

Miniature PCB Relay OJ/OJE

- 1 pole, 1 Form A (NO) contact
- 3 to 10A rating
- Small size
- 4000V_{rms} coil to contact dielectric strength (OJ type)
- Sensitive coil optional

Typical applications
Appliances, HVAC, industrial control.



Approvals

VDE 40007630, TUV R 50139166, UL E82292, CQC03001007764
Technical data of approved types on request.

Contact Data

Contact arrangement	1 form A, 1 NO
Rated voltage	30VDC, 250VAC
Max. switching voltage	30VDC, 277VAC
Rated current	3 to 10A
Contact material	AgNi, AgSnO, AgCdO
Min. recommended contact load	100mA, 5VDC
Initial contact resistance	100mohms at 1A, 5VDC
Frequency of operation	360 ops./h
Operate time max.	OJ/OJE-L: 15ms OJ/OJE-D/H: 10ms
Release time max.	4ms
Electrical endurance	
LM 3A, 250VAC, res., -30°C to +95°C	100x10 ³ ops.
DM 5A, 250VAC, res., -30°C to +85°C	60x10 ³ ops.
LMH(2) 8A, 250VAC, res., -30°C to +70°C	50x10 ³ ops.
LMH2 8A, 250VAC, res., -30°C to +85°C	30x10 ³ ops.
HM 10A, 250VAC, res., -30°C to +70°C	10x10 ³ ops.
HM2 10A, 250VAC, res., -30°C to +85°C	10x10 ³ ops.
HM6 10A, 250VAC, res., -30°C to +85°C	50x10 ³ ops.
Contact ratings	
LM	3A, 250VAC
DM	5A 250VAC
LMH(2)	8A 250VAC
HM(2), HM6	10A 250VAC
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 E, F

Coil versions, DC coil, OJ/OJE-L sensitive type

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance $\Omega \pm 10\%$	Rated coil power mW
003	3	2.25	0.15	45	200
005	5	3.75	0.25	125	200
006	6	4.5	0.3	180	200
009	9	6.75	0.45	405	200
012	12	9	0.6	720	200
024	24	18	1.2	2880	200
048	48	36	2.4	11520	200

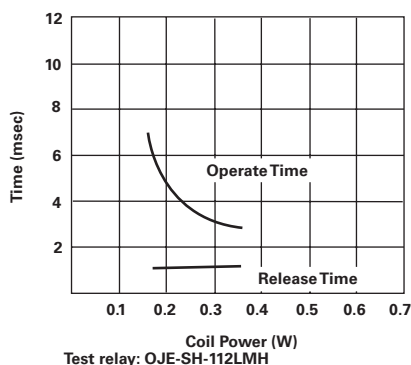
All figures are given for coil without pre-energization, at ambient temperature +23°C.

Coil versions, DC coil, OJ/OJE-D and -H type

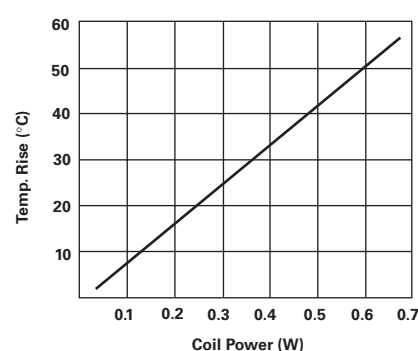
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance $\Omega \pm 10\%$	Rated coil power mW
003	3	2.1	0.15	20	450
005	5	3.5	0.25	55.6	450
006	6	4.2	0.3	80	450
009	9	6.3	0.45	180	450
012	12	8.4	0.6	320	450
024	24	16.8	1.2	1280	450
048	48	33.6	2.4	5120	450

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

Operate time



Coil temperature rise



Miniature PCB Relay OJ/OJE (Continued)

Insulation Data

Initial dielectric strength	
between open contacts	750V _{rms}
between contact and coil	OJ: 4000V _{rms} OJE: 3000V _{rms}
Initial insulation resistance	
between insulated elements	1000Mohms min
Clearance/creepage	
between contact and coil	OJ: > 7.7mm / 9.4mm
between contact and coil	OJE: > 3.2mm / 3.6mm
Tracking index of relay base	PTI 250

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

DM:	-30°C to +85°C
HM:	-30°C to +70°C
HM2, HM6:	-30°C to +85°C
LM:	-30°C to +90°C
LMH:	-30°C to +70°C
LMH2:	-30°C to +85°C

Category of environmental protection

IEC 61810	RTII - flux proof/dust protected RTIII - wash tight
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Vibration resistance (functional)	10 to 55 Hz., 1.5mm double amplitude
Vibration resistance (destructive)	10 to 55 Hz., 1.5mm double amplitude
Shock resistance (functional)	10g
Shock resistance (destructive)	100g
Weight	9g

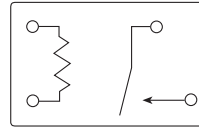
Resistance to soldering heat THT

IEC 60068-2-20	RTII: 270°C/10s RTIII: 260°C/5s
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Packaging unit	tray/100, carton box/1000
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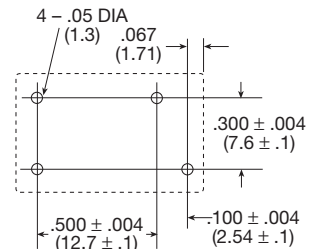
Terminal assignment

Bottom view on solder pins

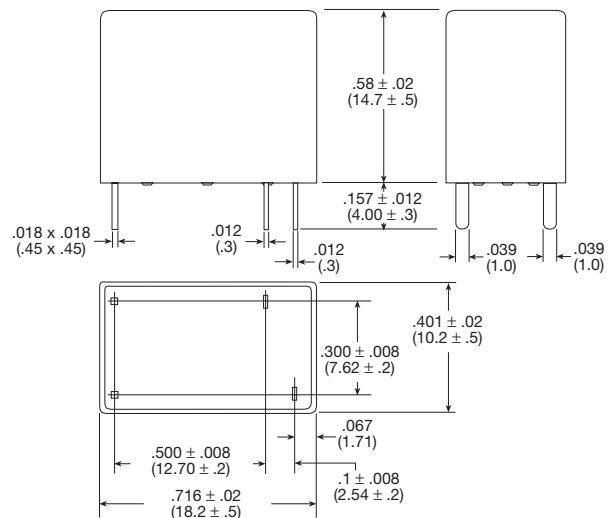


PCB layout

Bottom view on solder pins



Dimensions



Product code structure

Typical product code

OJ -SH -1 12 LMH F -WG ,000

Type

OJ	Miniature PCB Relay OJ, 4kV dielectric between coil and contacts
OJE	Miniature PCB Relay OJE, 3kV dielectric between coil and contacts

Category of protection

SS	Flux proof
SH	Wash tight

Number of poles

1	1 pole
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Coil voltage

Coil code: please refer to coil versions table (e.g. 12 = 12VDC)

Contact rating and coil power

DM	450 mW coil power 5A type, coil power 450mW	LM	200mW coil power 3A type, coil power 200mW
HM	10A type, coil power 450mW	LMH	8A type, coil power 200mW
HM2	10A type, coil power 450mW	LMH2	8A type, coil power 200mW
HM6	10A type, coil power 450mW		

Insulation system designation

Blank	Insulation Class E (standard)	F	Insulation Class F
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Special type

Blank	Standard	WG	For domestic appliances (IEC 60335-1)
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Suffix

,000	Standard
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Miniature PCB Relay OJ/OJE (Continued)

Product code	Rating	Cont. mat.	Coil	Coil power	Type	Insulation	Enclosure	Part Number		
OJ-SH-105LM,000	3A	AgNi	5VDC	200mW	Standard	Class E	Wash tight	1461404-1		
OJE-SH-112LM,000			12VDC					1461401-5		
OJE-SS-112LM,000							Flux proof	4-1419128-6		
OJ-SH-112LM,000							Wash tight	1461404-6		
OJ-SS-112LM,000	5A			450mW			Flux proof	2-1419129-1		
OJ-SS-124LM,000							3-1419129-1			
OJ-SH-124LM,000			24VDC				Wash tight	1461404-4		
OJE-SH-105DM,000			5VDC					1461400-1		
OJE-SS-105DM,000							Flux proof	2-1419128-8		
OJE-SH-112DM,000			12VDC				Wash tight	1461400-4		
OJE-SS-112DM,000							Flux proof	4-1419128-2		
OJ-SH-112DM,000							Wash tight	1461406-4		
OJ-SS-112DM,000							Flux proof	1-1419129-8		
OJE-SH-124DM,000			24VDC				Wash tight	1461400-5		
OJE-SS-124DM,000							Flux proof	6-1419128-2		
OJ-SS-124DM,000								2-1419129-9		
OJE-SH-105LMH,000	8A	AgCdO	5VDC	200mW			Wash tight	1461403-3		
OJE-SH-105LMH-WG					WG type			1721875-2		
OJE-SS-105LMH,000					Standard		Flux proof	1461034-2		
OJ-SH-105LMH,000							Wash tight	8-1419128-1		
OJ-SH-106LMH,000			6VDC				1461247-1			
OJE-SH-109LMH,000			9VDC				1461403-2			
OJE-SS-109LMH,000					Flux proof		5-1419144-3			
OJ-SH-109LMH,000					Wash tight		1461247-2			
OJ-SS-109LMH2-WG			AgSnO		WG type		Flux proof	1721874-4		
OJ-SS-109LMHF,000			AgCdO		Standard		Class F	1721083-5		
OJE-SH-112LMH,000			12VDC				Class E	Wash tight	1461403-4	
OJE-SH-112LMH-WG					WG type			1721875-5		
OJE-SS-112LMH,000					Standard		Flux proof	5-1419128-0		
OJE-SS-112LMH2					AgSnO			1721261-5		
OJ-SH-112LMH,000			AgCdO				Wash tight	9-1419128-8		
OJ-SH-112LMH2			AgSnO					1-1721260-1		
OJ-SS-112LMH,000			AgCdO				Flux proof	2-1419129-5		
OJ-SS-112LMH2			AgSnO					1721260-5		
OJ-SS-112LMHF,000			AgCdO				Class F	1721083-1		
OJE-SH-124LMH,000			24VDC				Class E	Wash tight	1461403-5	
OJE-SH-124LMH-WG					WG type			1721875-6		
OJE-SS-124LMH,000					Standard		Flux proof	7-1419128-1		
OJ-SH-124LMH,000							Wash tight	1461247-3		
OJ-SS-124LMH,000							Flux proof	4-1419144-4		
OJ-SS-124LMH2			AgSnO					1721260-6		
OJ-SS-124LMH2-WG					WG type			1721874-6		
OJ-SS-124LMHF,000			AgCdO		Standard		Class F	1461014-2		
OJ-SH-105HM,000			10A		AgCdO		5VDC	450mW		
OJE-SH-112HM,000	12VDC			1461402-6						
OJE-SS-112HM,000				Flux proof	4-1419128-3					
OJE-SS-112HM2,000	AgSnO				1721539-5					
OJ-SH-112HM,000	AgCdO			Wash tight	1461405-5					
OJ-SS-112HM,000				Flux proof	1419135-3					
OJ-SS-112HMF,000				Class F	1461078-5					
OJ-SS-112HM6-WG	AgSnO	WG type			2071398-1					
OJE-SS-124HM,000	AgCdO	24VDC		Standard	Class E	6-1419128-4				
OJ-SS-124HM,000					1440007-2					
OJ-SS-124HM2,000	AgSnO				1721538-7					

Miniature PCB Relay OJ/OJE (Continued)

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