



# HARWIN

SMT Spring Contacts



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## WHAT IS A SPRING CONTACT?

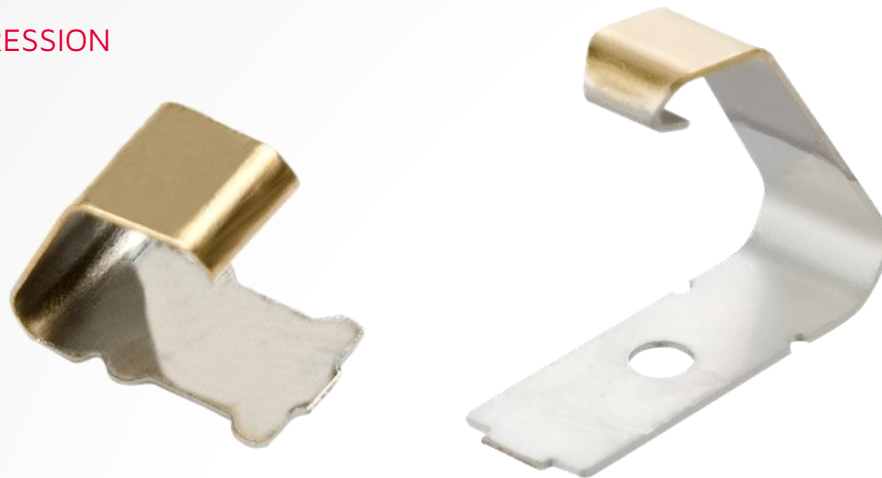


A Spring Contact is an internal connector, designed to provide electrical connection or grounding in electronic equipment. They are also referred to as antenna contacts, spring fingers, shield fingers and grounding contacts.

Harwin's [range of Spring Contacts](#) come in a wide variety of styles, heights, forces and current-carrying capacity (up to 14A), all supplied in Tape-and-Reel packaging for automatic placement and reflow soldering.

## 'C' Style Spring Contacts

IDEAL FOR BOTH WIPING AND COMPRESSION



The 'C' style contact is the simplest of designs, providing a flexible connection between PCBs, components and chassis grounds. Manufactured from copper alloy, they provide excellent spring properties over extended periods of time.

Harwin provides a choice of 6 different parts in this style, with heights ranging between 1.7mm to 5.5mm.

## Extended 'C' Style Spring Contacts

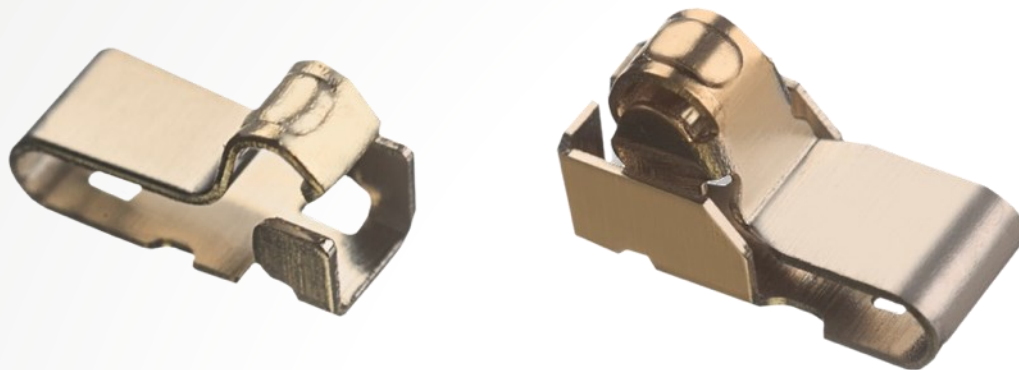
IDEAL FOR ANTENNA APPLICATIONS



A development of the 'C' style contact, this design uses a more obvious cantilever style. The SMT pick and place area is exaggerated to compensate for the miniature size of the contact. This range is provided in 0.5mm incremental step heights, from 2mm up to 5mm. The footprint is the same across the complete set of contacts.

## Extended 'C' Style with Positive Stop

VARIETY OF MATERIALS



A further development of the extended 'C' style, these contacts were originally designed for wireless antenna connections on many mobile devices, such as smartphones, or LED lamp connection and RFID tags. The Positive Stop shoulder prevents the contact from being over-compressed, which can lead to permanent set and a reduction in spring force.

This range is all ultra-low profile, with 6 contacts ranging from just 1.23mm to 2mm high.

## 'Box' Style Spring Contacts

PROVIDES PROTECTION FROM 'SNAGGING'



'Box' style contacts are different to the 'C' style by the addition of a feature that reduces the risk of damage caused by 'accidental snagging'. On some Box designs, it also prevents unwanted lateral movement of the contact during mating. This style can also be labelled as 'Anti-Hook'. Typical applications are identical to the 'C' style contacts. The 'Box' style contacts are available in 5 different heights from 2.5mm to 6mm.

## Multi-Directional Spring Contacts

### SPECIAL STYLE - HORIZONTAL FLEXIBILITY



The Harwin multi-directional design provides a unique spring feature that works in both vertical and horizontal orientations, making it ideal for PCB edge connection to a chassis. Four designs are available:

- **7.30mm high:** [S1941-46R](#) (tin finish) or [S1941-42R](#) (gold on contact area) for normal force version, [S1951-46R](#) (tin finish) for low force.
- **4.55mm high:** [S1971-46R](#) (tin finish)
- **3.55mm high:** [S1961-46R](#) (tin finish)



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## TAPE AND REEL PACKAGING



All Harwin Spring Contacts are supplied on Tape-and-Reel packaging, making them ideal for automated assembly to the PCB. The elimination of any hand assembly makes this range of SMT products an attractive and cost-effective solution for all application volumes.





# SMT Spring Contacts

## WHAT IS THE PERFORMANCE RATING?

Current Rating	<b>Between 1A and 14A</b>
Durability	<b>1,000 to 10,000 minimum</b> mating cycles

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The electrical and mechanical performance of each spring will vary with the design. All performance characteristics are listed on the relevant Technical Drawing/Datasheet for the product. Test results for mating forces and contact resistance for a selection of contacts can be found in [Test Report Summary HT028XX](#) and [Test Report Summary HT077XX](#).

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## DEVELOPMENT KIT



If you would like to have a selection of these Spring Contacts on hand to try out in your designs, you can purchase a Development Kit from Harwin. This sturdy stackable box contains 16 different contacts covering all the different styles mentioned. Once registered with Harwin at [devkit@harwin.co.uk](mailto:devkit@harwin.co.uk), you can request free refills for these kits. Further information can be found on the Development Kit page at [www.harwin.com/devkit](http://www.harwin.com/devkit).

# SMT Spring Contacts

## MARKETS



Almost all markets have a requirement for Spring Contacts - they provide a low-cost, electrically sound and easy-to-use solution, equally capable for power, signal or grounding applications. Their small size makes them ideal for portable devices as well as larger electronic applications.

- Mobile devices
- POS Tracking
- Mobile Antennas
- Home Entertainment
- Instrument Panels

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