

Miniature Relay PCF

- Meet UL508 and TUV requirements
- 1 form A contact arrangement
- Quick connect terminal type and PC board type
- Meet 5000V dielectric voltage between coil and contacts
- Meet 10000V surge voltage between coil and contacts (1.2/50µs)

Typical applications
Appliances, HVAC, office machines



Approvals

UL No. E58304/ TUV No. R50139097
Technical data of approved types on request

Contact Data

| | |
|--|--|
| Contact arrangement | 1 form A, 1 NO |
| Rated voltage | 250VAC, 277VAC, 24VDC |
| Rated current | 25A |
| Switching power | 6370VA |
| Contact material | AgCdO, AgSnO |
| Min. recommended contact load | 100mA, 5VDC |
| Initial contact resistance | 100mΩ at 1A, 6VDC |
| Frequency of operation with/without load | 30/300 ops./min |
| Operate/release time max. | 20/10ms |
| Electrical endurance | 100x10 ³ operations at rated load |
| Contact ratings | 25A, 250VAC resistive 23A, 277VAC resistive 20A, 250VAC resistive 20A, 250VAC inductive, cosφ=0.4 |
| Mechanical endurance | 10x10 ⁶ operations. |

Coil Data

| | |
|--------------------|------------|
| Coil voltage range | 6 to 24VDC |
|--------------------|------------|

Coil versions, DC coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10% | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-----------------------|---------------------|
| 06 | 6 | 4.50 | 0.30 | 40 | 900 |
| 09 | 9 | 6.75 | 0.45 | 90 | 900 |
| 12 | 12 | 9.00 | 0.60 | 160 | 900 |
| 24 | 24 | 18.00 | 1.20 | 640 | 900 |

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

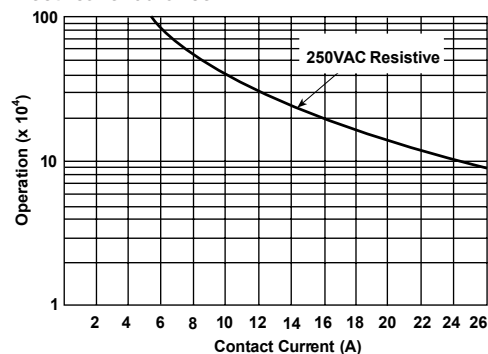
Insulation Data

| | |
|---------------------------------|---|
| Initial dielectric strength | between open contacts 1000VAC, 50/60Hz, 1min between contact and coil 5000VAC, 50/60Hz, 1min |
| Initial surge withstand voltage | between contact and coil 8000V (1.2/50µs) |
| Initial insulation resistance | between insulated elements 1000MΩ at 500VDC |
| Clearance/creepage | between contact and coil 6.7/8mm |

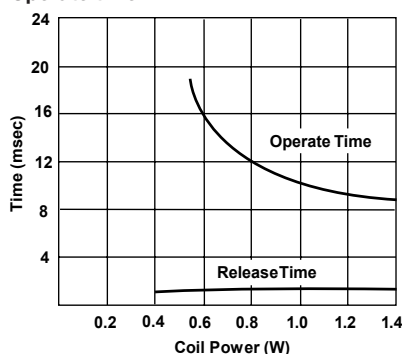
Other Data

| | |
|--|--|
| Material compliance: | EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customer-support/rohssupportcenter |
| Ambient temperature | -30 to 55°C |
| Category of environmental protection | IEC 61810 RTII-flux proof |
| Vibration resistance (functional), 10 to 50Hz. | 1.5mm double amplitude |
| Vibration resistance (destructive), 10 to 50Hz. | 1.5mm double amplitude |
| Shock resistance (functional), half-sine wave of 6ms | 98m/s ² |
| Shock resistance (destructive), half-sine wave of 11ms, permitted duration 1ms | 980m/s ² |
| Weight | 28g |
| Resistance to soldering heat THT | IEC 60068-2-20 260°C/10s |
| Packaging/unit | tube/20 pcs., box/500 pcs. |

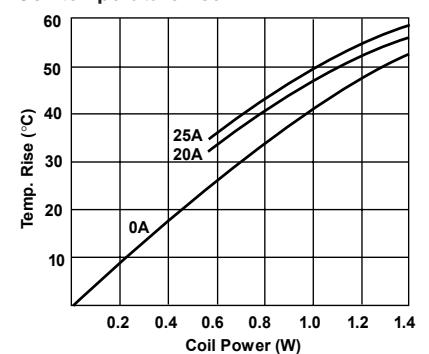
Electrical endurance



Operate time



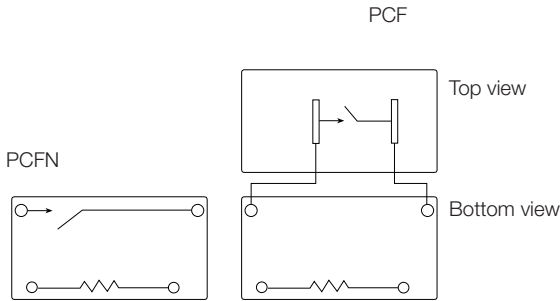
Coil temperature rise



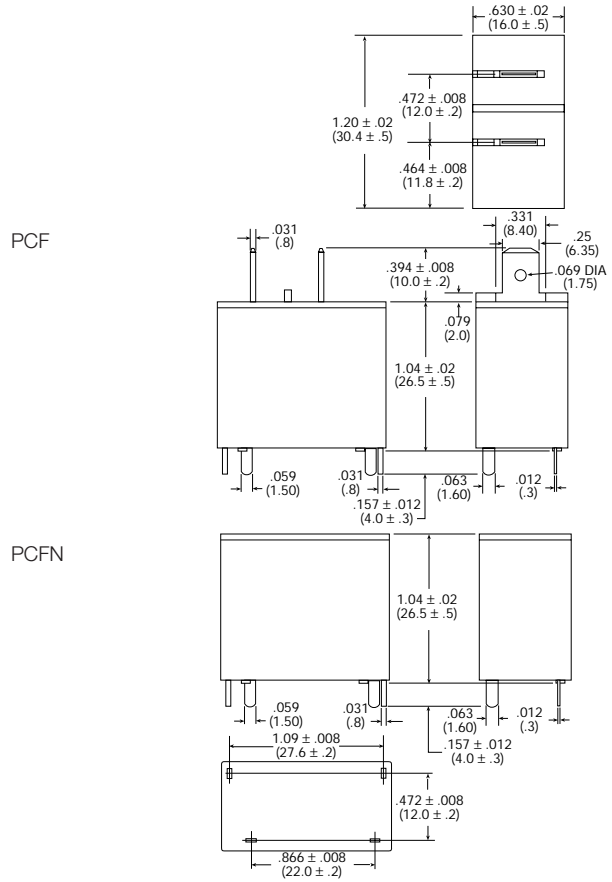
Miniature Relay PCF (Continued)

Terminal assignment

Bottom view on solder pins

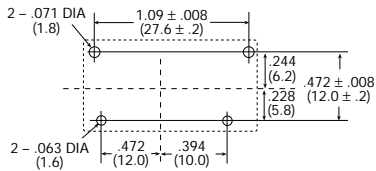


Dimensions



PCB layout

Bottom view on solder pins



Product code structure

Typical product code

PCF -1 12 D 1 M ,000

| | |
|----------------------------|---|
| Type | PCF Miniature Relay PCF |
| Terminals/mounting | Blank Quick connect terminals N PC board terminals L Low profile flange case |
| Contact Form | 1 1 pole |
| Coil Voltage | Coil code: please refer to coil version table (e.g. 12=12VDC) |
| Coil Input | D Standard |
| Contact Material | 1 AgCdO 2 AgSnO |
| Contact Arrangement | M 1 form A, 1 NO contact |
| Suffix | ,000 Standard model |

Miniature Relay PCF (Continued)

| Product code | Terminals/mounting | Coil | Cont. material | Arrangement | Part number |
|-----------------|-------------------------|-------|--------------------|--------------------------|-------------|
| PCF-105D2M,000 | Quick connect terminals | 5VDC | AgSnO ₂ | 1 form A (NO) contact | 5-1440002-4 |
| PCF-106D2M,000 | | 6VDC | | | 5-1440002-5 |
| PCF-112D1M,000 | | 12VDC | AgCdO | | 9-1419129-2 |
| PCF-112D2M,000 | | | | | 3-1419153-4 |
| PCF-124D1M,000 | | 24VDC | AgCdO | | 9-1419129-5 |
| PCF-124D2M,000 | | | | | 5-1440002-8 |
| PCF-148D1M,000 | | 48VDC | AgCdO | | 2-1419146-4 |
| PCF-148D2M,000 | | | | | 5-1440002-9 |
| PCFL-112D2M,000 | Low profile flange case | 12VDC | | | 1649000-3 |
| PCFL-124D2M,000 | | 24VDC | | | 1649000-4 |
| PCFN-109D2M,000 | PC board terminals | 09VDC | | | 1461193-7 |
| PCFN-118D2M,000 | | 18VDC | | | 1461193-8 |
| PCFN-124D2M,000 | | 24VDC | | | 1461193-9 |
| PCFN-148D2M,000 | | 48VDC | | | 1461193-5 |