

Miniature PCB Relay OJ/OJE

- 3 to 10A rating
- Small size
- 4000V_{rms} coil to contact dielectric strength (OJ type)
- Sensitive coil optional

Typical applications
 Appliances, HVAC, industrial control



F0277-C


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	Ag, AgSnO, AgCdO
Min. recommended contact load	100mA, 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
DM	5A, 250VAC, res., -30°C to +85°C
LMH(2)	8A, 250VAC, res., -30°C to +70°C
LMH2	8A, 250VAC, res., -30°C to +85°C
HM	10A, 250VAC, res., -30°C to +70°C
HM2	10A, 250VAC, res., -30°C to +85°C
Contact ratings	
LM	3A, 250VAC
DM	5A 250VAC
LMH(2)	8A 250VAC
HM(2)	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

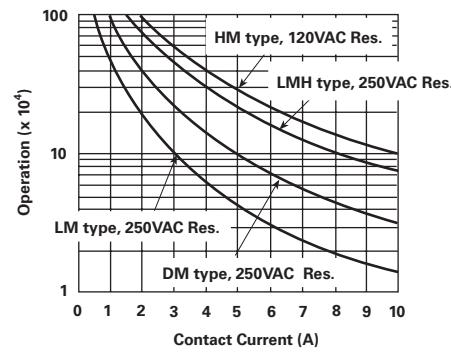
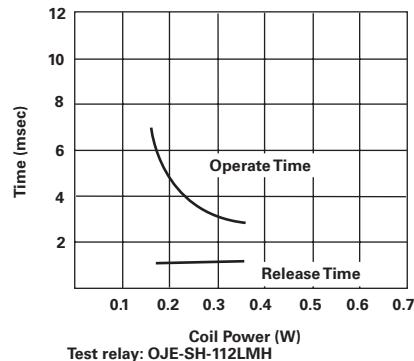
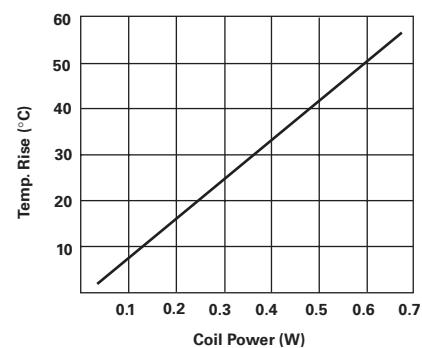
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance $\Omega \pm 10\%$	Rated coil power mW
003	3	2.25	0.15	45	200
005	5	3.75	0.25	125	200
006	6	4.5	0.3	180	200
009	9	6.75	0.45	405	200
012	12	9	0.6	720	200
024	24	18	1.2	2880	200
048	48	36	2.4	11520	200

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

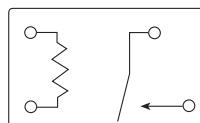
Electrical endurance

Operate time

Coil temperature rise


Miniature PCB Relay OJ/OJE (Continued)
Insulation Data

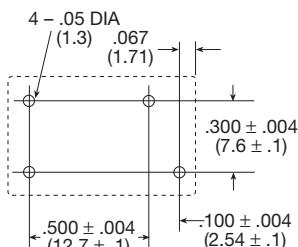
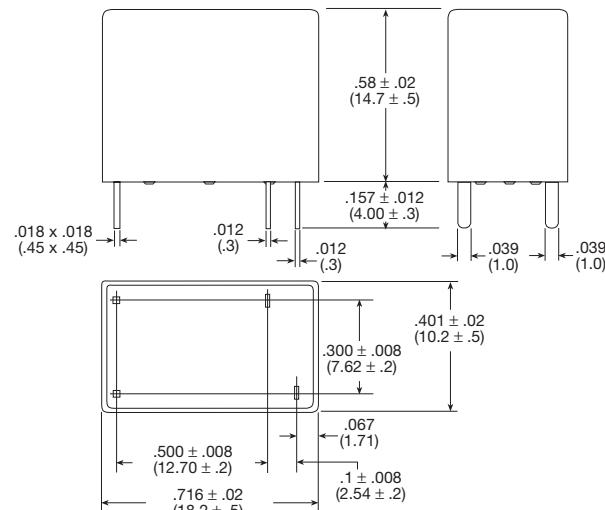
Initial dielectric strength	750V _{rms}
between open contacts	OJ: 4000V _{rms}
between contact and coil	OJE: 3000V _{rms}
Clearance/creepage	
between contact and coil	OJ: > 7.7mm / 9.4mm
between contact and coil	OJE: > 3.2mm / 3.6mm
Tracking index of relay base	PTI 250

Terminal assignment

Bottom view on solder pins


PCB layout

Bottom view on solder pins


Dimensions

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: -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
RTIII - wash tight
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
Packaging unit tray/100, carton box/1000

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							
Category of protection								
SS	Fux proof							
SH	Wash tight							
Number of poles								
1	1 pole							
Coil voltage								
Coil code: please refer to coil versions table (e.g. 12 = 12VDC)								
Contact rating and coil power								
450 mW coil power								
DM	5A type, coil power 450mW	LM	200mW coil power					
TM	TV-5 type, coil power 450mW	LMH	3A type, coil power 200mW					
HM	10A type, coil power 450mW	LMH2	8A type, coil power 200mW					
HM2	10A type, coil power 450mW							
Insulation system designation								
Blank	Insulation Class E (standard)	F	Insulation Class F					
Special type								
Blank	Standard	WG	For domestic appliances (IEC 60335-1, 4 Edition)					
Suffix								
,000	Standard							

Miniature PCB Relay OJ/OJE (Continued)

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

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