

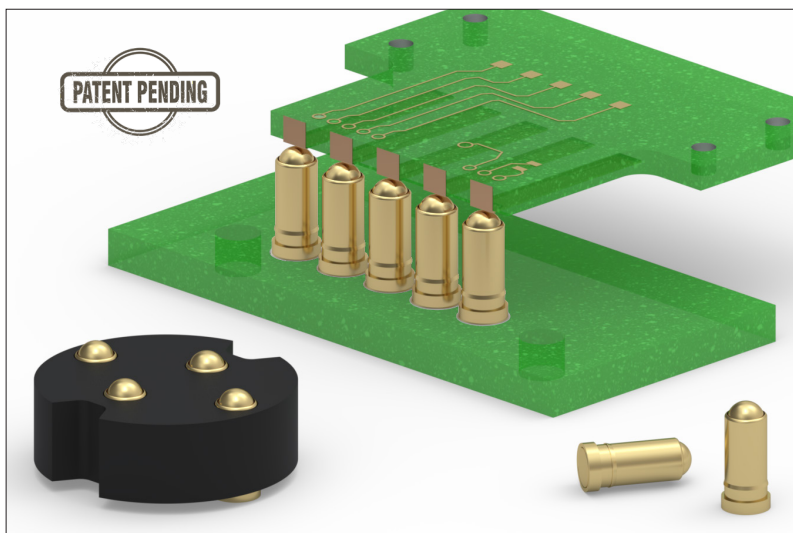
MAXIMUM SOLUTIONS

Mill-Max Rolls Out Omniball® Spring-Loaded Contacts

Spring-loaded pins specifically designed for sliding and rotational connections

Mill-Max has developed a superior interconnect product to address the challenges of making sliding or rotating connections. The unique Omniball® spring-loaded contact (patent pending) features a rolling ball interface, enabling mating components to engage in lateral, rotational and angular alignments while providing optimal electrical, mechanical and structural reliability.

The Omniball® contact (P/N: 0945-0-15-20-09-14-11-0) is a spring-loaded pin in which the traditional plunger has been replaced by a gold plated ball. It is designed to simplify and improve the connections made between



components which are mated together in a sliding or rotational motion rather than in an axial or vertical orientation. When engaged, the ball compresses and rolls, allowing the mating surfaces to make contact and then easily slide parallel to each other while spring force acts to ensure consistent electrical contact is maintained. This rolling action alleviates the concerns of connector damage such as binding, premature wearing and structural failure that may occur when using traditional plunger style spring pins in these types of applications.

Features of the Omniball® contact include: .030" (.762 mm) maximum stroke; an overall height of .266" (6.76 mm); gold plating on all components; surface mount termination. These spring-loaded pins are durable, they have been tested to 1,000,000 compression and rolling cycles at half stroke while still meeting specifications for contact resistance of 20 mili-ohms max., current rating of 3.5 amps and spring force of 55 grams at mid stroke (.015", .381 mm).

Omniball® contacts are an excellent choice for any application that involves sliding or rotating connections, such as: "twist & lock" cable connectors; smart lens camera connectors; rugged and IP rated connectors including quarter turn and threaded; as well as docking stations, quick connects and blind mating applications. These unique contacts are available as individual pins and in a 4-pin circular connector which is offered in tubes (P/N: 945-22-204-30-360101) and in tape & reel packaging (P/N: 945-22-204-30-360191). The 4-pin connector is especially well suited for round cable connector applications.

For more information, please visit www.mill-max.com/PR697.

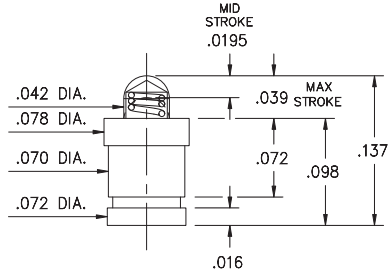
SPRING-LOADED PINS

DISCRETE SPRING-LOADED CONTACTS • SURFACE MOUNT

0910-0

0910-0-57-20-76-14-11-0

Short stroke, Surface mount
Packaged on 16mm wide carrier tape: 2,000 parts per 13" reel
See page 28.5 for Tape & Reel details

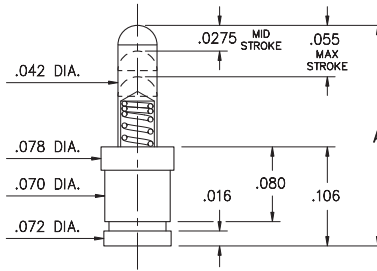


0910-1↔4

72 or 75

0910-X-57-20-7X-14-11-0

Standard stroke, Surface mount
Packaged on carrier tape. See chart for tape width & qty. per reel
See page 28.5 for Tape & Reel details



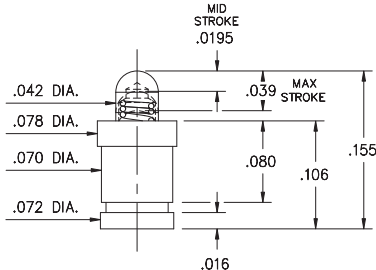
Basic Part Number	Length A
0910-1	.177
0910-2	.197
0910-3	.217
0910-4	.236

Basic Part Number	Tape Width	Quantity per Reel
0910-1	16mm	1,500
0910-2	24mm	1,100
0910-3	24mm	1,100
0910-4	24mm	1,100

0910-8

0910-8-57-20-76-14-11-0

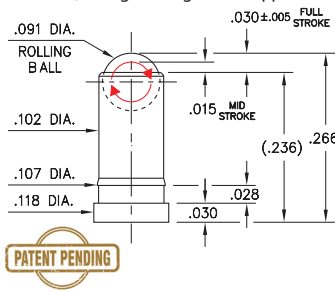
Short stroke, Surface mount
Packaged on 16mm wide carrier tape: 1,800 parts per 13" reel
See page 28.5 for Tape & Reel details



0945

0945-0-15-20-09-14-11-0

Omniball™, Surface mount
For lateral, sliding & rolling contact applications

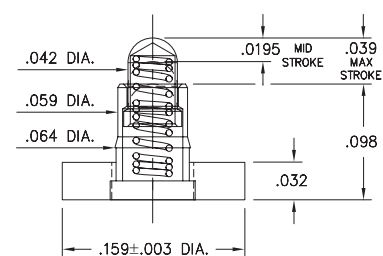


PATENT PENDING

0990-0

0990-0-50-20-76-14-11-0

Short stroke, Surface mount, Large base
Also available on 16mm wide carrier tape: 2,150 parts per 13" reel
See page 28.4 for Tape & Reel details

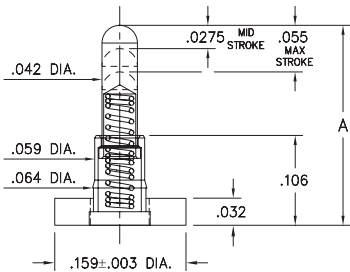


0990-1↔4

72 or 75

0990-X-50-20-7X-14-11-0

Standard stroke, Surface mount, Large base
Also available on 16mm wide carrier tape: 850 parts per 13" reel
ONLY 0990-4 currently available. See page 28.4 for Tape & Reel details



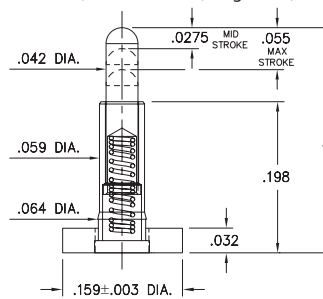
Basic Part Number	Length A
0990-1	.177
0990-2	.197
0990-3	.217
0990-4	.236

0997-0↔9

72 or 75

0997-X-50-20-7X-14-11-0

Standard stroke, Surface mount, Large base, Mid profile



Basic Part Number	Length A
0997-0	.255
0997-1	.275
0997-2	.295
0997-3	.315
0997-4	.335
0997-5	.350
0997-6	.370
0997-7	.390
0997-8	.410
0997-9	.430

Material Specifications:

Sleeve & Plunger Material: Copper Alloy
Spring Material: Beryllium Copper
Sleeve & Plunger Finish: 20 μ" Gold over Nickel
Spring Finish: 10 μ" Gold over Nickel
Dimensions: Inches
Tolerances On: Lengths: ±.006
Diameters: ±.002
Angles: ± 2°

RoHS-2
2011/65/EU

Mechanical & Electrical Specifications:

Durability: Up to 1,000,000 cycles
Current Rating: 2A continuous, 3A peak,
(09 spring): 3.5A continuous, 5A peak
Contact Resistance: 20 mΩ max.

Environmental Specifications:

Operating temperature range:
-55/+125° C (discontinuous)

09, 75, 76 Springs are not interchangeable

Order Code: XXXX - X - XX - 20 - XX - 14 - 11 - 0

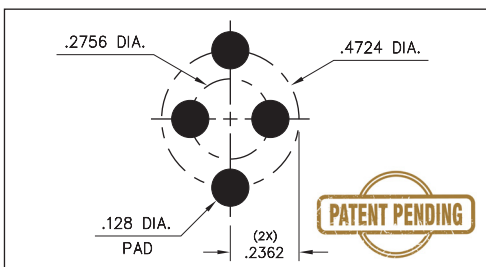
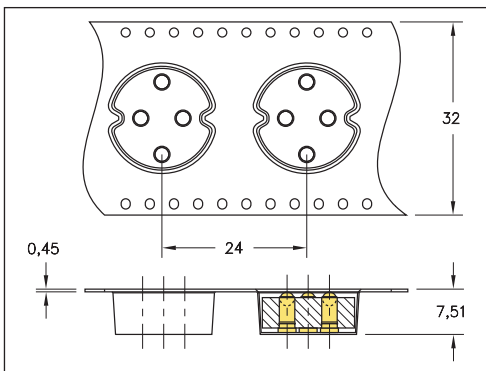
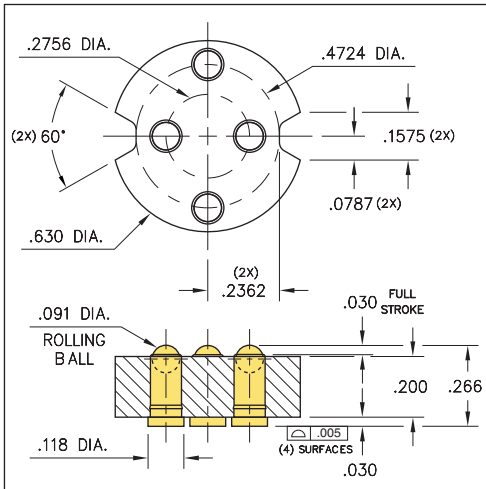
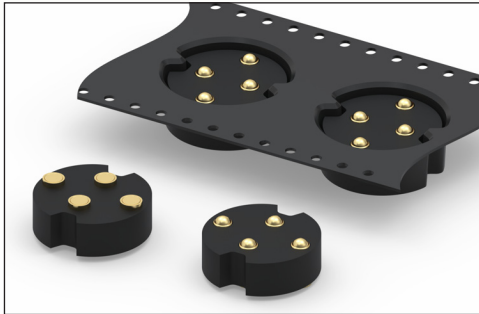
Spring Number

Spring Number	Mid. Stroke	Max. Stroke	Force @ Mid. Stroke	Initial Force (Pre-Load)
* 09	.015	.030	55 g	30 g
72	.0275	.055	35 g	15 g
75	.0275	.055	60 g	25 g
76	.0195	.039	60 g	25 g



SPRING-LOADED CONNECTORS

SERIES 945 • OMNIBALL™ CIRCULAR SPRING-LOADED CONNECTOR • SURFACE MOUNT



- These connectors utilize the unique Omniball™ spring loaded contact (patent pending), a rolling ball interface which enables mating surfaces to slide into contact with each other in blind mate or “twist & lock” applications. The Omniball™ contact pins are designed to compress and roll, supporting lateral and rotational connections, in either static or dynamic applications, while providing optimal electrical, mechanical and structural reliability
- Precision machined, gold-plated components assure durability of 100,000 – 1,000,000 compression and rolling cycles
- Pistons have a .015” mid. stroke and a .030” max. stroke
- Low resistance, high current contacts are rated at 3.5 amps continuous, 5 amps peak
- Machined Fr-4 Epoxy insulators are suitable for surface mount soldering processes
- 945 Series surface mount connectors are offered in bulk packaging for manual placement and on tape & reel for automatic pick & place assembly. The recommended pad size is .128”Ø minimum

ORDERING INFORMATION

Series 945 (Tube Packaged)

945-22-204-30-360101

Series 945 (Tape & Reel Packaged)

945-22-204-30-360191

Technical Specifications for 945 Series

Materials:

Contact ball & base: Machined copper alloy plated 20µ” gold over 100µ” nickel
 Spring: Beryllium copper-plated 10µ” gold
 Insulator: Machined Fr-4 Epoxy, rated UL94 V-0

Mechanical:

Spring force @ initial height: 30 grams
 Spring force @ mid stroke (.015”): 55 grams
 Durability: 100,000 to 1,000,000 cycles

Electrical:

Voltage rating: 100Vrms/150Vdc
 Current rating: 3.5A (continuous), 5A (peak) per contact
 Contact resistance: 20mΩ max.
 Insulation resistance: 10,000MΩ min.
 Dielectric strength: 700Vrms min.
 Capacitance: 1pF max.

RoHS - 2
2011/65/EU