



PRODUCT NUMBER: 0945-0-15-20-09-14-11-0

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DATA SHEET

0945-X-15-20-0X-14-11-0
Omniball® Spring-Loaded Pin
For lateral, sliding & rolling contact applications

OMNIBALL®
PATENT #
11,509,087 B1

Basic Part Number	Base Dia. (C)	Length (L)
0945-0	.118" [3.00]	.266" [6.76]
0945-1	.122" [3.10]	.218" [5.54]

See following slides for full dimensions and information

Units: inch (mm)
Standard Tolerances:
Lengths: ±.006 [0.152]
Diameters: ±.002 [0.051]
Angles: ±2°



General Information	
Product Family:	Discrete Spring Loaded Pins
1 Description:	Surface Mount Spring-Loaded Pin
Country of Origin:	USA
2 Product Lifecycle:	Active

Additional Parts, Packaging & Assembly	
Tail Type:	No Tail
Tail:	None
Wire Termination:	N/A
3 Operating Temperature Range:	-55/+125° C

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

Product Attributes	
Plunger Type:	OmniBall®
Plunger Diameter:	.091" (2,311mm)
Stroke:	.030" (0,762mm)
Rated Travel (Mid-Stroke):	.015" (0,381mm)
Spring Force (Initial):	30gf
Spring Force (Mid-Stroke):	55gf
Head Type:	N/A
Target Face Type:	N/A
Hole Type:	N/A
Mounting Feature:	Surface Mount
4 Shell Material:	Brass Alloy
5 Shell Plating:	20 Body/Plunger Plating - 20 μ" Gold over Nickel
Contact Number:	09 - Standard Force Beryllium Copper (Click For Graphs)
6 Contact Plate:	14 Spring Plating - 10 μ" Gold over Nickel

Key Dimensions	
Barb/Knurl Diameter:	.107" (2,718mm)
Body Diameter:	.102" (2,591mm)
Body Length:	.206" (5,232mm)
Body Tail Length:	0 - Body or Tail Length
Flange Diameter:	.118" (2,997mm)
Flange Length:	.030" (0,762mm)
Head Diameter:	N/A
Hole Depth:	N/A
Initial Height:	.266" (6,756mm)
Overall Length:	.266" (6,756mm)
Tail Diameter:	No Tail
Tail Length:	N/A

Electrical Specifications

Maximum Current:	9A @ 30° C Temp. Rise
7 Maximum Derated Current:	7.20A
Contact Resistance:	30.00mΩ Max

Mechanical Specifications

Mechanical life (Durability):	100,000 to 1,000,000 Cycles @ Mid-Stroke
8 Shock:	No Elect. Discontinuity > 1μs @ 50g
9 Vibration:	No Elect. Discontinuity > 1μs @ 10-2000HZ, 20 G

Mounting Specifications

Mounting Hole:	N/A
Mounting Hole Type:	Surface Mount
Alternate Mounting:	N/A
Alternate Mounting Hole:	N/A
SMT Pad Size:	Circular - .128"

Environmental & Export Classifications

Cage Code:	3N087
ECCN:	Contact Factory
HTSUS:	8536.90.4000
Moisture Sensitivity Level (MSL):	1 (Unlimited)
Prop 65:	N
REACH Status:	REACH Unaffected
Shelf Life:	300
Special Handling Code:	UNDF
Static Sensitive:	N

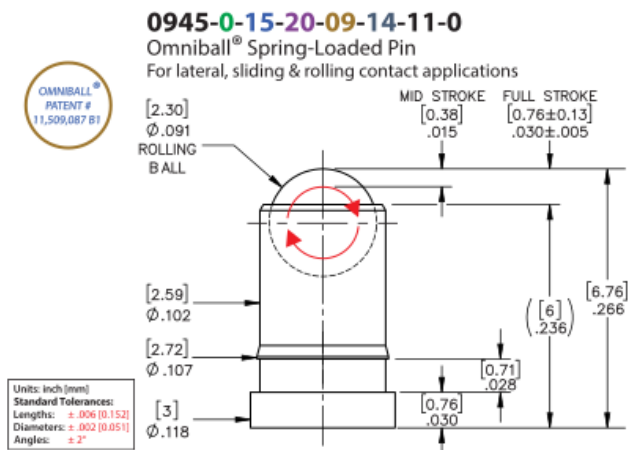
Packaging Information

Packaging:	15 - Packaged in Bulk
Packaging Options:	Packaged in Bulk
Reel Size:	N/A

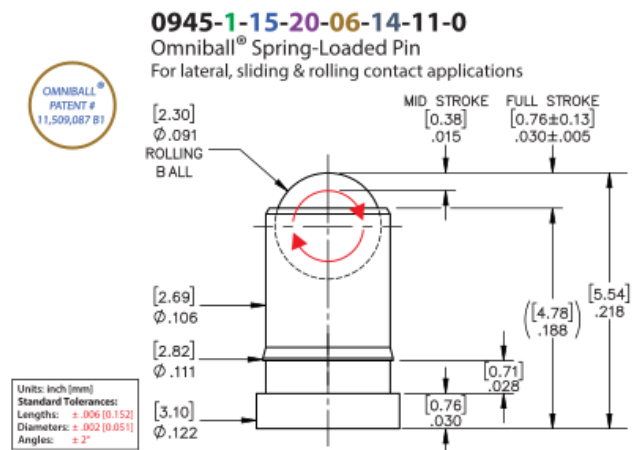
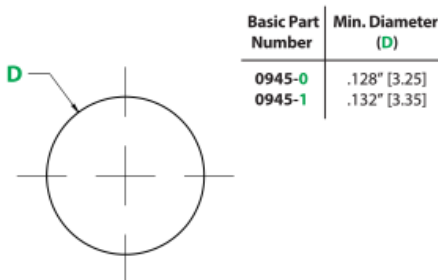
NOTES:

- Standard Tolerances:
Lengths +/- .006" (0,15)
Diameters: +/- .002" (0,051)
Angles: +/- 2°
- Part is Active and in Production, No Scheduled Obsolescence
- Storage per IEC 60512-11-(4,9,10,12) and peak operating temperature per IEC 60512-5-2, Test 5b
- Brass Alloy 360 per ASTM B 16, or 385 per ASTM B455
- GOLD per ASTM B 488, Type 1 (99.7% min. gold), Code C (130-200 HK {Knoop hardness}); NICKEL per ASTM B 689, Type 2 (Bright)
- GOLD per ASTM B 488, Type 1 (99.7% min. gold), Code C (130-200 HK {Knoop hardness}), NICKEL per ASTM B 689, Type 2 (Bright)
- Per IEC 60512-5-2; Current Carrying Capacity; Current Derating
- Per IEC 60512-6-3: Test 6c: Shock
- Per IEC 60512-6-4: Test 6d: Vibration (sinusoidal)

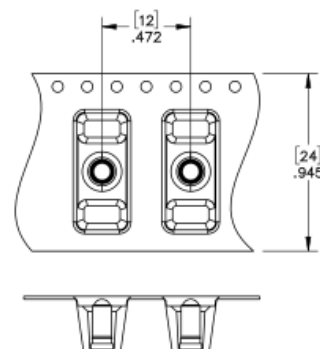
ADDITIONAL PARTS, PACKAGING & ASSEMBLY INFO



Suggested P.C.B. Footprint

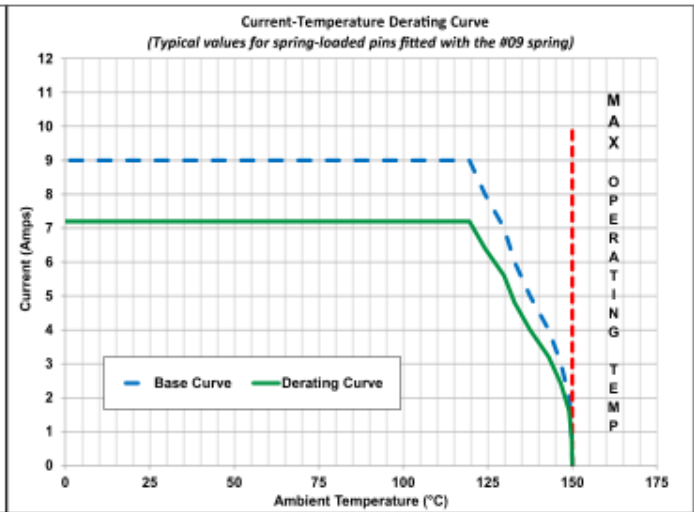
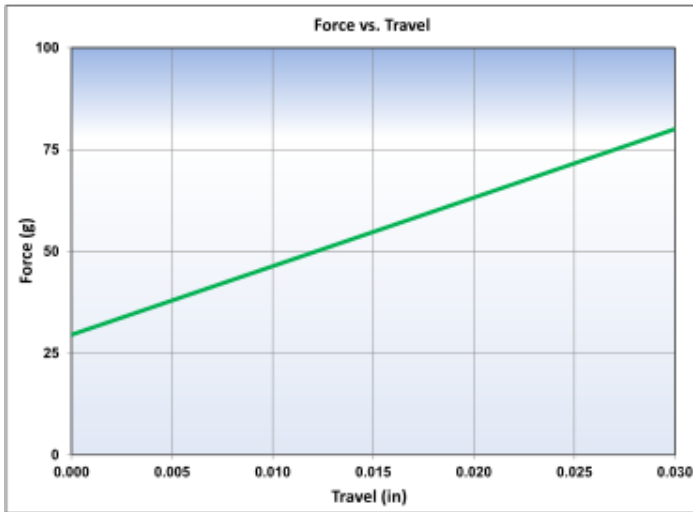


0945-0-57 Tape & Reel Details



SPRING:

#09 SPRING STANDARD FORCE SPRING	Full Stroke Capability : .030"± .005" [0,76 ± 0,127]
Spring Material : Beryllium Copper Alloy 172	Force @ Mid. Stroke : 55 g ± 10 g
Mid. Stroke : .015" [0,38]	Initial Force (Pre-Load) : 30 g



The stroke, force and current rating values are measured using spring pins with an internal construction per the design specification. Individual spring pin performance may vary from these values based on design differences.

Material	Beryllium Copper	Grams Force	55g
Max Stroke	.030" (0,762mm)	Maximum Current	9A @ 30° C Temp. Rise
Maximum Operating Temp @ Max Current	120.00° C	20% De-rated Maximum Current	7.20A
Contact Resistance	30.00mΩ Max		

ADDITIONAL NOTES AND SPECIFICATIONS

In the interest of improved design, quality and performance, Mill-Max reserves the right to make changes in its specifications without prior notice. Specifications and tolerances are provided wherever possible. The tolerance on dimensions of critical to function features is typically held tighter than the stated standard tolerances, such as press-fits, holes and lengths affecting the coplanarity of SMT products. Due to the wide variety of interconnects Mill-Max offers, the specific tolerances vary from product to product. If you need information regarding the tolerance of a particular part, please contact Technical Services.

RELATED LINKS AND DOCUMENTS

- Product Detail: [0945-0-15-20-09-14-11-0 - Surface Mount Spring-Loaded Pin](#)
- Engineering Notebook: [Introduction to Omniball® Spring-Loaded Contacts and Connectors](#)
- Environmental Compliance: <https://www.mill-max.com/rohs>