



# PCH series

## 5 Amp Miniature 1 Form C Power PC Board Relay

Air Conditioners, Refrigerators, Microwave Ovens

UL File No. E82292

CSA File No. LR48471

VDE File No. 119568

### Features

- 1 Form C, 5A relay.
- Compact size 20L x 10W x 15.2H (mm).
- High surge voltage of 8000V.
- Cadmium-free contacts.
- UL, CSA, VDE approval.

### Contact Data @ 20°C

**Arrangements:** 1 Form C (SPDT).

**Material:** AgSnO.

**Max. Switching Rate:** 300ops./ min. (no load).  
20ops./ min. (rated load).

**Expected Mechanical Life:** 5 million ops (no load).

**Expected Electrical Life:** 100,000ops (rated load).

**Minimum Load:** 100mA @ 5VDC.

**Initial Contact Resistance:** 100 milliohms @ 1A, 6VDC.

### Contact Ratings

**Ratings(NO/NC):** 5A/3A @ 30VDC resistive.

5A/3A @ 277VAC resistive.

**Max. Switched Voltage:** AC: 277V.

DC: 30V.

**Max. Switched Current:** 5A (NO) / 3A(NC).

**Max. Switched Power:** 1385VA, 150W.

### Initial Dielectric Strength

**Between Open Contacts:** 750VAC, 50/60 Hz. (1 min.).

**Between Contacts and Coil:** 4,000VAC, 50/60 Hz. (1 min.).

**Surge Voltage Between Coil and Contacts:** 8,000V (1.2/50µs).

### Initial Insulation Resistance

**Between Mutually Insulated Conductors:** 1000Mohm @ 500VDCM.

### Coil Data

**Voltage:** 3 to 48VDC.

**Duty Cycle:** Continuous.

**Nominal Power:** 400mW.

**Max. Coil Power:** 130% of nominal.

### Coil Data @ 20°C

| PCH                      |                      |                              |                            |                            |
|--------------------------|----------------------|------------------------------|----------------------------|----------------------------|
| Rated Coil Voltage (VDC) | Nominal Current (mA) | Coil Resistance (ohms) ± 10% | Must Operate Voltage (VDC) | Must Release Voltage (VDC) |
| 3                        | 133.3                | 22.5                         | 2.25                       | 0.15                       |
| 5                        | 80.0                 | 62.5                         | 3.75                       | 0.25                       |
| 6                        | 66.7                 | 90.0                         | 4.50                       | 0.30                       |
| 9                        | 44.4                 | 202.5                        | 6.75                       | 0.45                       |
| 12                       | 33.3                 | 360.0                        | 9.00                       | 0.60                       |
| 18                       | 22.2                 | 810.0                        | 13.50                      | 0.90                       |
| 24                       | 11.1                 | 1,440.0                      | 18.00                      | 1.20                       |
| 48                       | 5.6                  | 5,760.0                      | 36.00                      | 2.40                       |

### Operate Data @ 20°C

**Must Operate Voltage:** 75% of nominal voltage or less.

**Must Release Voltage:** 5% of nominal voltage or more.

**Operate Time:** 10ms max.

**Release Time:** 5ms max.

### Environmental Data

**Temperature Range:**

**Operating:** -30°C to + 70°C.

**Vibration, Mechanical:** 10 to 55Hz., 1.5mm double amplitude.

**Operational:** 10 to 55Hz., 1.5mm double amplitude.

**Shock, Mechanical:** 1,000m/s<sup>2</sup> (100G approximately).

**Operational:** 100m/s<sup>2</sup> (10G approximately).

**Operating Humidity:** 20 to 85% RH. (Non-condensing).

### Mechanical Data

**Termination:** Printed circuit terminals.

**Weight:** 0.25 oz (7g) approximately.

**Ordering Information**

Typical Part Number ▶

**PCH**

**-1**

**12**

**D**

**2**

**H**

**1. Basic Series:**

PCH = Miniature 1 Form C relay

**2. Termination:**

1 = 1 pole

**3. Coil Voltage:**

03 = 3VDC      06 = 6VDC      12 = 12VDC      48 = 48VDC  
05 = 5VDC      09 = 9VDC      24 = 24VDC

**4. Coil Input:**

D = Standard 400mW

**5. Contact Material:**

2 = AgSnO

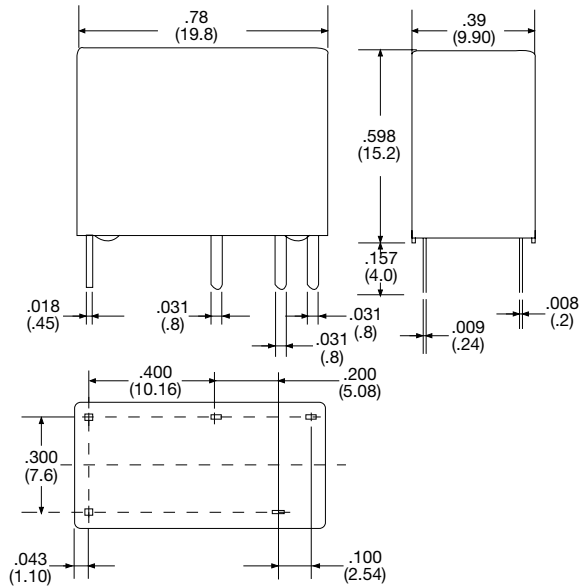
**6. Enclosure:**

Blank = Vented (Flux-tight) cover      H = Sealed plastic case

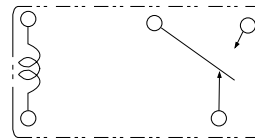
**7. Insulation class:**

Blank = Class 155(F) system      A = Class 105(A) system

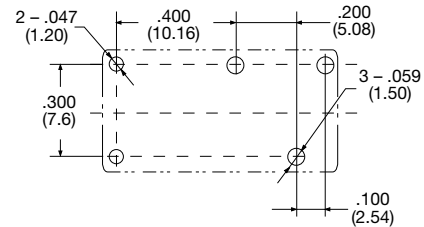
**Outline Dimensions**



**Wiring Diagram (Bottom View)**

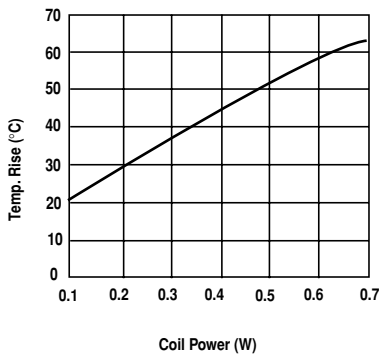


**PC Board Layout (Bottom View)**

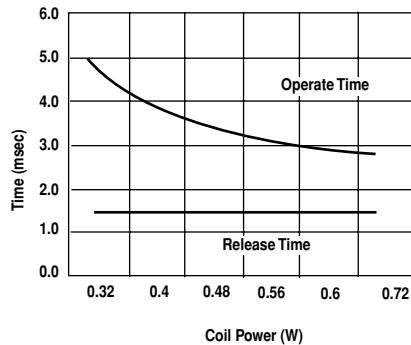


**Reference Data**

**Coil Temperature Rise**



**Operate Time**



**Life Expectancy**

