Molex’s new push-pull microSD connector provides the optimum combination of space savings, strong PCB retention and reliable detect switch functionality compared to competitive versions for space-constrained applications such as smart phones and tablet PCs.

The relentless drive by mobile device makers to achieve smaller and thinner designs has in turn made this the key design consideration for micro connector manufacturers. The competition has heated up to the point where shaving even a millimeter or two off the profile height or depth can be the key factor in winning a new mobile connector design.

Molex’s new 504077 microSD series meets today’s demanding mobile downsizing needs. With a profile height of just 1.28mm and a compact overall size, this new push-pull microSD connector is ideal for applications such as thin smart phones, tablet PCs and other mobile devices.

The 504077 series also provides stronger PCB retention than competitive versions, which is important in order to protect solder joints from damage when users try and extract a card in the middle of a tightly-packaged phone. The Molex design also includes beveled terminals that protect against damage during card insertion while providing secure contact forces for electrical reliability.

While card retention is not as important in push-pull versions as it is in push-push types, there is a need to make sure the card stays secure. Molex’s new push-pull design contains a unique “half-lock” feature to achieve this. The shell on the 504077 series has a spring function feature built into it that provides a mild type of “half-lock” for secure card retention while still allowing smooth card insertion and extraction.

For additional information visit: www.molex.com/product/memory.html

**Features and Benefits**

<table>
<thead>
<tr>
<th>Compact card sockets with low profile height and overall compact size</th>
<th>Optimum PCB real estate and vertical space savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Six PCB tabs for secure hold-down</td>
<td>Secure PCB retention</td>
</tr>
<tr>
<td>Terminal design with gradual lead-in</td>
<td>Prevents terminal stubbing and provides secure electrical reliability</td>
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<tr>
<td>Unique “half-lock” card retention feature</td>
<td>Provides card retention assurance and easy card insertion and extraction</td>
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<tr>
<td>Card polarization features</td>
<td>Prevents microSD card from being inserted in the wrong direction</td>
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<tr>
<td>Open detect switch design</td>
<td>Provides wiping for improved contact reliability versus closed detect switch designs</td>
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</tbody>
</table>

**Applications**

**Consumer**
- Smart phones
- Standard mobile phones
- Tablet PCs
- Other mobile devices

* microSD is a trademark of the SD Card Association.
Specifications

REFERENCE INFORMATION
Packaging: Embossed tape on Reel
Use With: microSD card
Designed In: mm
RoHS: Yes
Halogen Free: Yes
Glow Wire Compliant: No

MECHANICAL
Card Insertion/Removal Force:
- 15N max. (Lock force)
- 1-10N (Lock release force)
Durability: 10,000 cycles

PHYSICAL
Housing: LCP; UL 94V-0, Black
Contact: Phosphor Bronze
Plating:
- Contact Area — Gold
- Solder Tail Area — Gold
- Underplating — Nickel
Operating Temperature:
- -25 to +85°C

ELECTRICAL
Voltage (max.): 10V
Current (max.): 0.5A
Contact Resistance: 100 milliohms max.
Dielectric Withstanding Voltage: 500V AC for 1 minute
Insulation Resistance:
- 1000 Megohms min.

Additional Product Features

Unique “Half-Lock” Card Retention Feature
The shell on the 504077 series has a spring function feature built into it that provides a mild type of “half-lock” for secure card retention while still allowing smooth card insertion and extraction.

PCB Hold-Down Features
Six grounding hold-down points help provide secure PCB retention and protection to solder tab joints, and are designed around required keep-out areas. Certain competitive versions only provide four hold-down points.

Ordering Information

<table>
<thead>
<tr>
<th>Connector</th>
<th>Order No. 987650-7752</th>
<th><a href="http://www.molex.com/product/memory.html">www.molex.com/product/memory.html</a></th>
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<tbody>
<tr>
<td>Order No.</td>
<td>Type</td>
<td>Circuits</td>
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<tr>
<td>504077-1891</td>
<td>Socket</td>
<td>8</td>
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