

**Miniature PCB Relay PCH**

- 5 to 10A rating
- 1 form A (NO) and 1 form C (CO) contact arrangements
- Sensitive coil available for 1 form A type

Typical applications  
Appliances, HVAC, refrigerators, microwave ovens



F\_PCH\_B



**Approvals**

VDE 119568, cULus E82292, CQC08001023449  
Technical data of approved types on request

**Contact Data**

|  |                    |
|--|--------------------|
| Contact arrangement  | 1 Form A (NO)      |
| Rated voltage  | 30VDC, 277VAC      |
| Max. switching voltage   | 30VDC, 277VAC      |
| Rated current  | 5 to 10A           |
| Contact material   | AgSnO <sub>2</sub> |
| Min. recommended contact load  | 100mA, 5VDC        |
| Frequency of operation   | 360 ops./h         |
| Operate/release time max.  | 10/5ms             |
| Electrical endurance   |                    |
| D type: 5A, 277VAC resistive, -30°C to +70°C 100x10 <sup>3</sup> ops.      |                    |
| L type: 5A, 277VAC resistive, -30°C to +70°C 30x10 <sup>3</sup> ops.       |                    |
| D/L-WG type: 5A, 250VAC resistive, -40°C to +85°C 100x10 <sup>3</sup> ops. |                    |

**Contact ratings**

| Type                          | Contact | Load                          | Cycles              |
|-------------------------------|---------|-------------------------------|---------------------|
| <b>IEC 61810</b>              |         |                               |                     |
| PCH-..2M-WG                   | A (NO)  | 5A 250VAC res, 85°C           | 100x10 <sup>3</sup> |
| PCH-..D2-WG                   | A of C  | 5A 250VAC res, 85°C           | 100x10 <sup>3</sup> |
| PCH-..D2M                     | A (NO)  | 5A 250VAC res, 70°C           | 100x10 <sup>3</sup> |
| PCH-..L2M                     | A (NO)  | 5A 250VAC res, 70°C           | 30x10 <sup>3</sup>  |
| PCH-..D2                      | C (CO)  | 5A/3A 250VAC res, 40°C        | 30x10 <sup>3</sup>  |
| <b>UL 508</b>                 |         |                               |                     |
| PCH                           | A (NO)  | 10A 125VAC res, 85°C          | 100x10 <sup>3</sup> |
| PCH                           | A (NO)  | 5A 250VAC general use, 85°C   | 100x10 <sup>3</sup> |
| Mechanical endurance, DC coil |         | 10x10 <sup>6</sup> operations |                     |

**Coil Data**

|                                     |            |
|-------------------------------------|------------|
| Coil voltage range                  | 3 to 48VDC |
| Operative range, IEC 61810          | 2          |
| Coil insulation system according UL | Class F    |

**Coil Data (continued)**

**Coil versions, DC coil**

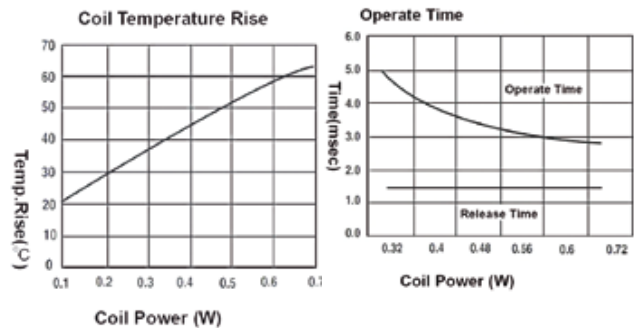
| Coil code                                    | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10 % | Rated coil power mW |
|--|-------------------|---------------------|---------------------|------------------------|---------------------|
| <b>Sensitive type (for form A type only)</b> |                   |                     |                     |                        |                     |
| 003  | 3                 | 2.25                | 0.15                | 45                     | 200                 |
| 005  | 5                 | 3.75                | 0.25                | 125                    | 200                 |
| 006  | 6                 | 4.50                | 0.30                | 180                    | 200                 |
| 009  | 9                 | 6.75                | 0.45                | 405                    | 200                 |
| 012  | 12                | 9.00                | 0.60                | 720                    | 200                 |
| 018  | 18                | 13.50               | 0.90                | 1620                   | 200                 |
| 024  | 24                | 18.00               | 1.20                | 2880                   | 200                 |
| 048  | 48                | 36.00               | 2.40                | 11520                  | 200                 |

All figures are given for coil without pre-energization, at ambient temperature +23°C.

**Coil versions, DC coil**

| Coil code            | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10 % | Rated coil power mW |
|----------------------|-------------------|---------------------|---------------------|------------------------|---------------------|
| <b>Standard type</b> |                   |                     |                     |                        |                     |
| 003                  | 3                 | 2.10                | 0.15                | 23                     | 400                 |
| 005                  | 5                 | 3.50                | 0.25                | 63                     | 400                 |
| 006                  | 6                 | 4.20                | 0.30                | 90                     | 400                 |
| 009                  | 9                 | 6.30                | 0.45                | 202                    | 400                 |
| 012                  | 12                | 8.40                | 0.60                | 360                    | 400                 |
| 018                  | 18                | 12.60               | 0.90                | 810                    | 400                 |
| 024                  | 24                | 16.80               | 1.20                | 1440                   | 400                 |
| 048                  | 48                | 33.60               | 2.40                | 5760                   | 400                 |

All figures are given for coil without pre-energization, at ambient temperature +23°C.



**Miniature PCB Relay PCH** (Continued)

**Insulation Data**

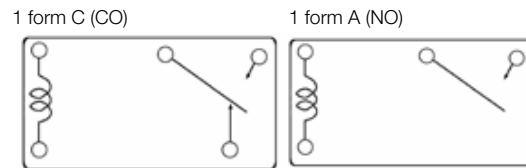
|                              |                      |
|------------------------------|----------------------|
| Initial dielectric strength  |                      |
| between open contacts        | 750V <sub>rms</sub>  |
| between contact and coil     | 4000V <sub>rms</sub> |
| Clearance/creepage           |                      |
| between contact and coil     | >1.6/3.2mm           |
| Tracking index of relay base |                      |
| standard type                | PTI 175              |
| WG txype                     | PTI 250              |

**Other Data**

|   |   |
|---|---|
| Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at <a href="http://www.tycoelectronics.com/customersupport/rohssupportcenter">www.tycoelectronics.com/customersupport/rohssupportcenter</a> |   |
| Ambient temperature   | -40°C to +85°C                          |
| Category of environmental protection  |   |
| IEC 61810   | RTII - flux tight<br>RTIII - wash tight |
| Shock resistance (functional)   | 10g                                     |
| Shock resistance (destructive)  | 100g                                    |
| Weight  | 7g                                      |
| Resistance to soldering heat THT  |   |
| IEC 60068-2-20  | RTII: 270°C/10s<br>RTIII: 260°C/5s      |
| Packaging unit  | tray/100 pcs., carton box/1000 pcs.     |

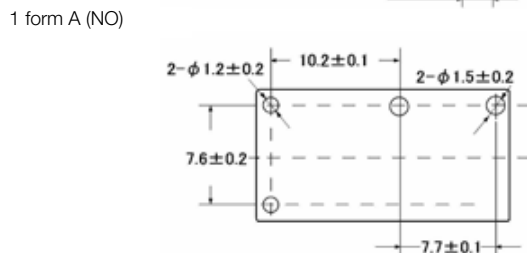
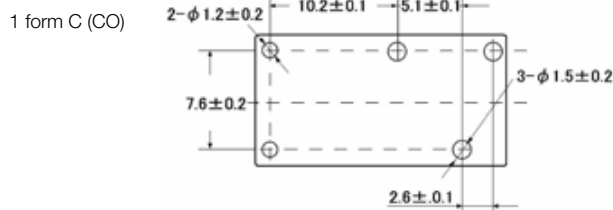
**Terminal assignment**

Bottom view on solder pins

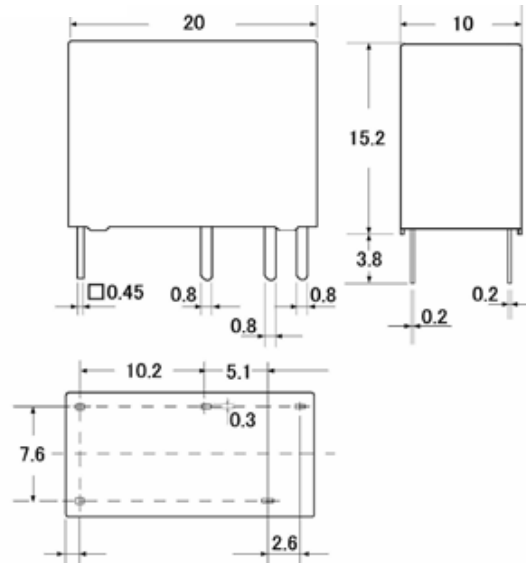


**PCB layout**

Bottom view on solder pins



**Dimensions**



\*1a Outline dimensions is omitted.  
Tolerance: 0.99mm Max.: +/-0.1mm, 1-2.99mm: +/-0.2mm, 3mm Min.: +/-0.3r

**Miniature PCB Relay PCH** (Continued)

|                                      |   |            |                                     |   |          |          |          |             |
|--------------------------------------|---|------------|-------------------------------------|---|----------|----------|----------|-------------|
| <b>Product code structure</b>        | Typical product code  | <b>PCH</b> | <b>-1</b>                           | <b>12</b>   | <b>D</b> | <b>2</b> | <b>H</b> | <b>,000</b> |
| <b>Type</b>                          | PCH Miniature PCB Relay PCH                                   |            |                                     |   |          |          |          |             |
| <b>Number of poles</b>               | 1 1 pole  |            |                                     |   |          |          |          |             |
| <b>Coil voltage</b>                  | Coil code: please refer to coil versions table (e.g. 05=5VDC) |            |                                     |   |          |          |          |             |
| <b>Coil sensitivity</b>              | D Standard 400mW  |            | L 200mW (for 1 form A contact only) |   |          |          |          |             |
| <b>Contact material</b>              | 2 AgSnO   |            |                                     |   |          |          |          |             |
| <b>Contact arrangement</b>           | Blank 1 form C (CO) contact                                   |            |                                     | M 1 form A (NO) contact   |          |          |          |             |
| <b>Category of protection</b>        | Blank Flux proof, vented cover                                |            |                                     | H Wash tight, sealed plastic cover                                      |          |          |          |             |
| <b>Insulation system designation</b> | Blank Class F system  |            |                                     | WG Class F system and for domestic appliances (IEC 60335-1, 4 Edition); |          |          |          |             |
| <b>Suffix</b>                        | ,000 Standard type  |            |                                     |   |          |          |          |             |

Other types on request

| Product code    | Coil  | Sensitivity | Cont.material      | Arrangement   | Enclosure  | Insulation         | Part number |             |
|-----------------|-------|-------------|--------------------|---------------|------------|--------------------|-------------|-------------|
| PCH-105D2H,000  | 5VDC  | Standard    | AgSnO <sub>2</sub> | 1 form C (CO) | Wash tight | Class F            | 9-1440003-0 |             |
| PCH-105L2M,000  |       | Sensitive   |                    | 1 form A (NO) | Flux proof |                    | 1461352-2   |             |
| PCH-105L2MH,000 |       |             |                    |               |            | Wash tight         |             | 1461353-2   |
| PCH-105L2M-WG   |       |             |                    |               | Flux proof | Cl. F, IEC 60335-1 | 1721768-2   |             |
| PCH-106D2,000   | 6VDC  | Standard    |                    | 1 form C (CO) |            | Class F            | 9-1440003-8 |             |
| PCH-109D2H,000  | 9VDC  |             |                    |               |            |                    | Wash tight  | 9-1440003-2 |
| PCH-112D2,000   | 12VDC |             |                    |               | Flux proof |                    | 1440004     |             |
| PCH-112D2H,000  |       |             |                    |               | Wash tight |                    | 9-1440003-3 |             |
| PCH-112D2M,000  |       |             |                    | 1 form A (NO) |            | Flux proof         |             | 1461350-5   |
| PCH-112D2M-WG   |       |             |                    |               |            | Cl. F, IEC 60335-1 | 1721767-5   |             |
| PCH-112D2-WG    |       |             |                    | 1 form C (CO) |            |                    | 1721766-5   |             |
| PCH-112L2M,000  |       | Sensitive   |                    | 1 form A (NO) |            | Class F            | 1461352-5   |             |
| PCH-112L2MH,000 |       |             |                    |               |            |                    | Wash tight  | 1461353-5   |
| PCH-112L2M-WG   |       |             |                    |               | Flux proof | Cl. F, IEC 60335-1 | 1721768-5   |             |
| PCH-124D2,000   | 24VDC | Standard    |                    | 1 form C (CO) |            | Class F            | 1440004-1   |             |
| PCH-124D2H,000  |       |             |                    |               |            |                    | Wash tight  | 9-1440003-5 |
| PCH-124D2M,000  |       |             |                    |               |            |                    | Flux proof  | 1461350-6   |
| PCH-124D2MH,000 |       |             |                    |               | Wash tight |                    | 1461351-6   |             |
| PCH-124L2M,000  |       | Sensitive   |                    |               |            |                    | 1461352-6   |             |
| PCH-124L2MH,000 |       |             |                    |               |            |                    | Wash tight  | 1461353-6   |
| PCH-124L2M-WG   |       |             |                    |               | Flux proof | Cl. F, IEC 60335-1 | 1721768-6   |             |
| PCH-148D2,000   | 48VDC | Standard    |                    | 1 form C (CO) |            | Class F            | 1461410-2   |             |