

**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 <sup>3</sup> ops.
AgCdO: form A, 10A, 250VAC, res., +85°C, Class B or F only	50x10 <sup>3</sup> ops.
AgNi: form A, 10A, 250VAC, res., +85°C, Class B or F only	50x10 <sup>3</sup> ops.
Contact ratings, form A/form B	10A/6A 250VAC resistive 10A/6A 28VDC resistive
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 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 <sub>rms</sub>
between contact and coil	1500V <sub>rms</sub>
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 <a href="http://www.te.com/customer-support/rohssupportcenter">www.te.com/customer-support/rohssupportcenter</a>	
Ambient temperature	-30°C to +70°C
Category of environmental protection IEC 61810	RTII - dust protected 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

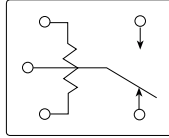
**Accessories**

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)

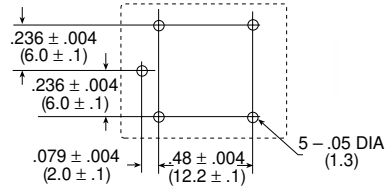
**Terminal assignment**

Bottom view on solder pins

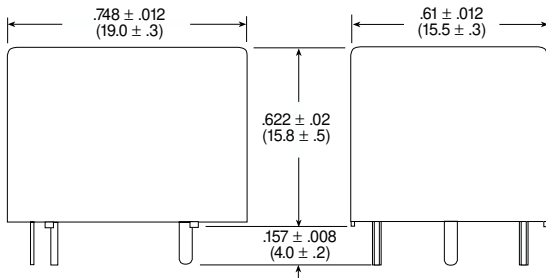


**PCB layout**

Bottom view on solder pins



**Dimensions**



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

<b>Product code structure</b>	Typical product code	<b>ORWH</b>	<b>-SH</b>	<b>-1</b>	<b>12</b>	<b>D</b>	<b>M</b>	<b>1</b>	<b>F</b>	<b>WG</b>	<b>,000</b>			
<b>Type</b>	<b>ORWH</b> Miniature PCB Relay ORWH													
<b>Category of protection</b>	<b>SS</b> Flux proof										<b>SH</b> Wash tight			
<b>Number of poles</b>	<b>1</b> 1 pole													
<b>Coil voltage</b>	Coil code: please refer to coil versions table (e.g. 12 = 12VDC)													
<b>Coil version</b>	<b>D</b> Standard					<b>H</b> High temperature type								
<b>Contact arrangement</b>	<b>Blank</b> 1 form C, 1 CO					<b>M</b> 1 form A, 1 NO								
<b>Contact material</b>	<b>Blank</b> AgCdo			<b>1</b> AgZnO			<b>3</b> AgNi			<b>5</b> AgZnO + Au plating			<b>7</b> AgNi + Au plating	
<b>Insulation system designation</b>	<b>Blank</b> Class 105 (A)				<b>B</b> Class 120 (B)				<b>F</b> F = Class 155 (F)					
<b>Option material</b>	<b>Blank</b> Standard					<b>H</b> Insulation plate use type								
<b>Suffix</b>	<b>WG</b> For domestic appliances (IEC 60335-1, 4 Edition);													
<b>Suffix</b>	<b>,000</b> 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	1Form C, 1CO	AgZnO	Class F	Standard type	1-1721150-0
ORWH-SH-105H3F,000			High temp		AgNi			1-1721956-1
ORWH-SH-105HM3F,000				1Form A, 1NO				1-1721958-1
ORWH-SH-106D1F,000		6VDC	Standard	1Form C, 1CO	AgZnO			1-1721150-1
ORWH-SH-106DM1F,000								1Form A, 1NO
ORWH-SH-109H3F,000		9VDC	High temp	1Form C, 1CO	AgNi			1-1721956-3
ORWH-SH-112D1F,000		12VDC	Standard		AgZnO			1-1721150-3
ORWH-SH-112DM1F,000								1-1721153-3
ORWH-SH-112H3F,000			High temp		AgNi			1-1721956-4
ORWH-SH-112H3FH,000							Insulation pl.	1-1721948-4
ORWH-SH-112HM3F,000				1Form A, 1NO			Standard type	1-1721958-4
ORWH-SH-118H3F,000		18VDC		1Form C, 1CO				1-1721956-5
ORWH-SH-124D1F,000		24VDC	Standard		AgZnO			1-1721150-5
ORWH-SH-124DM1F,000				1Form A, 1NO				1-1721153-5
ORWH-SH-124H3F,000			High temp	1Form C, 1CO	AgNi			1-1721956-7
ORWH-SH-124HM3F,000				1Form A, 1NO				1-1721958-7
ORWH-SH-148D1F,000		48VDC	Standard	1Form C, 1CO	AgZnO			1-1721150-6
ORWH-SH-148DM1F,000				1Form A, 1NO				1-1721153-6
ORWH-SS-105D1F,000	Flux proof	5VDC		1Form C, 1CO				0-1721150-2
ORWH-SS-106D1F,000		6VDC						0-1721150-3
ORWH-SS-109D1F,000		9VDC						0-1721150-4
ORWH-SS-112D1F,000		12VDC						0-1721150-5
ORWH-SS-112DM1F,000				1Form A, 1NO				0-1721153-5
ORWH-SS-112H3F,000			High temp	1Form C, 1CO	AgNi			0-1721956-5
ORWH-SS-112HM3F,000				1Form A, 1NO				0-1721958-5
ORWH-SS-118H3F,000		18VDC		1Form C, 1CO				0-1721956-6
ORWH-SS-124D1F,000		24VDC	Standard		AgZnO			0-1721150-7
ORWH-SS-124DM1F,000				1Form A, 1NO				0-1721153-7
ORWH-SS-124H3F,000			High temp	1Form C, 1CO	AgNi			0-1721956-8
ORWH-SS-124H3FH,000							Insulation pl.	0-1721948-8
ORWH-SS-148D1F,000		48VDC	Standard		AgZnO		Standard type	0-1721150-8
ORWH-SS-148DM1F,000				1Form A, 1NO				0-1721153-8