

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 $\Omega \pm 10\%$	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 - 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

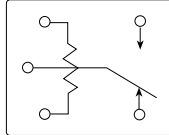
Accessories

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)

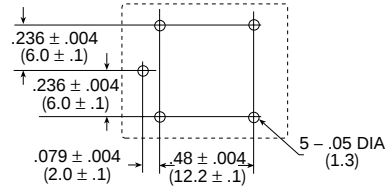
Terminal assignment

Bottom view on solder pins

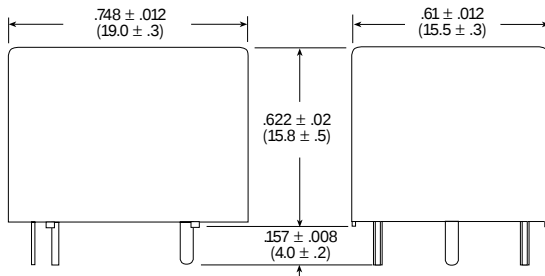


PCB layout

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		6VDC	Standard	1Form A, 1NO	AgZnO			1-1721958-1	
ORWH-SH-106D1F,000				1Form C, 1CO				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	Flux proof	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			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