

PMC-1401S

Standard Reed Switch for automated assembly

Features

- small size
- minimum height above PCB
- suitable for automated assembly
- Tape & Reel packaging

Applications

- cellular phones
- portable PC
- automotive applications
- electro medical devices
- industrial equipment
- miniature sensors
- speedometers
- position detection

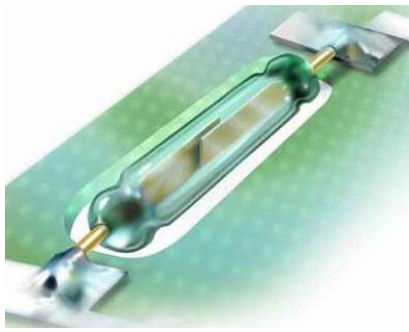
Description

Subminiature size, more than 1 billion reliable operations at dry or low level circuits, no supply voltage and zero power consumption makes the PMC-1401S the ideal switching component for all battery powered devices such as flip-phones, notebooks etc.

It comes in standard T&R packaging for fully automated assembly. This and its most favourable pricing structure provides the perfect economical alternative to Hall IC-switches.

Absolute maximum ratings

| Parameter | Symbol | Value | Unit |
|--------------------------------------|------------------|-------|-------|
| Contact rating | P _s | 10 | W |
| | | 10 | VA |
| Switching current | I _s | 1000 | mA |
| Carry current | I _c | 1200 | mA |
| Switching voltage | U _s | 200 | VDC |
| | | 140 | VAC |
| Breakdown voltage | U _{bd} | 240 | VDC |
| Shock (1/2 sin 11 ms) | | 100 | g |
| Vibration (50-2000 Hz) | | 20 | g |
| Ambient temperature | T _{amb} | +155 | °C |
| Soldering temperature (max. 10 sec.) | T _{sol} | +300 | °C |
| Temperature gradient | ΔT / t | 10 | K / s |



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Electrical Characteristics

@ 25°C

| | |
|--------------------|----|
| Contact form (ASA) | A |
| Contact material | Ru |

| Parameter | Symbol | Value | | | Unit |
|-------------------------------------|-------------------|------------------|--------------------|------|------|
| | | Min. | Typ. | Max. | |
| Contact rating | P _s | 0 | | 10 | W |
| | | 0 | | 10 | VA |
| Switching voltage | V _s | 0 | | 200 | VDC |
| | | 0 | | 140 | VAC |
| Switching current | I _s | 0 | | 1000 | mA |
| Carry current | I _c | 0 | | 1200 | mA |
| Static contact resistance (initial) | CR _s | 60 | 80 | 100 | mΩ |
| Dynamic contact resistance | CR _{dyn} | 80 | 100 | 200 | mΩ |
| Insulation resistance | R _i | 10 ¹⁰ | 7*10 ¹⁰ | | Ω |
| Breakdown voltage | V _{bd} | 240 | | | VDC |
| Operate time (incl. bounce) | T _{op} | | | 1.0 | ms |
| Release time | T _{rel} | | | 0.4 | ms |
| Capacitance | C | | 0.5 | | pF |

Environmental Characteristics

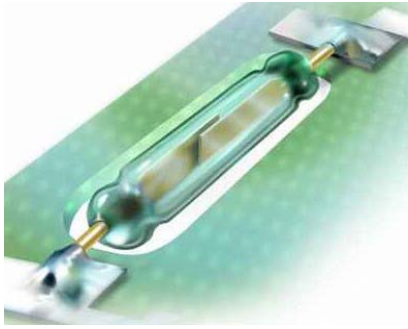
@ 25°C

| Parameter | Symbol | Value | | | Unit |
|--------------------------------|------------------|-------|------|--------------------|-----------------------------------|
| | | Min. | Typ. | Max. | |
| Shock (1/2 sin 11 ms) | | | | 100 | g |
| Vibration (50-2000 Hz) | | | | 20 | g |
| Storage temperature | T _{stg} | -60 | | +155 | °C |
| Operating temperature | T _{op} | -60 | | +155 | °C |
| Soldering temperature | T _{sol} | | | +300 | °C |
| Electro magnetic compatibility | E _{max} | | | 300 | V/m |
| | H _{max} | | | 10 | A/m |
| Hermeticity | | | | 2*10 ⁻⁸ | m ³ Pa s ⁻¹ |
| Lead tensile strength | | 4.0 | | | kg |

Magnetical Characteristics of unmodified switch measured in TC-014

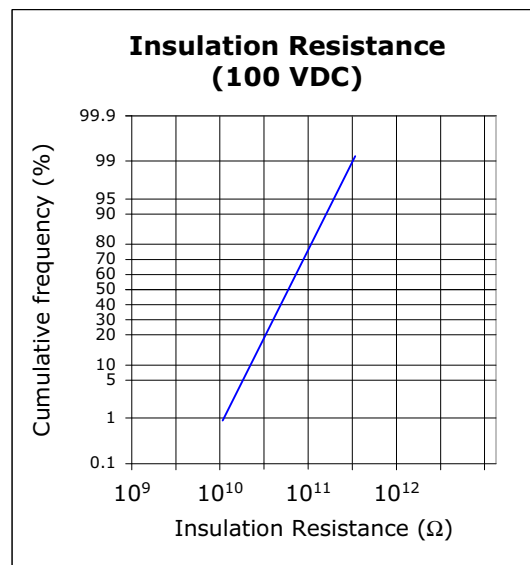
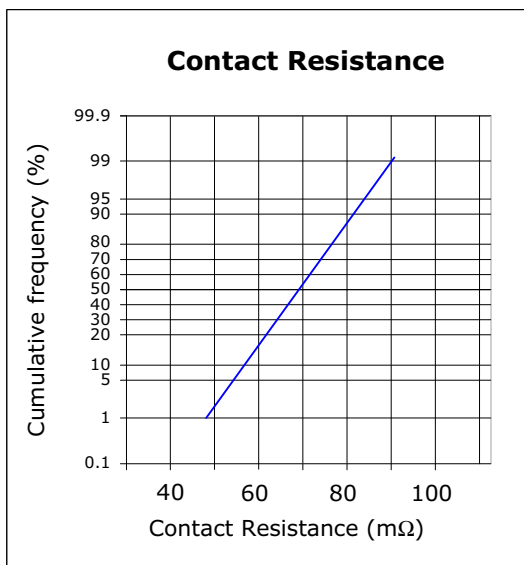
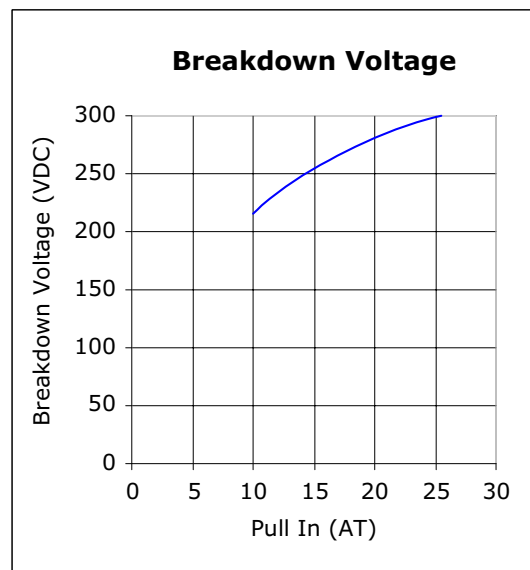
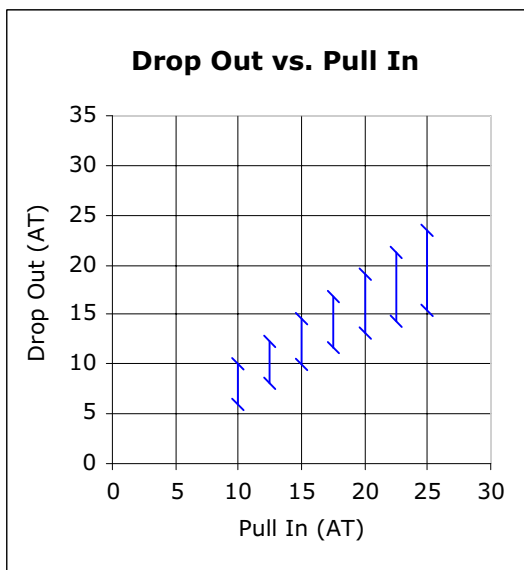
@ 25°C

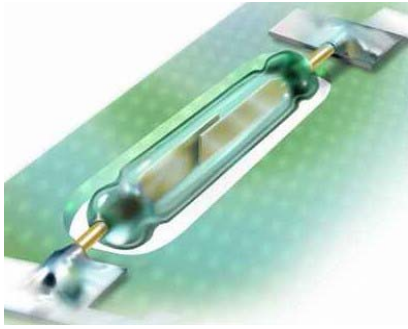
| Parameter | Symbol | Value | | | Unit |
|-------------------------|--------|-------|------|------|------|
| | | Min. | Typ. | Max. | |
| Pull in range available | PI | 10.0 | | 25 | AT |
| Drop out | DO | 5.0 | | 20 | AT |
| Hysteresis | PI-DO | | 6.0 | | AT |



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Graphs

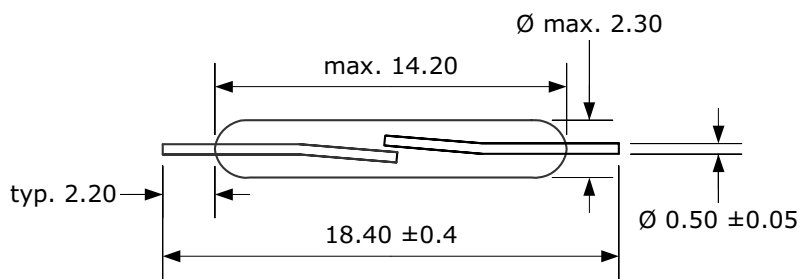




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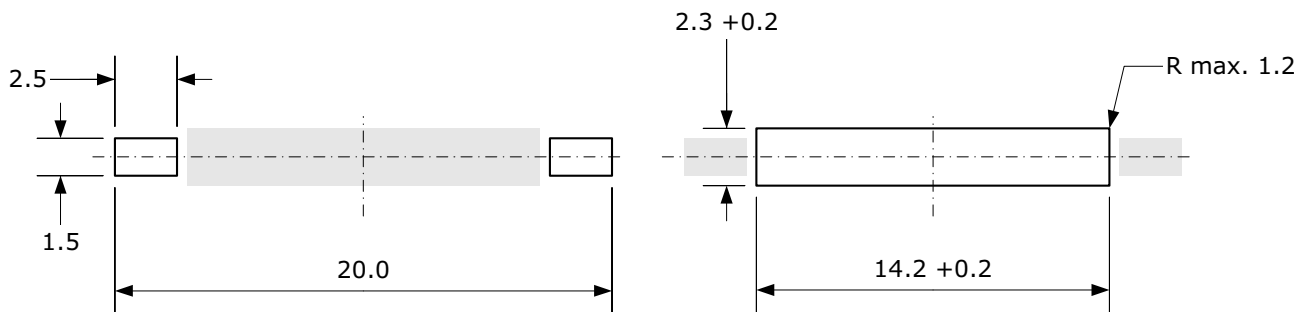
Dimensions

in mm



Recommended PCB layout

in mm

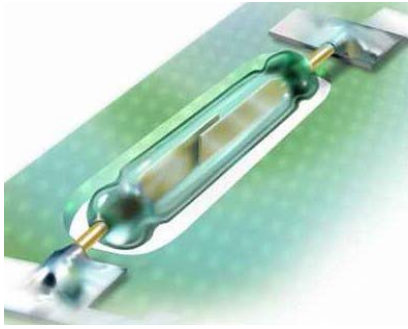


Pad sizes

PCB cutout

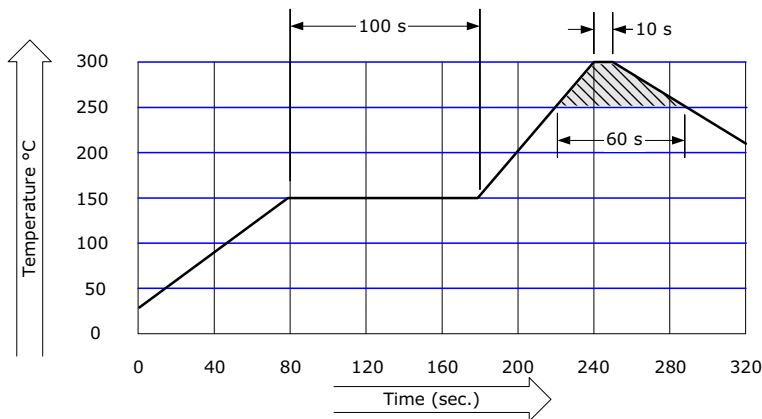


Final assembly position



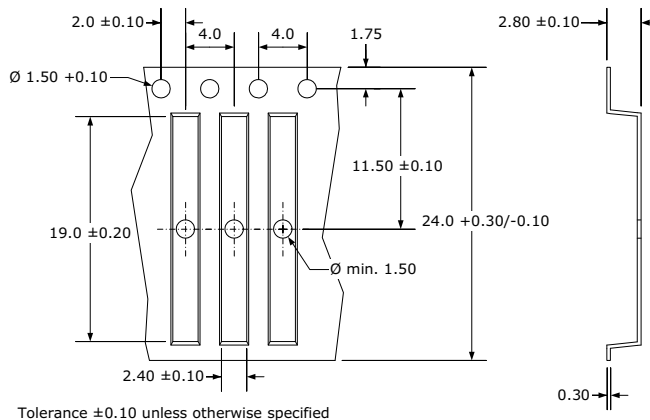
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Soldering Information



Tape

in mm



Ordering Information

| Type | AT Range (measured in TC-014 at original length of 44.0mm) |
|-----------|--|
| PMC-1401S | 1015 (10 to 15 AT) 1520 (15 to 20 AT) 2025 (20 to 25 AT) |

Ordering example: **PMC-1401S1520** describes PMC-1401S (15 to 20 AT).
Packing unit 5,000 pcs. per 13"-Reel.

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