

Miniature PCB Relay ORWH

- Compact relay with 1 form A and 1 form C contact arrangement
- 10A switching capacity
- Flux proof or sealed type available
- 6kV dielectric strength type available



Typical applications
Appliances, HVAC, emergency lighting.

Approvals

UL E82292, TUV R50138967
Technical data of approved types on request.

Contact Data

| | |
|--|---|
| Contact arrangement | 1 form A, 1 NO 1 form C, 1 CO |
| Rated voltage | 28VDC, 277VAC |
| Max. switching voltage | 28VDC, 277VAC |
| Rated current | 10A |
| Contact material | AgZnO, AgCdO, AgNi |
| Min. recommended contact load | 100mA, 5VDC |
| Frequency of operation | 600 ops./h |
| Operate/release time max. | 10ms/5ms |
| Electrical endurance | |
| AgZnO: form A, 10A, 250VAC, res., +85°C, Class B or F only | 100x10 ³ ops. |
| AgCdO: form A, 10A, 250VAC, res., +85°C, Class B or F only | 50x10 ³ ops. |
| AgNi: form A, 10A, 250VAC, res., +85°C, Class B or F only | 50x10 ³ ops. |
| Contact ratings, form A/form B | 10A/6A 250VAC resistive 10A/6A 28VDC resistive |
| Mechanical endurance, DC coil | 10x10 ⁶ operations |

Coil Data

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

Coil versions, DC coil

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance Ω±10 % | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|------------------------|---------------------|
| 003 | 3 | 2.1 | 0.3 | 25 | 360 |
| 005 | 5 | 3.5 | 0.5 | 70.0 | 360 |
| 006 | 6 | 4.2 | 0.6 | 100 | 360 |
| 009 | 9 | 6.3 | 0.9 | 225 | 360 |
| 012 | 12 | 8.4 | 1.2 | 400 | 360 |
| 024 | 24 | 16.8 | 2.4 | 1600 | 360 |
| 048 | 48 | 33.6 | 4.8 | 6400 | 360 |

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

Insulation Data

| | |
|---|----------------------|
| Initial dielectric strength | |
| between open contacts | 750V _{rms} |
| between contact and coil | 1500V _{rms} |
| Clearance/creepage | |
| between open contacts | >1.6mm |
| between contact and coil | >3.2mm |
| Clearance/creepage | |
| between open contacts, standard type | >1.6mm |
| for 6kV dielectrial strength type | >4mm |
| between contact and coil, standard type | >3.2mm |
| for 6kV dielectrial strength type | >4mm |

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°C to +70°C |
| Category of environmental protection IEC 61810 | RTII - flux proof RTIII - wash tight |
| Weight | 9.5g |
| Resistance to soldering heat THT IEC 60068-2-20 | RTII: 270°C/10s RTIII: 260°C/5s |
| Packaging/unit | tube/25, carton box/1000 |

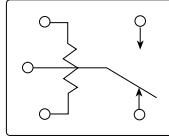
Accessories

| Product Code | Description |
|--------------|---|
| 27E1064 | Socket, rated 10A at 300VAC. UL Recognized for US and Canada. Designed to fit same suggested board layout as relay. |

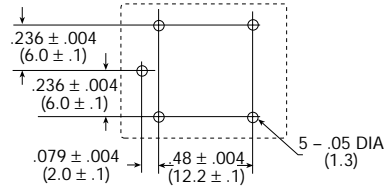
Miniature PCB Relay ORWH (Continued)

Terminal assignment

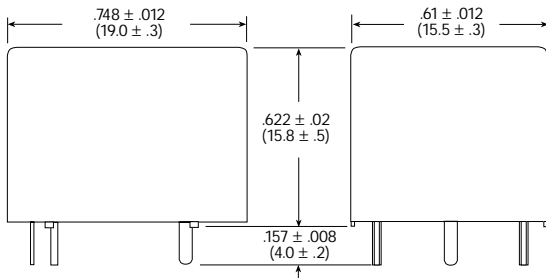
Bottom view on solder pins



PCB layout



Dimensions



TERMINAL DIMENSIONS:
COIL: 0.024 (0.6) DIA.
LOAD: 0.12 x 0.35 (0.3 x 0.9)

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|--|--|--|--|--|--|--|--|--|--|------------------------------------|------------|-----------|-----------|----------|----------|----------|----------|-----------|-------------|----------------------------|--|--|--|--|--|--|--|--|--|-----------------------------|--|--|--|--|--|--|--|--|--|----------------------------|--|--|--|--|--|--|--|--|--|
| Product code structure | Typical product code | | | | | | | | | | ORWH | -SH | -1 | 12 | D | M | 1 | F | WG | ,000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type | ORWH Miniature PCB Relay ORWH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Category of protection | SS Flux proof | | | | | | | | | | SH Wash tight | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Number of poles | 1 1 pole | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Coil voltage | Coil code: please refer to coil versions table (e.g. 12 = 12VDC) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Coil version | D Standard | | | | | | | | | | H High temperature type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contact arrangement | Blank 1 form C, 1 CO | | | | | | | | | | M 1 form A, 1 NO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Contact material | Blank AgCdo | | | | | | | | | | 1 AgZnO | | | | | | | | | | 3 AgNi | | | | | | | | | | 5 AgZnO + Au plating | | | | | | | | | | 7 AgNi + Au plating | | | | | | | | | |
| Insulation system designation | Blank Class 105 (A) | | | | | | | | | | B Class 120 (B) | | | | | | | | | | F F = Class 155 (F) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Option material | Blank Standard | | | | | | | | | | H Insulation plate use type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Suffix | WG For domestic appliances (IEC 60335-1, 4 Edition); | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Suffix | ,000 Standard | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Miniature PCB Relay ORWH (Continued)

| Product code | Enclosure | Coil | Coil | Arrangement | Cont.mat. | Insulation | Option | Part number |
|---------------------|------------|-------|-----------|---------------|-----------|------------|----------------|-------------|
| ORWH-SH-105D1F,000 | Wash tight | 5VDC | Standard | 1 From C, 1CO | AgZnO | Class F | Standard Type | 1-1721150-0 |
| ORWH-SS-105D1F,000 | Flux proof | | | 1 From C, 1CO | | | | 2071448-5 |
| ORWH-SH-105DM1F,000 | Wash tight | | | 1 From A, 1NO | | | | 2071448-3 |
| ORWH-SS-109D1F,000 | Flux proof | 9VDC | | 1 From C, 1CO | | | | 2071448-4 |
| ORWH-SH-112D1F,000 | Wash tight | 12VDC | | 1 From C, 1CO | | | | 1-1721150-3 |
| ORWH-SS-112D1F,000 | Flux proof | | | 1 From C, 1CO | | | | 1721150-5 |
| ORWH-SH-112DM1F,000 | Wash tight | | | 1 From A, 1NO | | | | 2071448-8 |
| ORWH-SS-112DM1F,000 | Flux proof | | | 1 From A, 1NO | | | | 2071448-2 |
| ORWH-SH-124D1F,000 | Wash tight | 24VDC | | 1 From C, 1CO | | | | 1-1721150-5 |
| ORWH-SS-124D1F,000 | Flux proof | | | 1 From C, 1CO | | | | 2-2071448-0 |
| ORWH-SH-124DM1F,000 | Wash tight | | | 1 From A, 1NO | | | | 1-2071448-5 |
| ORWH-SS-124DM1F,000 | Flux proof | | | 1 From A, 1NO | | | | 1-2071448-8 |
| ORWH-SH-105H3F,000 | Wash tight | 5VDC | High temp | 1 From C, 1CO | AgNi | | Standard Type | 2071448-6 |
| ORWH-SS-105H3F,000 | Flux proof | | | 1 From C, 1CO | | | | 2071448-7 |
| ORWH-SH-112H3F,000 | Wash tight | 12VDC | | 1 From C, 1CO | | | | 2071448-9 |
| ORWH-SS-112H3F,000 | Flux proof | | | 1 From C, 1CO | | | | 1-2071448-2 |
| ORWH-SH-112HM3F,000 | Wash tight | | | 1 From A, 1NO | | | | 1-2071448-0 |
| ORWH-SS-112HM3F,000 | Flux proof | | | 1 From A, 1NO | | | | 1-2071448-3 |
| ORWH-SS-118H3FH,000 | Flux proof | 18VDC | | 1 From C, 1CO | | | Insulation pl. | 1721948-6 |
| ORWH-SH-124H3F,000 | Wash tight | 24VDC | | 1 From C, 1CO | | | Standard Type | 1-2071448-6 |
| ORWH-SS-124H3F,000 | Flux proof | | | 1 From C, 1CO | | | | 1-2071448-9 |
| ORWH-SH-124HM3F,000 | Wash tight | | | 1 From A, 1NO | | | | 1-2071448-4 |
| ORWH-SS-124HM3F,000 | Flux proof | | | 1 From A, 1NO | | | | 1-2071448-7 |

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