

Features

- 72 V rated
- Radial leaded devices
- Cured, flame retardant epoxy polymer insulating material meets UL 94V-0 requirements
- RoHS compliant*
- Agency recognition:

Applications

- Almost anywhere there is a low voltage power supply, up to 72 V and a load to be protected, including:
- Security and fire alarm systems
 - Loudspeakers
 - Power transformers

PRCP-RX/72 Series - Polymer Resettable Circuit Protectors

Electrical Characteristics

| Model | V max. Volts | I max. Amps | I _{hold} | I _{trip} | Initial Resistance | | 1 Hour (R ₁) Post-Trip Resistance | Max. Time To Trip | | Tripped Power Dissipation |
|---------------|-----------------|----------------|-------------------|-------------------|--------------------|------|--|-------------------|------------------|---------------------------|
| | | | Amperes at 23 °C | | Ohms at 23 °C | | Ohms at 23 °C | Amperes at 23 °C | Seconds at 23 °C | Watts at 23 °C |
| | | | Hold | Trip | Min. | Max. | Max. | | | Typ. |
| PRCP-RX020/72 | 72 | 40 | 0.20 | 0.40 | 1.50 | 2.84 | 4.40 | 1.0 | 2.2 | 0.40 |
| PRCP-RX025/72 | 72 | 40 | 0.25 | 0.50 | 1.00 | 1.95 | 3.00 | 1.25 | 2.5 | 0.45 |
| PRCP-RX030/72 | 72 | 40 | 0.30 | 0.60 | 0.76 | 1.36 | 2.10 | 1.5 | 3.0 | 0.50 |
| PRCP-RX040/72 | 72 | 40 | 0.40 | 0.80 | 0.52 | 0.86 | 1.29 | 2.0 | 3.9 | 0.55 |
| PRCP-RX050/72 | 72 | 40 | 0.50 | 1.00 | 0.41 | 0.77 | 1.17 | 2.5 | 4.0 | 0.75 |
| PRCP-RX065/72 | 72 | 40 | 0.65 | 1.30 | 0.27 | 0.48 | 0.72 | 3.25 | 5.3 | 0.90 |
| PRCP-RX075/72 | 72 | 40 | 0.75 | 1.50 | 0.18 | 0.40 | 0.60 | 3.75 | 6.3 | 0.90 |
| PRCP-RX090/72 | 72 | 40 | 0.90 | 1.80 | 0.14 | 0.31 | 0.47 | 4.5 | 7.2 | 1.00 |
| PRCP-RX110/72 | 72 | 40 | 1.10 | 2.20 | 0.15 | 0.25 | 0.38 | 5.5 | 8.2 | 1.50 |
| PRCP-RX135/72 | 72 | 40 | 1.35 | 2.70 | 0.12 | 0.19 | 0.30 | 6.75 | 9.6 | 1.70 |
| PRCP-RX160/72 | 72 | 40 | 1.60 | 3.20 | 0.09 | 0.14 | 0.22 | 8.0 | 11.4 | 1.90 |
| PRCP-RX185/72 | 72 | 40 | 1.85 | 3.70 | 0.08 | 0.12 | 0.19 | 9.25 | 12.6 | 2.10 |
| PRCP-RX250/72 | 72 | 40 | 2.50 | 5.00 | 0.05 | 0.08 | 0.13 | 12.5 | 15.6 | 2.50 |
| PRCP-RX300/72 | 72 | 40 | 3.00 | 6.00 | 0.04 | 0.06 | 0.10 | 15.0 | 19.8 | 2.80 |
| PRCP-RX375/72 | 72 | 40 | 3.75 | 7.50 | 0.03 | 0.05 | 0.08 | 18.75 | 24.0 | 3.20 |

Environmental Characteristics

Operating/Storage Temperature-40 °C to +85 °C
 Maximum Device Surface Temperature
 in Tripped State125 °C
 Passive Aging.....+85 °C, 1000 hours±5 % typical resistance change
 Humidity Aging.....+85 °C, 85 % R.H. 1000 hours±5 % typical resistance change
 Thermal Shock.....+85 °C to -55 °C, 10 times±10 % typical resistance change
 Solvent ResistanceMIL-STD-202, Method 215No change
 Vibration.....MIL-STD-883C, Method 2007.1,No change
 Condition A

Test Procedures And Requirements For Model PRCP-RX/72 Series

| Test | Test Conditions | Accept/Reject Criteria |
|-----------------------------|---|---|
| Visual/Mech. | Verify dimensions and materials | Per PRCP physical description |
| Resistance | In still air @ 23 °C | R _{min} ≤ R ≤ R _{max} |
| Time to Trip | .5 times I _{hold} , V _{max} , 23 °C | T ≤ max. time to trip (seconds) |
| Hold Current | .30 min. at I _{hold} | No trip |
| Trip Cycle Life | V _{max} , I _{max} , 100 cycles | No arcing or burning |
| Trip Endurance..... | V _{max} , 48 hours | No arcing or burning |
| | | |
| UL File Number | E300792 | |
| CSA File Number | CA1730526 | |
| TÜV Certificate Number..... | R 50075506 | |

* RoHS Directive 2002/95/EC Jan 27 2003 including Annex
 Specifications are subject to change without notice.
 Customers should verify actual device performance in their specific applications.

Additional Features

- Resettable circuit protection
- Bulk packaging, tape and reel available on most models

PRCP-RX/72 Series - Polymer Resettable Circuit Protectors **COPAL ELECTRONICS**

Product Dimensions

| Model | A | B | C | | D | E | Physical Characteristics | | |
|---------------|------------------|-----------------|-----------------|----------------|----------------|----------------|--------------------------|-------------------|----------|
| | Max. Min. | Max. Min. | Nom. Min. | Tol. ± Min. | Min. Min. | Max. Min. | Style | Lead Dia. Min. | Material |
| PRCP-RX020/72 | 7.4 0.291 | 12.7 0.5 | 5.1 0.201 | 0.7 0.028 | 7.6 0.299 | 3.1 0.122 | 1 | 0.51 0.020 | Sn/CuFe |
| PRCP-RX025/72 | 7.4 0.291 | 12.7 0.5 | 5.1 0.201 | 0.7 0.028 | 7.6 0.299 | 3.1 0.122 | 1 | 0.51 0.020 | Sn/CuFe |
| PRCP-RX030/72 | 7.4 0.291 | 13.4 0.528 | 5.1 0.201 | 0.7 0.028 | 7.6 0.299 | 3.1 0.122 | 1 | 0.51 0.020 | Sn/CuFe |
| PRCP-RX040/72 | 7.40 0.291 | 13.7 0.539 | 5.1 0.201 | 0.7 0.028 | 7.6 0.299 | 3.1 0.122 | 1 | 0.51 0.020 | Sn/CuFe |
| PRCP-RX050/72 | 7.9 0.311 | 13.7 0.539 | 5.1 0.201 | 0.7 0.028 | 7.6 0.299 | 3.1 0.122 | 1 | 0.51 0.020 | Sn/Cu |
| PRCP-RX065/72 | 9.7 0.382 | 15.2 0.598 | 5.1 0.201 | 0.7 0.028 | 7.6 0.299 | 3.1 0.122 | 1 | 0.51 0.020 | Sn/Cu |
| PRCP-RX075/72 | 10.4 0.409 | 16.0 0.630 | 5.1 0.201 | 0.7 0.028 | 7.6 0.299 | 3.1 0.122 | 1 | 0.51 0.020 | Sn/Cu |
| PRCP-RX090/72 | 11.7 0.461 | 16.70 0.657 | 5.1 0.201 | 0.7 0.028 | 7.6 0.299 | 3.1 0.122 | 1 | 0.51 0.020 | Sn/Cu |
| PRCP-RX110/72 | 10.84 (0.427) | 16.8 (0.663) | 5.1 (0.201) | 0.7 (0.028) | 7.6 (0.299) | 3.1 (0.122) | 2 | 0.81 (0.032) | Sn/Cu |
| PRCP-RX135/72 | 12.26 (0.483) | 18.3 (0.720) | 5.1 (0.201) | 0.7 (0.028) | 7.6 (0.299) | 3.1 (0.122) | 2 | 0.81 (0.032) | Sn/Cu |
| PRCP-RX160/72 | 13.94 (0.549) | 19.9 (0.785) | 5.1 (0.201) | 0.7 (0.028) | 7.6 (0.299) | 3.1 (0.122) | 2 | 0.81 (0.032) | Sn/Cu |
| PRCP-RX185/72 | 15.18 (0.598) | 21.2 (0.834) | 5.1 (0.201) | 0.7 (0.028) | 7.6 (0.299) | 3.1 (0.122) | 2 | 0.81 (0.032) | Sn/Cu |
| PRCP-RX250/72 | 17.84 (0.702) | 23.8 (0.939) | 10.2 (0.402) | 0.7 (0.028) | 7.6 (0.299) | 3.1 (0.122) | 2 | 0.81 (0.032) | Sn/Cu |
| PRCP-RX300/72 | 20.67 (0.814) | 26.7 (1.050) | 10.2 (0.402) | 0.7 (0.028) | 7.6 (0.299) | 3.1 (0.122) | 2 | 0.81 (0.032) | Sn/Cu |
| PRCP-RX375/72 | 23.51 (0.926) | 29.6 (1.162) | 10.2 (0.402) | 0.7 (0.028) | 7.6 (0.299) | 3.1 (0.122) | 2 | 0.81 (0.032) | Sn/Cu |

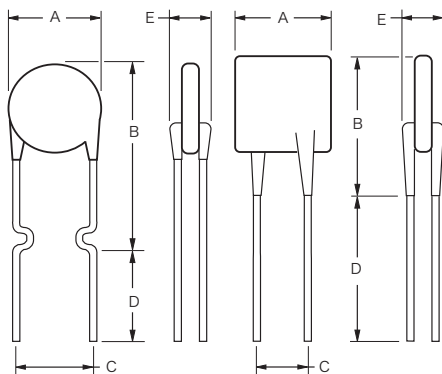
Packaging options:
BULK: 500 pcs. per bag.

DIMENSIONS = $\frac{\text{MM}}{\text{(INCHES)}}$

TAPE & REEL: PRCP-RX020/72-2 ~ PRCP-RX090/72-2 = 3000 pcs. per reel; PRCP-RX110/72-2 ~ PRCP-RX160/72-2 = 1500 pcs. per reel; PRCP-RX185/72-2 - PRCP-RX375/72-2 = 1000 pcs. per reel.

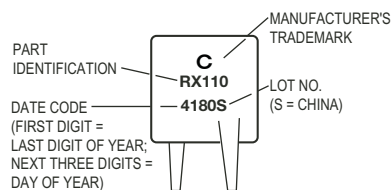
Style 1

Style 2



Typical Part Marking

Represents total content. Layout may vary.



How to Order

PRCP - RX 110/72 - 2

Product Designator **PRCP - RX 110/72 - 2**

Series **RX** = Radial Leaded Component

Hold Current, I_{hold} **020-375** (0.20 Amps - 3.75 Amps)

Maximum Voltage, V_{max} **72** (72 Volts)

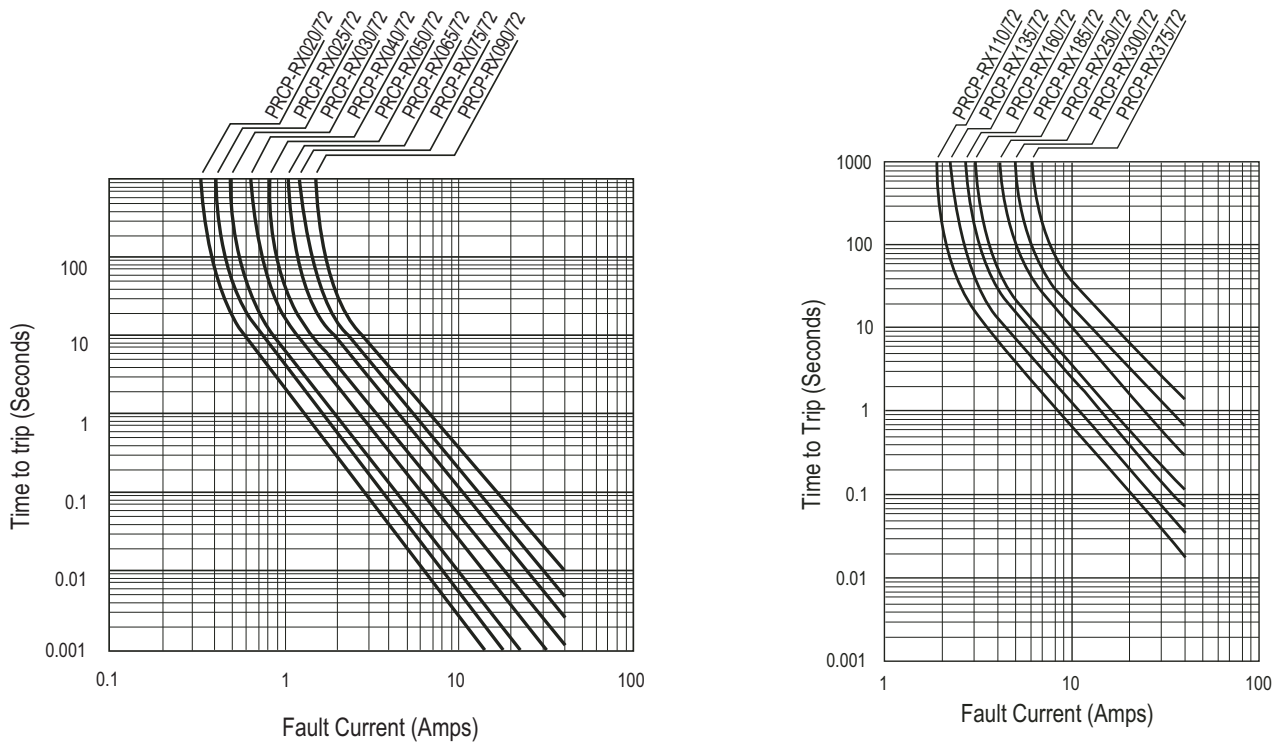
Packaging Options **- 0 = Bulk Packaging**
- 2 = Tape and Reel*

*Packaged per EIA 486-B

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

PRCP-RX/72 Series - Polymer Resettable Circuit Protectors **COPAL ELECTRONICS**

Typical Time to Trip at 23 °C



The Time to Trip curves represent typical performance of a device in a simulated application environment. Actual performance in specific customer applications may differ from these values due to the influence of other variables.

Thermal Derating Chart - I_{hold} (Amps)

| Model | Ambient Operating Temperature | | | | | | | | |
|---------------|-------------------------------|--------|------|-------|-------|-------|-------|-------|-------|
| | -40 °C | -20 °C | 0 °C | 23 °C | 40 °C | 50 °C | 60 °C | 70 °C | 85 °C |
| PRCP-RX020/72 | 0.31 | 0.27 | 0.24 | 0.20 | 0.16 | 0.14 | 0.13 | 0.11 | 0.08 |
| PRCP-RX025/72 | 0.39 | 0.34 | 0.30 | 0.25 | 0.20 | 0.18 | 0.16 | 0.14 | 0.10 |
| PRCP-RX030/72 | 0.47 | 0.41 | 0.36 | 0.30 | 0.24 | 0.22 | 0.19 | 0.16 | 0.12 |
| PRCP-RX040/72 | 0.62 | 0.54 | 0.48 | 0.40 | 0.32 | 0.29 | 0.25 | 0.22 | 0.16 |
| PRCP-RX050/72 | 0.78 | 0.68 | 0.60 | 0.50 | 0.41 | 0.36 | 0.32 | 0.27 | 0.20 |
| PRCP-RX065/72 | 1.01 | 0.88 | 0.77 | 0.65 | 0.53 | 0.47 | 0.41 | 0.35 | 0.26 |
| PRCP-RX075/72 | 1.16 | 1.02 | 0.89 | 0.75 | 0.61 | 0.54 | 0.47 | 0.41 | 0.30 |
| PRCP-RX090/72 | 1.40 | 1.22 | 1.07 | 0.90 | 0.73 | 0.65 | 0.57 | 0.49 | 0.36 |
| PRCP-RX110/72 | 1.71 | 1.50 | 1.31 | 1.10 | 0.89 | 0.79 | 0.69 | 0.59 | 0.44 |
| PRCP-RX135/72 | 2.09 | 1.84 | 1.61 | 1.35 | 1.09 | 0.97 | 0.85 | 0.73 | 0.54 |
| PRCP-RX160/72 | 2.48 | 2.18 | 1.90 | 1.60 | 1.30 | 1.15 | 1.01 | 0.86 | 0.64 |
| PRCP-RX185/72 | 2.87 | 2.52 | 2.20 | 1.85 | 1.50 | 1.33 | 1.17 | 1.00 | 0.74 |
| PRCP-RX250/72 | 3.88 | 3.40 | 2.98 | 2.50 | 2.03 | 1.80 | 1.58 | 1.35 | 1.00 |
| PRCP-RX300/72 | 4.65 | 4.08 | 3.57 | 3.00 | 2.43 | 2.16 | 1.89 | 1.62 | 1.20 |
| PRCP-RX375/72 | 5.81 | 5.10 | 4.46 | 3.75 | 3.04 | 2.70 | 2.36 | 2.03 | 1.50 |

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PRCP-RX/72 Series Tape and Reel Specifications

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Devices taped using EIA468-B/IEC286-2 standards. See table below and Figures 1 and 2 for details.

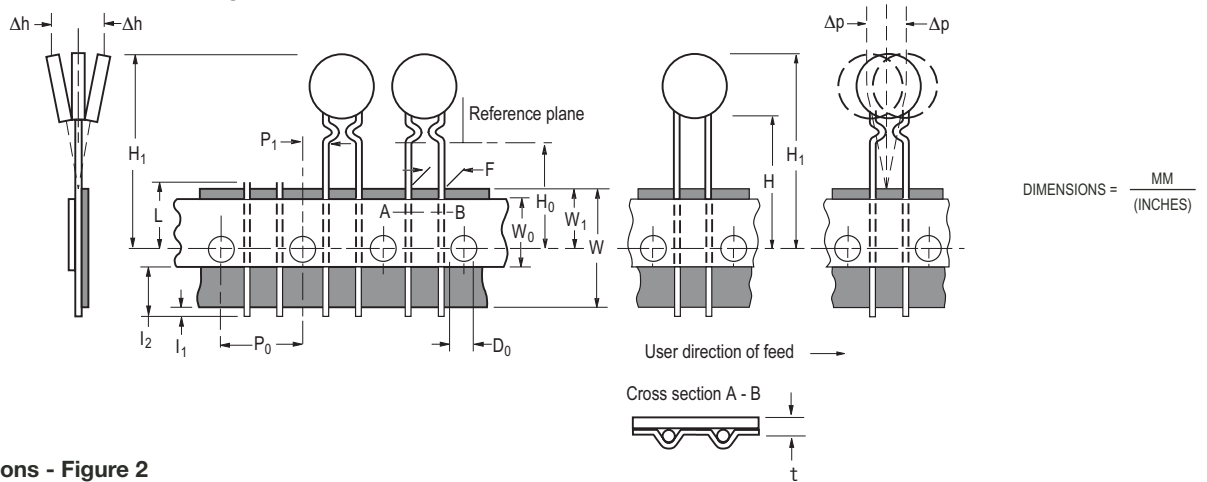
| Dimension Description | IEC Mark | EIA Mark | Dimensions | |
|--|------------|------------|------------------------|------------------------------------|
| | | | Dimensions | Tolerance |
| Carrier tape width | W | W | $\frac{18}{(.709)}$ | $\frac{-0.5/+1.0}{(-0.02/+0.03)}$ |
| Hold down tape width: | W_0 | W_4 | $\frac{11}{(.433)}$ | min. |
| Hold down tape | | | No protrusion | |
| Top distance between tape edges | W_2 | W_6 | $\frac{3}{(.118)}$ | max. |
| Sprocket hole position | W_1 | W_5 | $\frac{9}{(.354)}$ | $\frac{-0.5/+0.75}{(-0.02/+0.03)}$ |
| Sprocket hole diameter | D_0 | D_0 | $\frac{4}{(.157)}$ | $\frac{\pm 0.2}{(\pm .0078)}$ |
| Abscissa to plane (straight lead) | H | H | $\frac{18.5}{(.728)}$ | $\frac{\pm 3.0}{(\pm .118)}$ |
| Abscissa to plane (kinked lead) | H_0 | H_0 | $\frac{16}{(.63)}$ | $\frac{\pm 0.5}{(\pm .02)}$ |
| Abscissa to top (straight lead) | H_1 | H_1 | $\frac{38.0}{(1.496)}$ | max. |
| Abscissa to top (kinked lead) | H_1 | H_1 | $\frac{32.2}{(1.268)}$ | max. |
| Overall width w/lead protrusion (straight lead) | | C_1 | $\frac{55.0}{(2.165)}$ | max. |
| Overall width w/lead protrusion (kinked lead) | | C_1 | $\frac{43.2}{(1.7)}$ | max. |
| Overall width w/o lead protrusion (straight lead) | | C_2 | $\frac{54.0}{(2.126)}$ | max. |
| Overall width w/o lead protrusion (kinked lead) | | C_2 | $\frac{42.5}{(1.673)}$ | max. |
| Lead protrusion | l_1 | L_1 | $\frac{1.0}{(.039)}$ | max. |
| Protrusion of cutout | L | L | $\frac{11}{(.433)}$ | max. |
| Protrusion beyond hold tape | l_2 | l_2 | Not specified | |
| Sprocket hole pitch | P_0 | P_0 | $\frac{12.7}{(0.5)}$ | $\frac{\pm 0.3}{(\pm .012)}$ |
| Pitch tolerance | | | 20 consecutive | $\frac{\pm 1}{(\pm .039)}$ |
| Device pitch: PRCP-RX020/72-PRCP-RX185/72 | | | $\frac{12.7}{(0.5)}$ | $\frac{\pm 0.3}{(\pm .012)}$ |
| Device pitch: PRCP-RX250/72-PRCP-RX375/72 | | | $\frac{25.4}{(1.0)}$ | $\frac{\pm 0.6}{(\pm .024)}$ |
| Tape thickness | t | t | $\frac{0.9}{(.035)}$ | max. |
| Tape thickness with splice: PRCP-RX020/72-PRCP-RX185/72 | | t_1 | $\frac{1.5}{(.059)}$ | max. |
| Tape thickness with splice: PRCP-RX250/72-PRCP-RX375/72 | | t_1 | $\frac{2.3}{(.091)}$ | max. |
| Splice sprocket hole alignment | | | 0 | $\frac{\pm 0.3}{(\pm .012)}$ |
| Body lateral deviation | Δh | Δh | 0 | $\frac{\pm 1.0}{(\pm .039)}$ |
| Body tape plane deviation | Δp | Δp | 0 | $\frac{\pm 1.3}{(\pm .051)}$ |
| Lead spacing | F | F | $\frac{5.08}{(0.2)}$ | $\frac{\pm 0.2}{(\pm .008)}$ |
| Reel width | w | W_2 | $\frac{56}{(2.205)}$ | max. |
| Reel diameter | d | a | $\frac{370}{(14.57)}$ | max. |
| Space between flanges less device | W_1 | h | $\frac{4.75}{(.187)}$ | $\frac{\pm 3.25}{(\pm .128)}$ |

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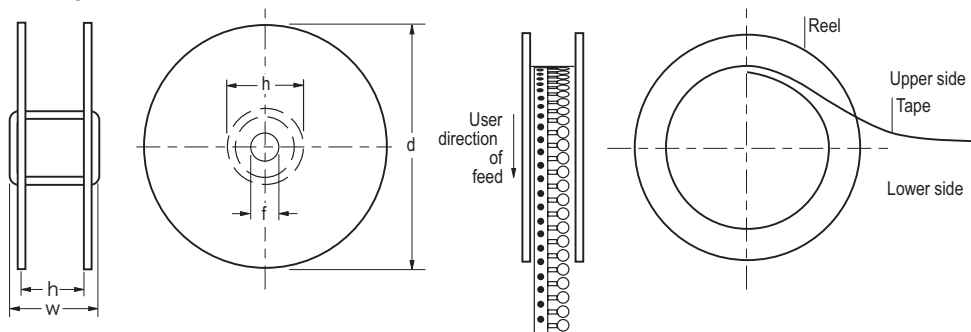
DIMENSIONS = $\frac{\text{MM}}{\text{(INCHES)}}$

| Dimension Description | IEC Mark | EIA Mark | Dimensions | |
|----------------------------|----------|----------|--|-------------------------------|
| | | | Dimensions | Tolerance |
| Arbor hole diameter | <i>f</i> | <i>c</i> | $\frac{26}{(1.024)}$ | $\frac{\pm 12.0}{(\pm .472)}$ |
| Core diameter | <i>h</i> | <i>n</i> | $\frac{80}{(3.15)}$ | max. |
| Box | | | $\frac{56}{(2.2)}$ $\frac{372}{(14.6)}$ $\frac{372}{(14.6)}$ | max. |
| Consecutive missing places | | | 3 | max. |
| Empty places per reel | | | Not specified | |

Taped Component Dimensions - Figure 1



Reel Dimensions - Figure 2



Revision History

| Date | Rev. | Reason |
|------------|------|----------------------------------|
| 12/20/2005 | A | Initial issue |
| 03/13/2006 | B | Updated TÜV File Number |
| 03/30/2006 | C | Updated UL, CSA File Number |
| 12/21/2007 | D | Added RX020/72 to RX090/72 model |

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Revision : D
Issue date : 12/21/07

PRCP-RX/72 SERIES

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