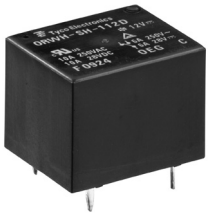
Miniature PCB Relay ORWH

- **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

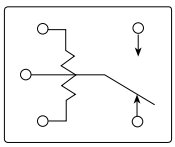
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content	refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter
Ambient temperature	-30°C to +70°C
Category of environmental protection	
IEC 61810	RTII - dust protected RTIII - wash tight
Weight	9.5g
Resistance to soldering heat THT	
IEC 60068-2-20	RTII: 270°C/10s RTIII: 260°C/5s
Packaging/unit	tube/25, carton box/1000

Accessories

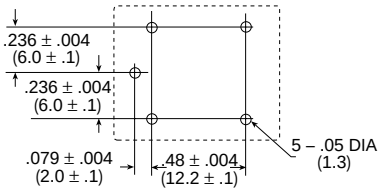
Product Code	Description
27E1064	Socket, rated 10A at 300VAC. UL Recognized for US and Canada. Designed to fit same suggested board layout as relay.

Miniature PCB Relay ORWH (Continued)

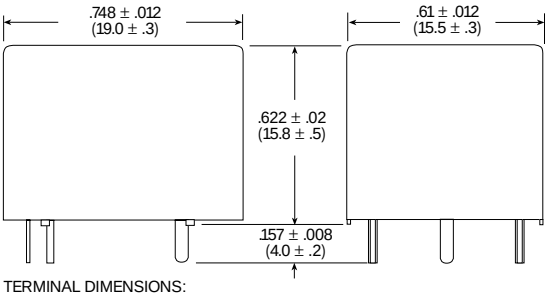
Terminal assignment
Bottom view on solder pins



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)

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
5 AgZnO + Au plating
3 AgNi
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
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	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				1-1721153-1
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