27µm (50µ") Nickel (Ni) underplate (all)
Detect Contact: :
  0.025µm 1(µ")Gold (Au) over 1.27µm (50µ") Nickel
    (Ni) underplate (78755 only)
  0.127µm (5µ") Gold (Au) over 1.27µm (50µ") Nickel
    (Ni) underplate (78727)
Detect Spring:
  0.025µm 1(µ")Gold (Au) over Nickel (Ni) underplate
    (78755)
  0.127µm (5µ") Gold (Au) over 1.27µm (50µ") Nickel
    (Ni) underplate (78727)
Operating Temperature:
  -40 to +85°C (78723, 78727, 78755)
  -30 to +85°C (78646 and 78800)

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Push-Pull and Hinged micro-SIM Card Socket Family

1.45mm height push-pull style micro-SIM card socket with anti-short features (Series 78646)

1.40mm height, hinged style micro-SIM card socket with detect switch (Series 78800)

1.40mm height push-pull style micro-SIM card socket with anti-short features and detect switch (Series 78727)

1.18mm height, push-pull style micro-SIM card socket with detect switch (Series 78755)

1.35mm height, push-pull style micro-SIM card socket with anti-short features (Series 78723)

![molex logo]

Anti-Shorting Features of Series 78723, 78727, 78646 Push-Pull Style micro-SIM Card Sockets
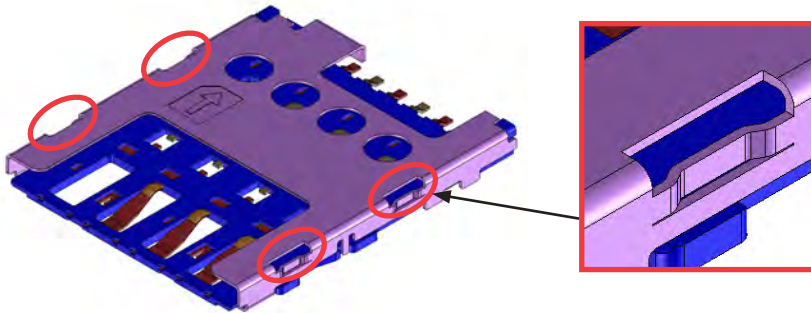
Series 78646 socket uses a kinked metal shell design as anti-short feature

Socket housing

Metal shell of socket
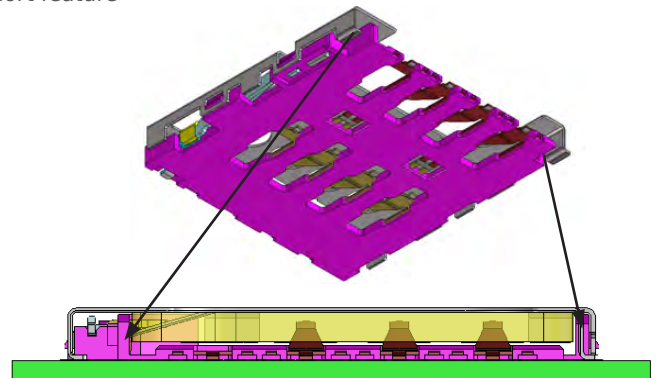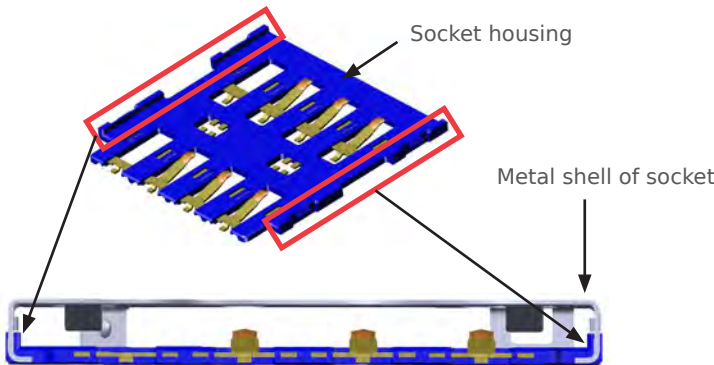
Series 78723 (left) and 78727 (right) micro-SIM card socket use raised housing-wall as anti-short feature

Wide Finger Area (Yellow Boxes), Card Polarization and Unique Features of Series 78723, 78727, 78646 and 78755 Push-Pull micro-SIM Card Sockets


Series 78727 socket uses a card-orientation-spring to block a wrongly oriented (and inserted) micro-SIM card mid-way for prevention of damage to socket
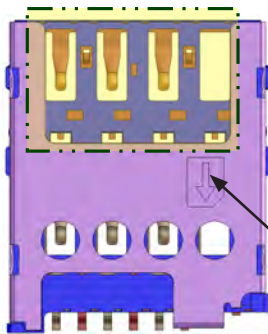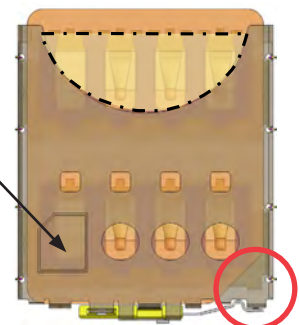
Series 78646 micro-SIM card socket with wide finger area
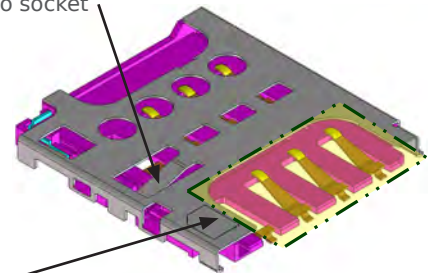
Series 78727 micro-SIM card socket with wide finger area

Chamfered edge icon to guide user in correct micro-SIM card insertion

Two angled-shell card-polarization features act as stoppers to ensure correct fit of micro-SIM card to socket
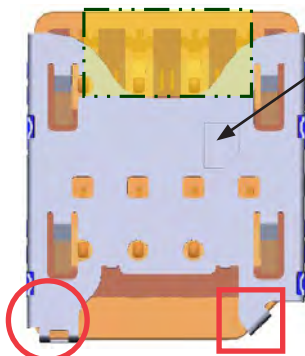
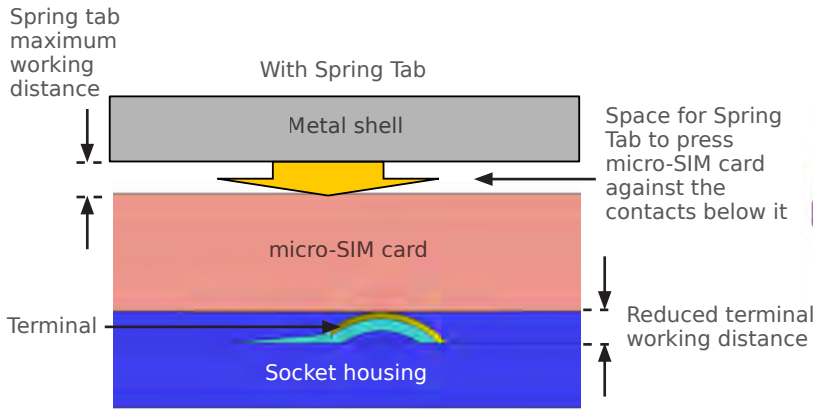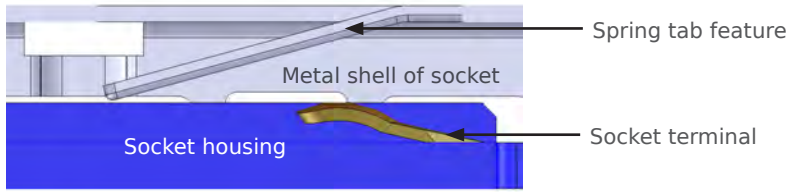Series 78723 micro-SIM card socket with wide finger areas

The detect spring of the series 78755 socket does not deflect when a micro-SIM card is inserted in the wrong direction. It deflects to form an open circuit when correctly inserted

**Other Product Features of 78723 and 78727 Push-Pull Style Micro-SIM Card Socket**

Spring tab feature

Metal shell of socket

Socket terminal

Socket housing

Spring tab maximum working distance

With Spring Tab

Metal shell

Space for Spring Tab to press micro-SIM card against the contacts below it

micro-SIM card

Terminal

Reduced terminal working distance

Socket housing

By incorporating spring tabs, terminals of Series 78723 socket can achieve a 0.30N minimum normal force for improved card-to-socket (electrical) contact
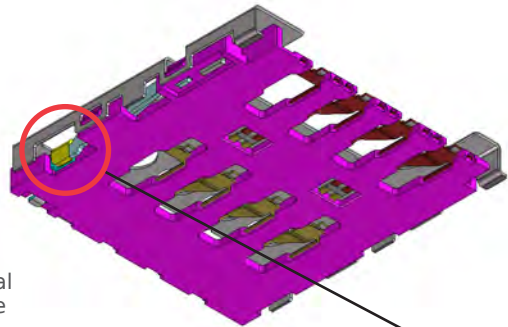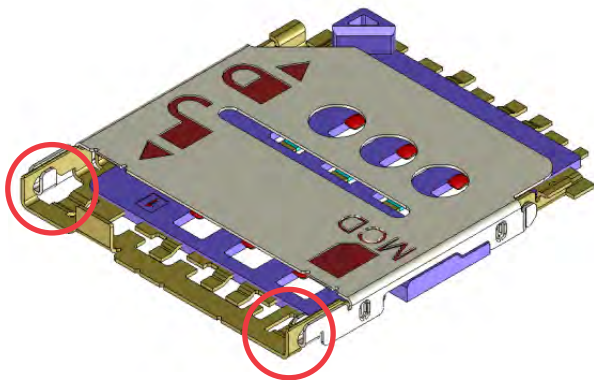
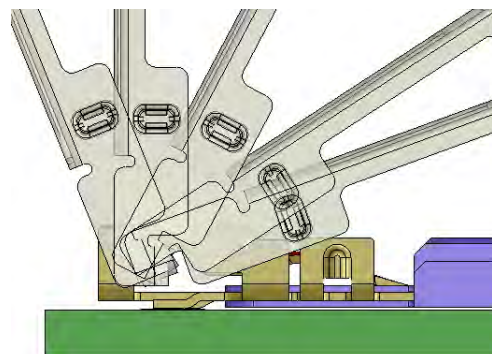Series 78727 detect switch for First-Mate-Last-Break capability
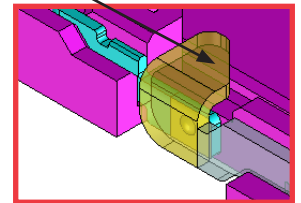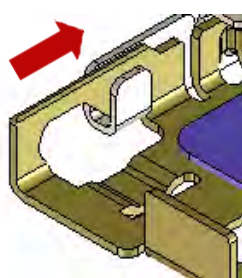
Hinge Style Locking

A "U" shape metal hinge provides high pulling force between the lid and shell body, preventing the lid from being pulled out accidentally
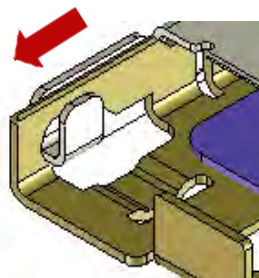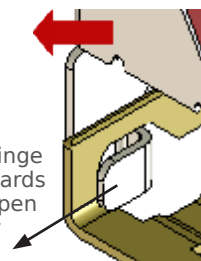
Socket hinges highlighted

Backward rotation of socket hinge at housing frame keyhole enabling full 180-degree lid tilt

The tip of the hinge now faces outwards to allow lid to open partially or fully

Hinge is locked

Hinge is unlocked

Hinge rotates backwards to open lid

Hinge design of Series 78800 micro-SIM card socket

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micro-SIM Card Sockets, 6-Circuit, Halogen-free, Lead-free 1.40mm Hinged and 1.15, 1.35, 1.40 and 1.45mm Height Push-Pull Styles

Applications

Consumer
– Mobile phones
– Ultra-slim smart phones
– Tablet PCs
– Mobile *Wi-Fi devices
– **GSM/UMTS modems
– Wireless LAN cards

GSM / UMTS modems

Mobile Wi-Fi devices

Tablet PCs, mobile and smart phones Mobile Wi-Fi devices

Ordering Information

Order No.	Style	Profile Height (mm)	Detect Switch	Circuits
78755-0001	Push-Pull	1.18	With	6 (Please contact Global Product Manager for 8-circuit versions)
78646-3001		1.45	Without	
78723-1001		1.35		
78727-0001		1.40	With	
78800-0001	Hinged		Without	

*Wi-Fi is a registered trademark of the Wi-Fi Alliance
**GSM/UMTS - Global System for Mobile Communications / Universal Mobile Telecommunications System

www.molex.com/link/micro-sim.html

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