EZi RANGE

HARWiN

Component Specification

C05501

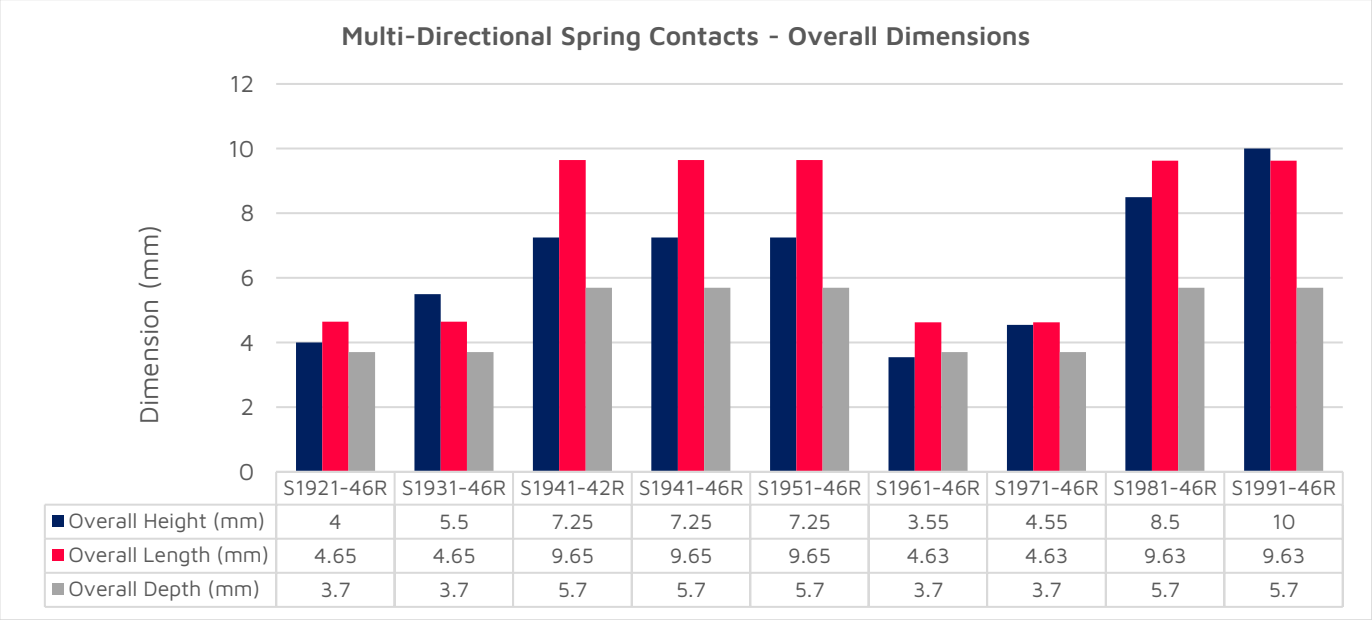
Multi-Directional Spring Contacts
September 2023

1. DESCRIPTION OF CONTACTS AND INTENDED APPLICATION

The multi-directional spring contact range provides additional flexibility and choice to aid basic connectivity and EMC shielding solutions. Allowing for both horizontal and vertical compression, the spring contacts provide a versatile range of heights and compression distances.
Packaged in tape and reel, these contacts are suitable for automated assembly via pick and place.

2. LIST OF MULTI-DIRECTIONAL SPRING CONTACTS

The following components are part of the multi-directional spring contact range, see respective drawings for full dimensional and reeling information. All products are assembled into tape and reel in accordance with EIA-481 (Electronics Industries Association).



	S1921-46R	S1931-46R	S1941-42R	S1941-46R	S1951-46R	S1961-46R	S1971-46R	S1981-46R	S1991-46R
Overall Height (mm)	4	5.5	7.25	7.25	7.25	3.55	4.55	8.5	10
Overall Length (mm)	4.65	4.65	9.65	9.65	9.65	4.63	4.63	9.63	9.63
Overall Depth (mm)	3.7	3.7	5.7	5.7	5.7	3.7	3.7	5.7	5.7

3. RATINGS

3.1. Materials

Part No.	Material	Material Thickness	Finish
S1921-46R	Cupro Nickel	0.10mm	100% Tin over Nickel
S1931-46R	Cupro Nickel	0.15mm	100% Tin over Nickel
S1941-42R	Beryllium Copper	0.15mm	100% Tin over Nickel, Gold on contact area
S1941-46R	Beryllium Copper	0.15mm	100% Tin over Nickel
S1951-46R	Beryllium Copper	0.15mm	100% Tin over Nickel
S1961-46R	Cupro Nickel	0.15mm	100% Tin over Nickel
S1971-46R	Cupro Nickel	0.15mm	100% Tin over Nickel
S1981-46R	Cupro Nickel	0.15mm	100% Tin over Nickel
S1991-46R	Cupro Nickel	0.15mm	100% Tin over Nickel

3.2. Electrical Characteristics

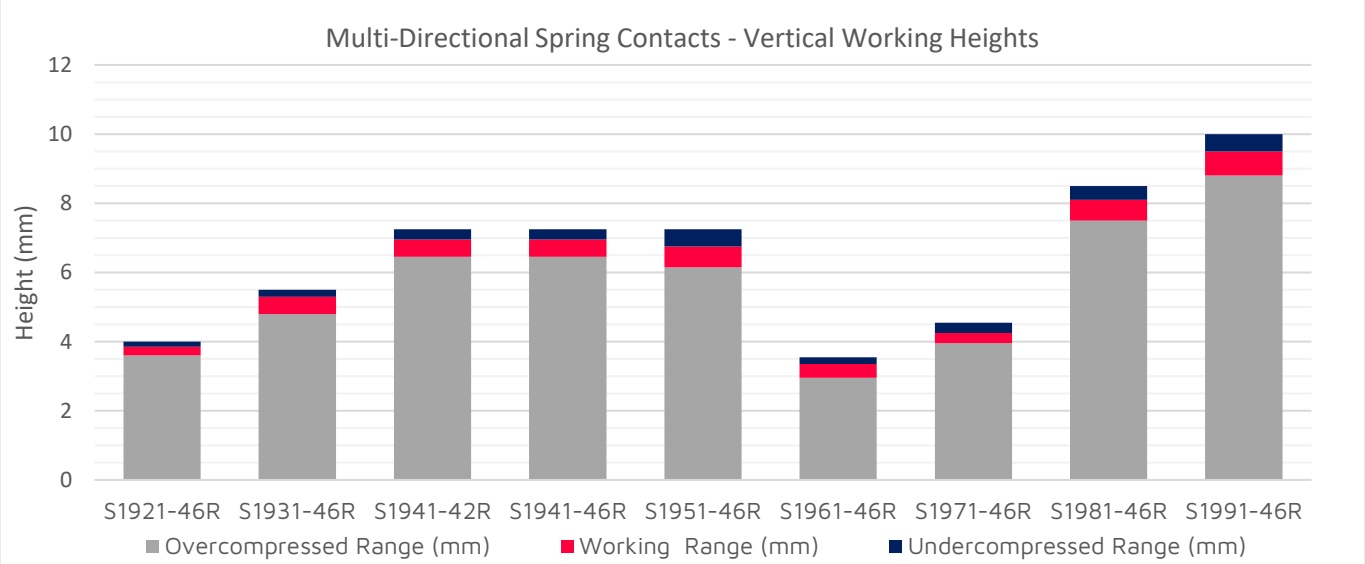
Part No.	Current Rating (25°C ambient)	Initial Contact Resistance (mΩ)	Contact Resistance After Conditioning (mΩ)
S1921-46R	12A max	10mΩ max	20mΩ max
S1931-46R	12A max	10mΩ max	20mΩ max
S1941-42R	9A max	10mΩ max	20mΩ max
S1941-46R	9A max	10mΩ max	20mΩ max
S1951-46R	7A max	10mΩ max	20mΩ max
S1961-46R	14A max	2mΩ max	20mΩ max
S1971-46R	14A max	2mΩ max	20mΩ max
S1981-46R	14A max	10mΩ max	20mΩ max
S1991-46R	14A max	10mΩ max	20mΩ max

3.3. Environmental Characteristics

Part No.	Operating Temperature Range (°C)	High Temperature, Long Term (No Electrical Load)	High Temperature, Long Term (No Electrical Load)
S1921-46R	-55°C to +125°C	96hrs at +125°C	500hrs at +125°C
S1931-46R	-55°C to +125°C	96hrs at +125°C	500hrs at +125°C
S1941-42R	-55°C to +125°C	96hrs at +125°C	1,000hrs at +125°C
S1941-46R	-55°C to +125°C	96hrs at +125°C	1,000hrs at +125°C
S1951-46R	-55°C to +125°C	96hrs at +125°C	1,000hrs at +125°C
S1961-46R	-40°C to +125°C	96hrs at +125°C	500hrs at +125°C
S1971-46R	-40°C to +125°C	96hrs at +125°C	500hrs at +125°C
S1981-46R	-55°C to +125°C	96hrs at +125°C	500hrs at +125°C
S1991-46R	-55°C to +125°C	96hrs at +125°C	500hrs at +125°C

3.4. Mechanical Characteristics

Part No.	Durability (No. of operations)	Minimum Vertical Compression (mm)	Maximum Vertical Compression (mm)	Minimum Vertical Compression Force (N)	Minimum Horizontal Compression (mm)	Maximum Horizontal Compression (mm)	Minimum Horizontal Compression Force (N)
S1921-46R	2,500	0.15	0.40	2.0	0.15	0.40	0.7
S1931-46R	2,500	0.20	0.70	1.2	0.25	0.60	1.0
S1941-42R	5,000	0.30	0.80	1.2	0.40	1.00	1.2
S1941-46R	5,000	0.30	0.80	1.2	0.40	1.00	1.2
S1951-46R	5,000	0.50	1.10	1.2	0.50	1.00	1.2
S1961-46R	3,000	0.20	0.60	1.2	0.20	0.50	1.2
S1971-46R	5,000	0.30	0.60	1.2	0.30	0.50	1.2
S1981-46R	2,500	0.40	1.00	2.0	0.30	0.90	0.7
S1991-46R	2,500	0.50	1.20	1.4	0.40	1.10	0.6



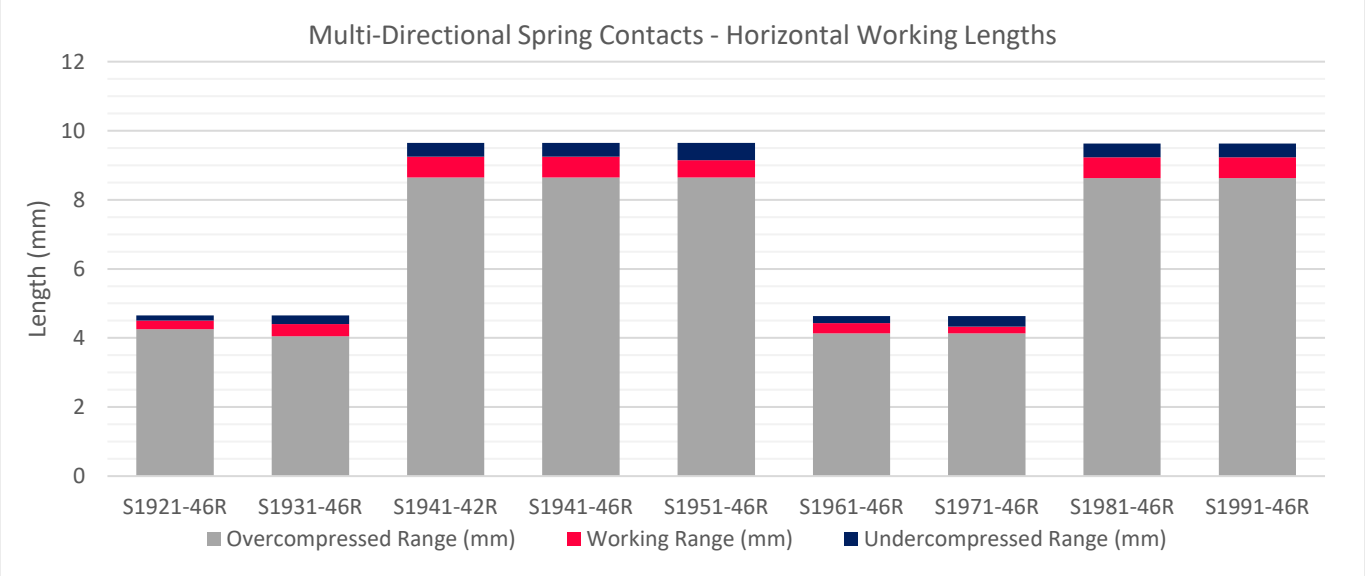


Figure 1: Vertical Compression of a Multi-Directional Spring Contact

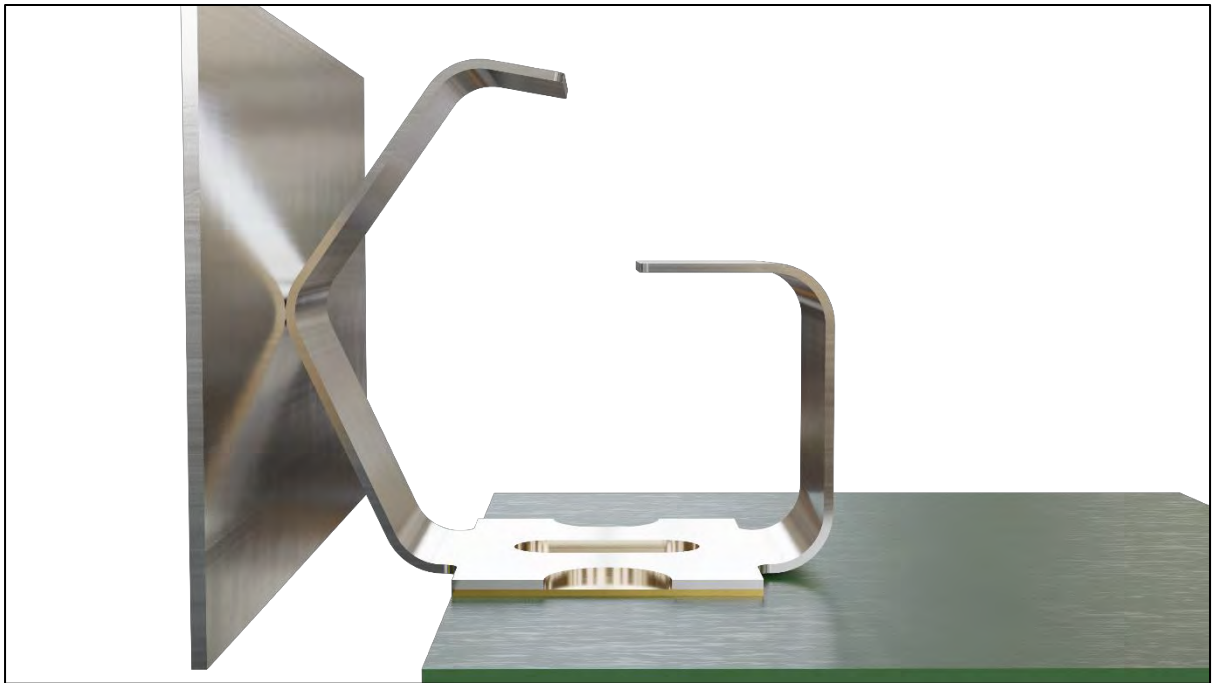


Figure 2: Horizontal Compression of a Multi-Directional Spring Contact