

CARD-O-PULLS™

Value-Added Options for Card-O-Pulls Series

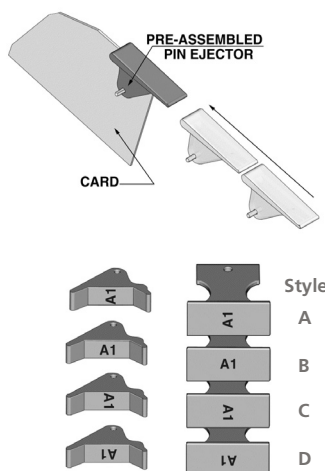
- Protect components, circuitry, connectors, PCBs and system from damage
- Designed for 1/16", 3/32" and 1/8" PCBs. Can be used in most systems
- Aids insertion and extraction of PCBs—eliminates extraction tools
- Available in locking versions
- Available with pre-assembled mounting pins



By using a simple lever action CARD-O-PULLs can eliminate your 1/16", 3/32" and 1/8" card problems by preventing undue stresses on your components, circuitry, connectors and PCBs and support system.

Locking versions are available to prevent accidental release of cards from connectors. Easy to use and install, choose from 18 standard designs which can be color coded and/or permanently marked for you.

DESC DGW. No.	Part No.	Page No.
83023-01	CP-36	30
83023-02	CP-06	29
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83023-04	CP-66	32
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83023-20W	1209-093	27
83023-21W	1209-125	27



Pre-Assembled Pin Ejectors:

All ejectors & inserter/extractors can be ordered with pre-assembled mounting pins to save assembly time and labor costs. To order, add PA as a suffix to part number, e.g. CP-06PA

Marking:

Card-O-Pulls & Inserter/Extractors can be marked numerically, alphabetically or both to code circuit boards. The hot stamping method is used and its durability is accepted by both military and commercial users. See below. Specify size 1 or 2, and marking style A, B, C or D.

Color Coding:

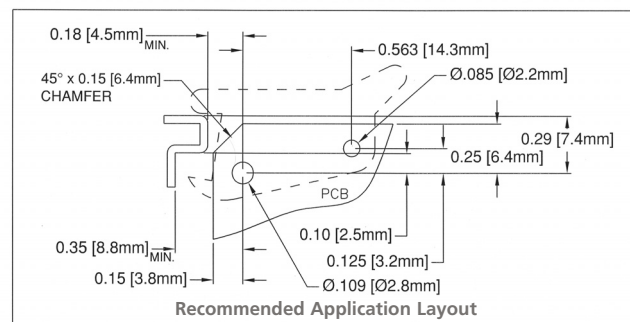
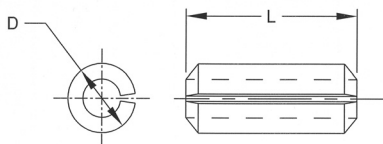
Card-O-Pulls & Inserter/ Extractors can be colored in a variety of colors to code your circuit board for quick identification.

White is standard, unless a color is specified.

RD=RED	PK=PINK	BE=BLUE
GY=GRAY	OE=ORANGE	VT=VIOLET
GN=GREEN	BN=BROWN	YW=YELLOW
AA=AQUA	LE=LIME	BK=BLACK

Spring Pin

Part No.	L	D
RP-250	1/4 (6.4)	3/32 (2.4)
RP-312	5/16 (8.0)	3/32 (2.4)
RP-375	3/8 (9.5)	1/8 (3.2)



CARD-O-PULLS™

Printed Circuit Board Inserters/Extractors

- Select from 14 standard stock styles for 1/16", 3/32" and 1/8" PCBs.
- Strong and rigid with optimum leverages to assist in both insertion and extraction
- Directly interchangeable with competitive styles; widest selection of standards
- Large areas for hot stamping
- Special colors available

1001 Series

Insert/Extractor

Material Specifications:

1001 series: 6/6 Nylon per ASTM D4066
PA111, UL Rated 94V-2

Oxygen Rating Index:

Over 28%

Color: Natural or Black

Standard Drawing Tolerances:

(unless otherwise indicated)

Fractions: $\pm 1/64$ (0.4)

.X = ± 0.10 (2.5)

.XX = ± 0.01 (0.25)

.XXX = ± 0.005 (0.13)

Note: Passivated Stainless Steel Spring Pins per MIL-P-10971 furnished with each Ejector or Inserter/Extractor.

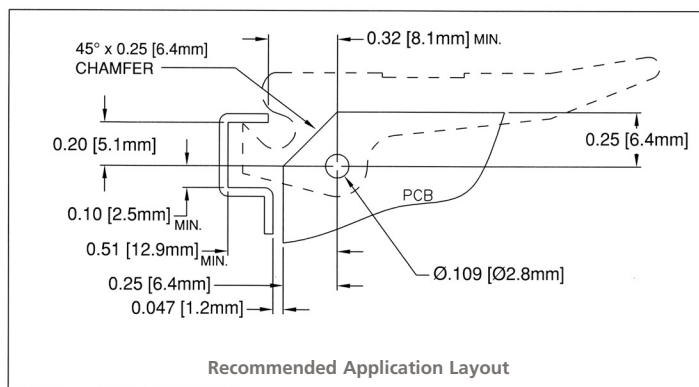
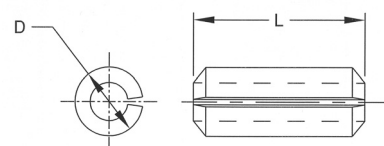
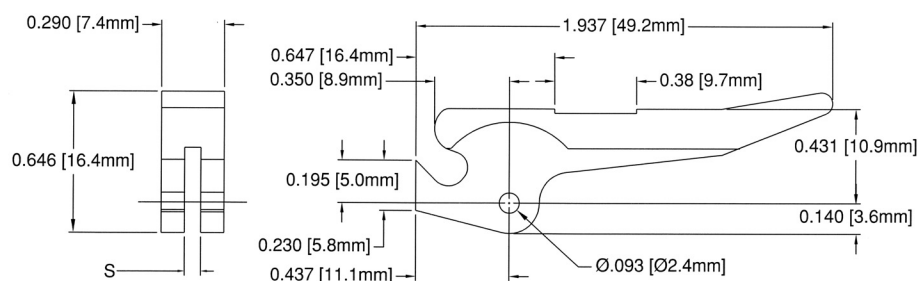


Part No.	S	PWB
1001-062	.075 (1.9)	.062 (1.6)
1002-093	.100 (2.5)	.093 (2.4)
1003-125	.140 (3.6)	.125 (3.2)

Furnished with Spring Pins RP-250

Spring Pin

Part No.	L	D
RP-250	1/4 (6.4)	3/32 (2.4)
RP-312	5/16 (8.0)	3/32 (2.4)
RP-375	3/8 (9.5)	1/8 (3.2)



Recommended Application Layout

CARD-O-PULLS™

Printed Circuit Board Inserters/Extractors

- Select from 14 standard stock styles for $\frac{1}{16}$ ", $\frac{3}{32}$ " and $\frac{1}{8}$ " PCBs.
- Strong and rigid with optimum leverages to assist in both insertion and extraction
- Directly interchangeable with competitive styles; widest selection of standards
- Large areas for hot stamping
- Special colors available



1107 Series

Inserter/Extractor

Material Specifications:

1107 series: 30% glass filled Nylon per ASTM D4066 PA111 G30F04, UL Rated 94V-0

Oxygen Rating Index:

Over 28%

Color: Natural (Off White) or Black

Standard Drawing Tolerances:

(unless otherwise indicated)

Fractions: $\pm 1/64$ (0.4)

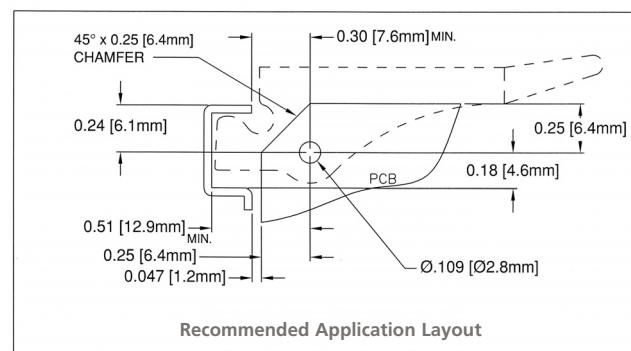
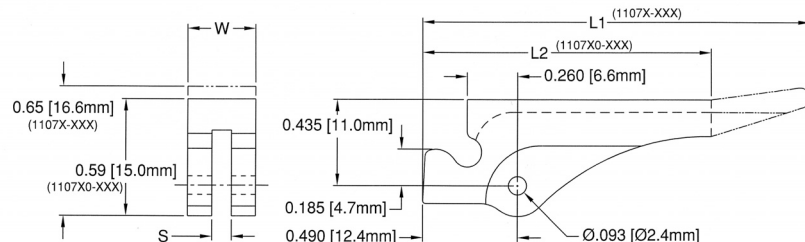
.X = ± 0.10 (2.5)

.XX = ± 0.01 (0.25)

.XXX = ± 0.005 (0.13)

Note: Passivated Stainless Steel Spring Pins per MIL-P-10971 furnished with each Ejector or Inserter/Extractor.

Part No.	S	W	L1	L2	PCB	Roll Pin	DESC
1107-062	.075 (1.9)	.290 (7.4)	2.0 (50.8)	-	.062 (1.6)	RP-250	83023-09
11073-062	.075 (1.9)	.350 (8.9)	2.0 (50.8)	-	.062 (1.6)	RP-312	-
11073-093	.100 (2.5)	.350 (8.9)	2.0 (50.8)	-	.093 (2.4)	RP-312	-
11073-125	.140 (3.6)	.350 (8.9)	2.0 (50.8)	-	.125 (3.2)	RP-312	83023-10
110710-062	.075 (1.9)	.290 (7.4)	-	1.5 (38.1)	.062 (1.6)	RP-250	83023-11
1107310-062	.075 (1.9)	.350 (8.9)	-	1.5 (38.1)	.062 (1.6)	RP-312	-
1107310-093	.100 (2.5)	.350 (8.9)	-	1.5 (38.1)	.093 (2.4)	RP-312	-
1107310-125	.140 (3.6)	.350 (8.9)	-	1.5 (38.1)	.125 (3.2)	RP-312	-

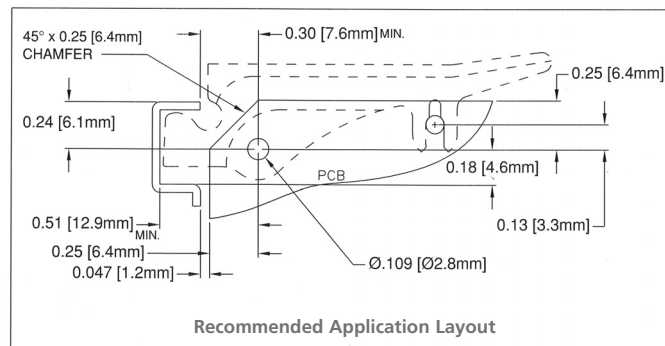
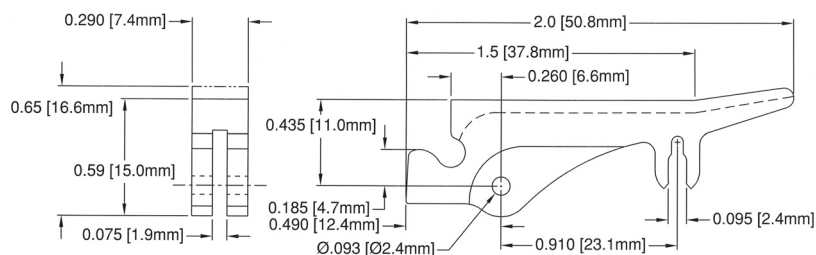


LP-1107 Series

Inserter/Extractor

LP-1107 BK	Black
LP-1107 NT	Natural

Furnished with Spring Pins RP-250



CARD-O-PULLS™

Printed Circuit Board Inserters/Extractors

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- Strong and rigid with optimum leverages to assist in both insertion and extraction
- Directly interchangeable with competitive styles; widest selection of standards
- Large areas for hot stamping
- Special colors available

1209 Series

Insert/Extractor

Material Specifications:

1209 series: 6/6 Nylon per ASTM D4066
PA111, UL Rated 94V-2

Oxygen Rating Index:

Over 28%

Color: Natural (Off White) or Black

Standard Drawing Tolerances:

(unless otherwise indicated)

Fractions: $\pm 1/64$ (0.4)
.X = ± 0.10 (2.5)
.XX = ± 0.01 (0.25)
.XXX = ± 0.005 (0.13)

Note: Passivated Stainless Steel Spring Pins per MIL-P-10971 furnished with each Ejector or Insert/Extractor.

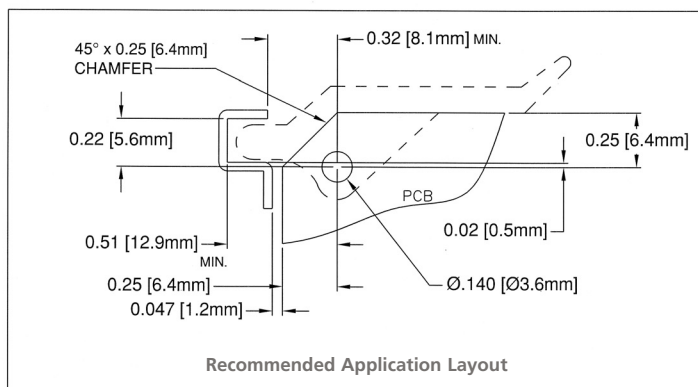
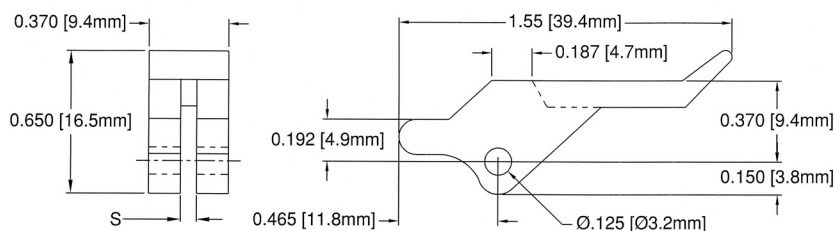
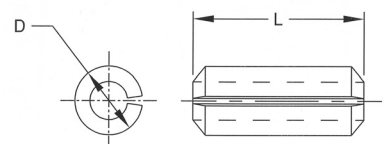


Part No.	S	PCB	DESC
1209-062	.075 (1.9)	.062 (1.6)	83023-19W
1209-093	.100 (2.5)	.093 (2.4)	83023-20W
1209-125	.140 (3.6)	.125 (3.2)	83023-21W

Furnished with Spring Pins RP-375

Spring Pin

Part No.	L	D
RP-250	1/4 (6.4)	3/32 (2.4)
RP-312	5/16 (8.0)	3/32 (2.4)
RP-375	3/8 (9.5)	1/8 (3.2)



Recommended Application Layout

CARD-O-PULLS™

Printed Circuit Board Card Ejectors & Handles

45°

Ø .032 [Ø0.8mm]
TYP.

Ø .025 [Ø0.6mm]

0.100 [2.5mm]
TYP.

0.250 [6.4mm]
TYP.

0.050 [1.3mm]
TYP.



Material Specifications:

White Nylon, per ASTM D 4066 PA111
U.L. Rated 94V-2

Oxygen Rating Index:

Over 28%

Standard Drawing Tolerances:

(unless otherwise indicated)

Fractions: $\pm 1/64$ (0.4)

.X = ± 0.10 (2.5)

.XX = ± 0.01 (0.25)

.XXX = ± 0.005 (0.13)

Ordering Information:

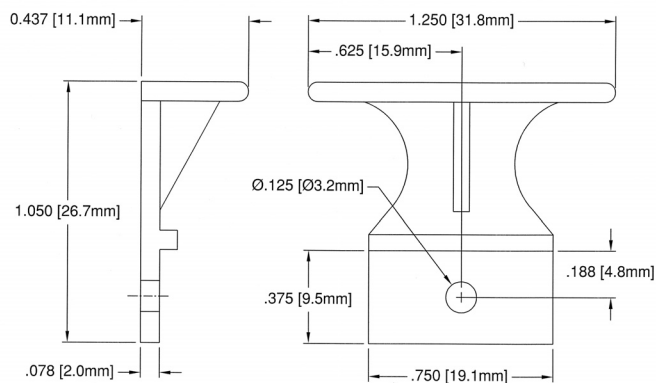
CP-XX GN

Color (WE for White)

Base Part

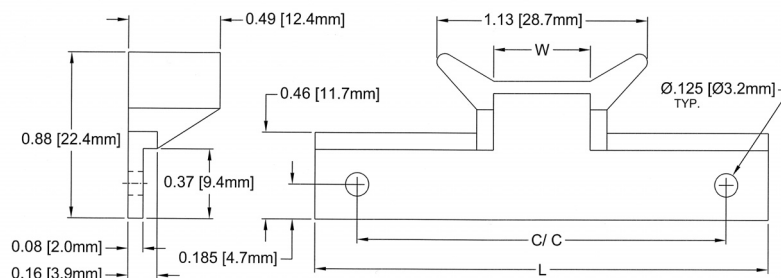
CP-00 Series

No pin WE for white or specify color



CP-01, 02 Series

No pins WE for white or specify color



Printed Circuit Board Card Ejectors & Handles

Material Specifications:

White Nylon, per ASTM D 4066 PA111
U.L. Rated 94V-2

Oxygen Rating Index:

Over 28%

Ordering Information:

CP-XX GN PA

- Pre-Assembled Pin
- Color (WE for White)
- Base Part

Standard Drawing Tolerances:

(unless otherwise indicated)

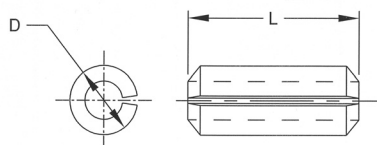
Fractions: $\pm 1/64$ (0.4)

$$.X = \pm 0.10 \text{ (2.5)}$$
$$.XX = \pm 0.01 \text{ (0.25)}$$
$$.XXX = \pm 0.005 (0.13)$$

Note: Passivated Stainless Steel Spring Pins per MIL-P-10971 furnished with each Ejector or Insert/Extractor.



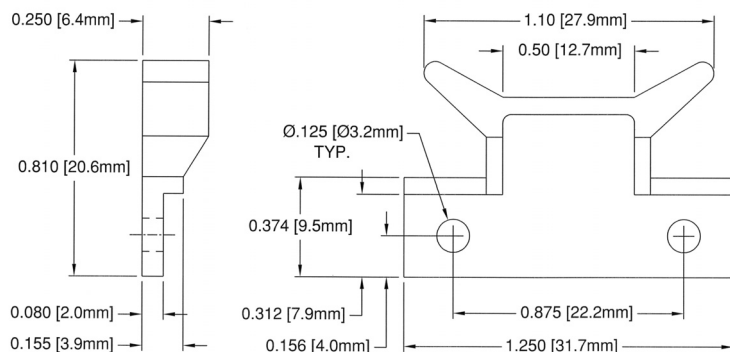
Spring Pin



Part No.	L	D
RP-250	1/4 (6.4)	3/32 (2.4)
RP-312	5/16 (8.0)	3/32 (2.4)
RP-375	3/8 (9.5)	1/8 (3.2)

CP-03 Series

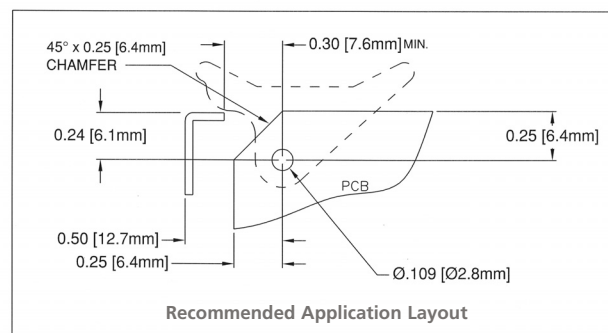
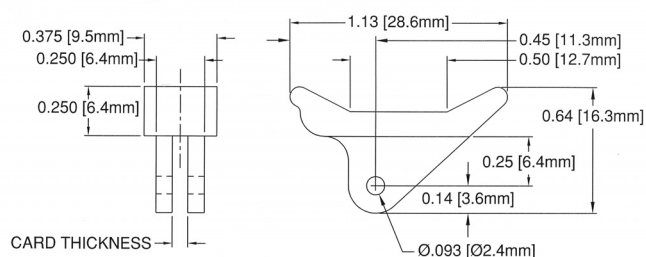
No pin WE for white or specify color



CP-06, 09 Series

RP-250 Pin. WE for white or specify color

Part No.	Card Thick
CP-06	1/16 (1.6)
CP-09	3/32 (2.4)

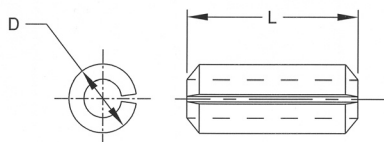


CARD-O-PULLS™

Printed Circuit Board Card Ejectors & Handles

Spring Pin

Part No.	L	D
RP-250	1/4 (6.4)	3/32 (2.4)
RP-312	5/16 (8.0)	3/32 (2.4)
RP-375	3/8 (9.5)	1/8 (3.2)



Material Specifications:

White Nylon, per ASTM D 4066 PA111
U.L. Rated 94V-2

Oxygen Rating Index:

Over 28%

Note: Passivated Stainless Steel Spring Pins per MIL-P-10971 furnished with each Ejector or Inserter/Extractor.

Standard Drawing Tolerances:

(unless otherwise indicated)

Fractions: $\pm 1/64$ (0.4)

.X = ± 0.10 (2.5)

.XX = ± 0.01 (0.25)

.XXX = ± 0.005 (0.13)

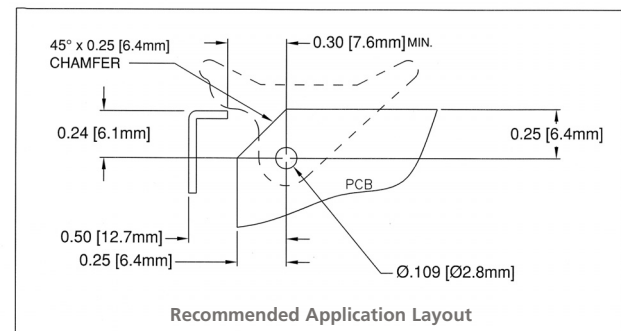
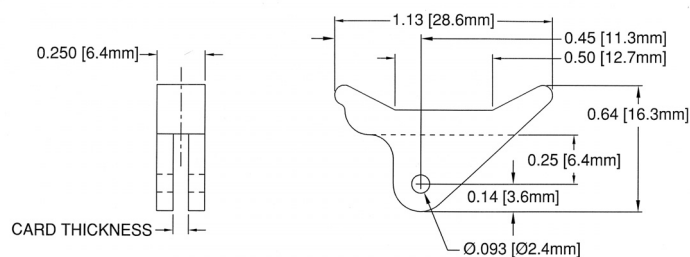
Ordering Information:

CP-XX GN PA
Pre-Assembled Pin
Color (WE for White)
Base Part

CP-26, 29 Series

RP-250 Pin. WE for white or specify color

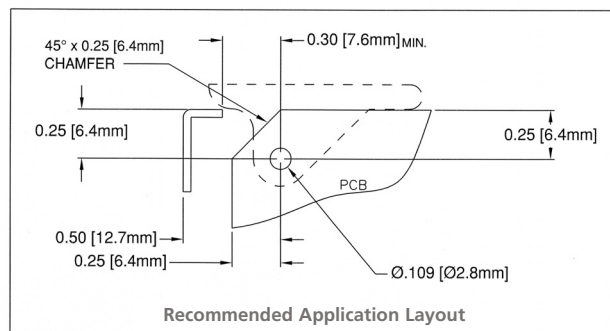
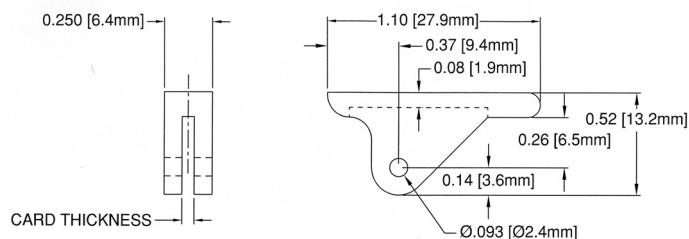
Part No.	Card Thick
CP-26	1/16 (1.6)
CP-29	3/32 (2.4)



CP-36, 39 Series

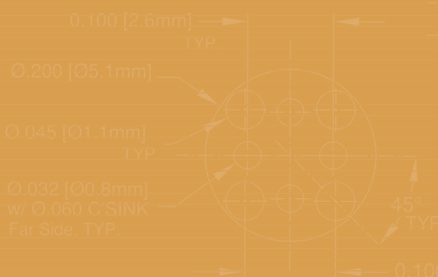
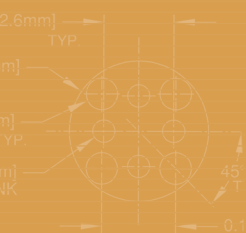
RP-250 Pin. WE for white or specify color

Part No.	Card Thick
CP-36	1/16 (1.6)
CP-39	3/32 (2.4)



CARD-O-PULLS™

Printed Circuit Board Card Ejectors & Handles



Material Specifications:

White Nylon, per ASTM D 4066 PA111
U.L. Rated 94V-2

Oxygen Rating Index:

Over 28%

Ordering Information:

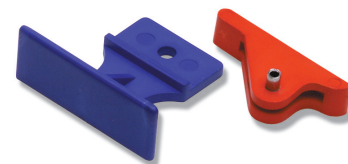
CP-XX GN PA
Pre-Assembled Pin
Color (WE for White)
Base Part

Standard Drawing Tolerances:

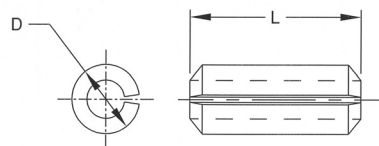
(unless otherwise indicated)

Fractions: $\pm 1/64$ (0.4)
.X = ± 0.10 (2.5)
.XX = ± 0.01 (0.25)
.XXX = ± 0.005 (0.13)

Note: Passivated Stainless Steel Spring Pins per MIL-P-10971 furnished with each Ejector or Insertor/Extractor.



Spring Pin

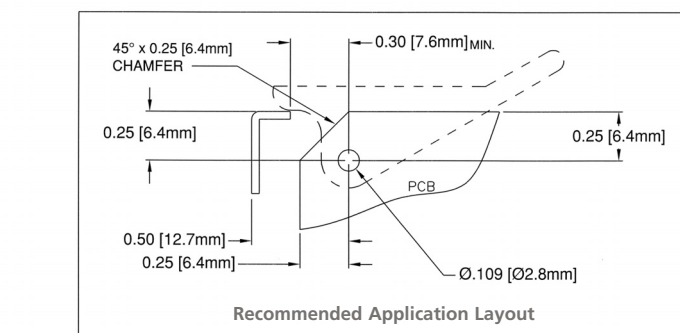
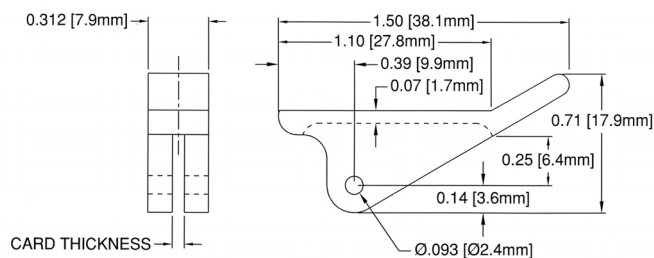


Part No.	L	D
RP-250	1/4 (6.4)	3/32 (2.4)
RP-312	5/16 (8.0)	3/32 (2.4)
RP-375	3/8 (9.5)	1/8 (3.2)

CP-46, 49, 413 Series

RP-312 Pin. WE for white or specify color

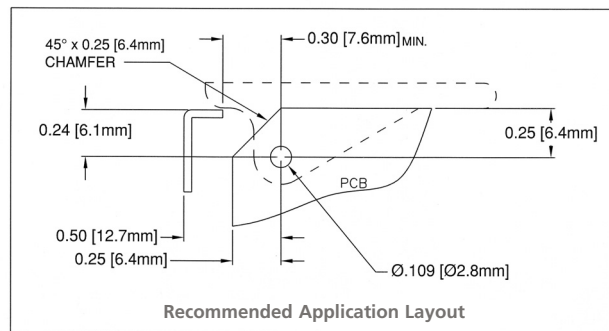
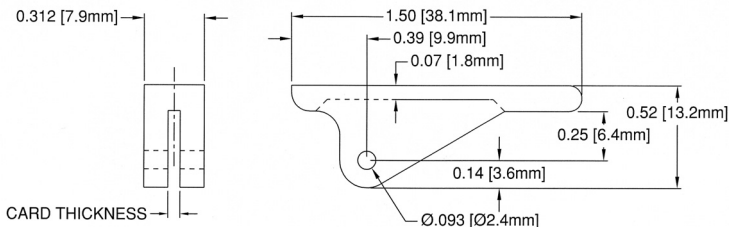
Part No.	Card Thick
CP-46	1/16 (1.6)
CP-49	3/32 (2.4)
CP-413	1/8 (3.2)



CP-56, 59, 513 Series

RP-312 Pin. WE for white or specify color

Part No.	Card Thick
CP-56	1/16 (1.6)
CP-59	3/32 (2.4)
CP-513	1/8 (3.2)

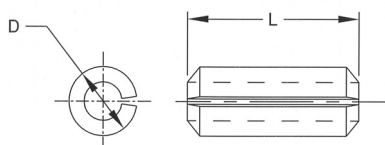


CARD-O-PULLS™

Printed Circuit Board Card Ejectors & Handles

Spring Pin

Part No.	L	D
RP-250	1/4 (6.4)	3/32 (2.4)
RP-312	5/16 (8.0)	3/32 (2.4)
RP-375	3/8 (9.5)	1/8 (3.2)



Material Specifications:

White Nylon, per ASTM D 4066 PA111
U.L. Rated 94V-2

Oxygen Rating Index:

Over 28%

Note: Passivated Stainless Steel Spring Pins per MIL-P-10971 furnished with each Ejector or Inserter/Extractor.

Standard Drawing Tolerances:

(unless otherwise indicated)

Fractions: $\pm 1/64$ (0.4)

.X = ± 0.10 (2.5)

.XX = ± 0.01 (0.25)

.XXX = ± 0.005 (0.13)

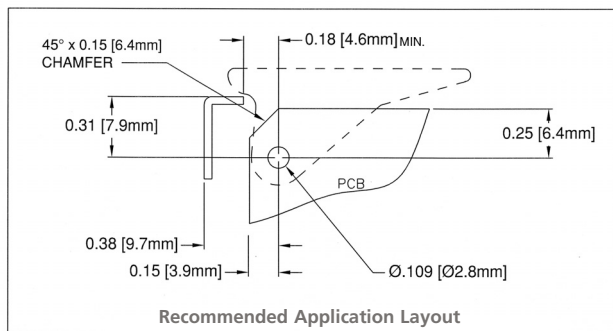
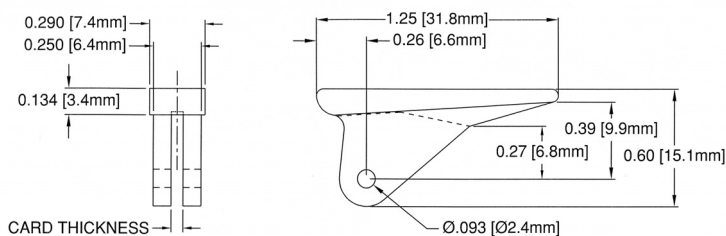
Ordering Information:

CP-XX GN PA
Pre-Assembled Pin
Color (WE for White)
Base Part

CP-66, 69 Series

RP-250 Pin. WE for white or specify color

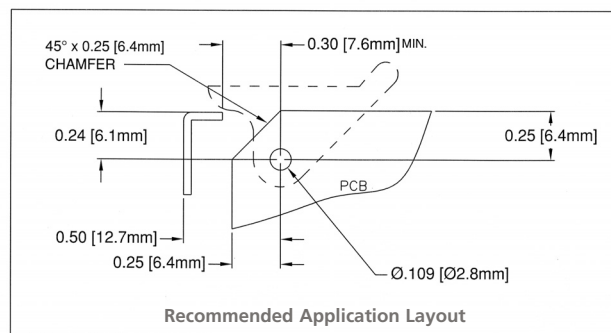
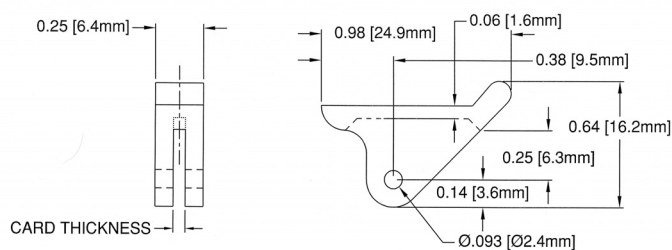
Part No.	Card Thick
CP-66	1/16 (1.6)
CP-69	3/32 (2.4)



CP-86, 89 Series

RP-250 Pin. WE for white or specify color

Part No.	Card Thick
CP-86	1/16 (1.6)
CP-89	3/32 (2.4)



CARD-O-PULLS™

Printed Circuit Board Card Ejectors & Handles

Material Specifications:

White Nylon, per ASTM D 4066 PA111
U.L. Rated 94V-2

Oxygen Rating Index:

Over 28%

Ordering Information:

CP-XX GN PA
Pre-Assembled Pin
Color (WE for White)
Base Part

Standard Drawing Tolerances:

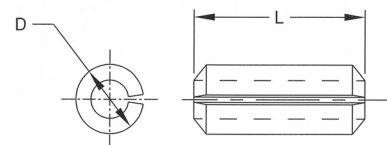
(unless otherwise indicated)

Fractions: $\pm 1/64$ (0.4)
.X = ± 0.10 (2.5)
.XX = ± 0.01 (0.25)
.XXX = ± 0.005 (0.13)

Note: Passivated Stainless Steel Spring Pins per MIL-P-10971 furnished with each Ejector or Insert/Extractor.

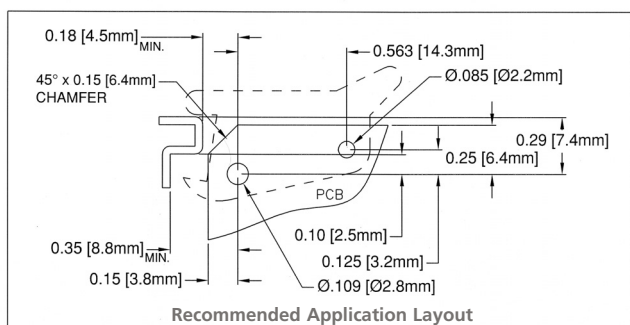
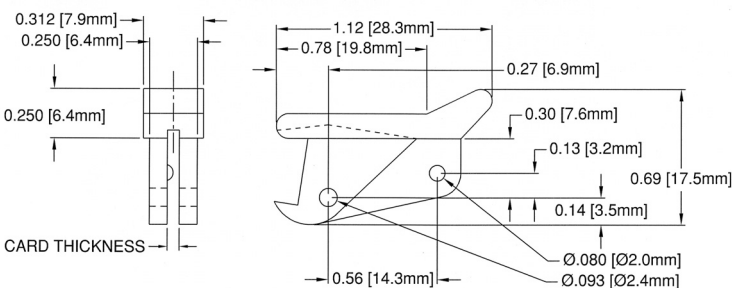
Spring Pin

Part No.	L	D
RP-250	1/4 (6.4)	3/32 (2.4)
RP-312	5/16 (8.0)	3/32 (2.4)
RP-375	3/8 (9.5)	1/8 (3.2)



LP-06 Series

RP-250 Pin. WE for white or specify color



LP-36 Series

RP-250 Pin. WE for white or specify color

