

Dome Spring Contact

Producing the Most Reliable Dry Circuit Domed Contact

The Challenge

ITT's Universal Contact Series is an ideal solution for handheld device interconnection with unique application requirements. However, in certain applications some customers need a simple, robust, dry circuit leaf spring contact.

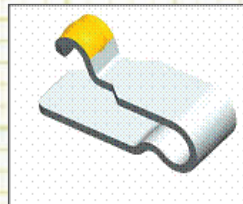
The challenge was to design a new contact which fulfills customer's basic needs but also maintain a high hertz force while being easy enough to pick and place to the board. These features had to be achieved with a prevention feature to eliminate the risk of flux and solder migration to the contacts working area.

The Engineered Product Solution

ITT developed a simplified version contact - the Dome Spring Contact (DSC) which contained the Universal Contact's key feature that provide a high hertz force of 300K psi with .5N at its working peak. The contact also maintains a high interconnect mating cycle of 3K and a working range of 0.9mm to 4.5mm to fully cover all handheld devices. In addition, DSC is also a cost competitive solution for customers.

Innovative Interconnect Benefits

- No field failures in over 4 billion connections
- With a large deflection value, the Universal Contact offsets manufacturing tolerance issues
- Reliable functionality
- Freedom of board positioning
- Wide range of working heights
- Low contact resistance
- 2 amps nominal current



Attributes and Values

1. A simple design which delivers a strong and stable spring rate - the greater the deflection, the higher the contact force.
2. "Solder well" increases customer manufacturing forgiveness through the elimination of solder wicking.
3. "Domed" contact point design which provides a high hertz force - maximum contact contact force over 1N.
4. BeCu (Beryllium Copper) or TiCu (Titanium Copper) raw material which provides a low contact resistance.

Applications

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| • Handset | • Set Top Boxes | • Smoke Detector |
| • Smart Phone | • Laptop & Computers | • PC Card Devices |
| • GPS Unit | • Key Fob | • Home Electronic Devices |

For application assistance, please contact: Americas: Ted Worroll+1 860.945.8274, ted.worroll@itt.com • Europe: Graham Oakley, +44 1256.311508, graham.oakley@itt.com • ASIA: Teddy Chan, +852.25895830, teddy.chan@itt.com • JAPAN: Atsushi Matsuo + 81.46.257.2010, atsushi.matsuo@itt.com