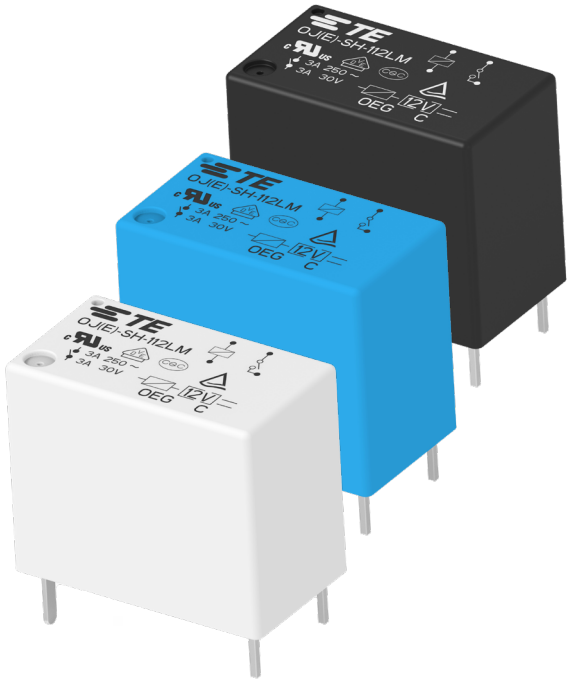
MINIATURE PCB RELAY OJ/OJE

INTRODUCTION

TE Connectivity (TE)'s Miniature Power PCB Relays OJ & OJE is general purpose relay designed for various types of loads (e.g., resistive, inductive) with compact size. The relay is designed as 1 form A contact arrangement with different contact rating current from 3A to 10A, also sensitive coil , WG version and Haz-Loc version are available.



FEATURES

- 1 Pole, 1 Form A (NO) Contact
- 3-10A contact rating
- Small size with outline dimension if 18.2L*10.2W*14.7H(mm)
- 4000Vrms coil contact di-electric strength (OJ type)
- Sensitive coil optional (200mW type);
- WG version, Anti-Ex version (Haz-Loc version) optional

APPLICATIONS

- Major home appliances
- Small appliances
- HVAC
- Industrial control

APPROVALS

- VDE 40007630
- cULus E82292
- CQC03001007764
- TUV R 501391660014-0015

MINIATURE PCB RELAY OJ/OJE

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, AgSnO2, AgCdO
Initial contact resistance	100 milliohms @ 1A,6VDC
Minimum recommended contact load	100mA, 5VDC
Operate time max.	OJ/OJE-L: 15ms
	OJ/OJE-D/H: 10ms
Release time max.	4ms

ELECTRICAL ENDURANCE

UL	
OJ/OJE-LM	3A 250VAC, general use, 100k ops
OJ/OJE-DM	5A 250VAC 85°C 60k ops, 10 LRA / 1.5 FLA, 120VAC, 100k ops
OJ/OJE-LMH	8A 277VAC res, 70°C 100k ops (SS), 6.6 LRA / 1.1 FLA, 120VAC, 105C 100k ops
OJ/OJE-LMH2	8A 250VAC res, 85°C 30k ops, 12 LRA / 2 FLA 250VAC, 85C 100k ops
OJ/OJE-HM	10A 250VAC, general use, 30k ops (SH type), 18 LRA / 4 FLA, 240VAC, 85°C 100k ops, 7.5A 240VAC res, 105°C 100k ops (SS)
OJ/OJE-HM2	10A 250VAC res, 100k ops (SS type), 7.5A 240VAC res, 105°C 100k ops (SS type)
OJ/OJE-HM6	10A 250VAC res, 85°C 50k ops (OJ WG type only), 7.5A 240VAC res, 105°C 100k ops
VDE	
OJ/OJE-LM	3A 250VAC res, 55°C 100k ops
OJE-DM	5A 250VAC res, 85°C 50k ops
OJ/OJE-LMH	8A 250VAC res, 85°C 10k ops
OJ-LMH2	8A 250VAC res, 85°C 25k ops
OJ-LMH2	5A 250VAC res, 105°C 50k ops
OJE-HM	10A 250VAC res, 85°C 30k ops
OJ-HM	10A 250VAC res, 85°C 10k ops
OJ-HM2	10A 250VAC res, 85°C 50k ops
Mechanical endurance, DC coil	$10x10^6$ operations

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COIL DATA

Coil voltage range	3 to 48VDC
Operative range, IEC 61810	2
Coil insulation system according UL	Class F

COIL VERSIONS, DC COIL, OJ/OJE-L SENSITIVE TYPE

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
003	3	2.25	0.3	45	200
005	5	3.75	0.5	125	200
006	6	4.5	0.6	180	200
009	9	6.75	0.9	405	200
012	12	9	1.2	720	200
024	24	18	2.4	2880	200
036	36	27	3.6	6480	200
048	48	36	4.8	11520	200

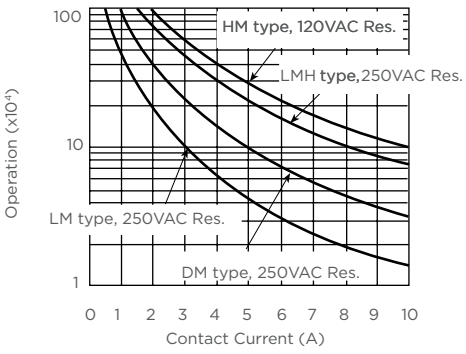
All figures are given for coil without pre-energizaton, at ambient temperature +23°C

COIL VERSIONS, DC COIL, OJ/OJE-D&H SENSITIVE TYPE

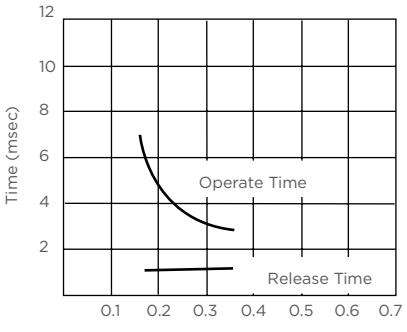
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
003	3	2.25	0.3	20	450
005	5	3.75	0.5	55.5	450
006	6	4.5	0.6	80	450
009	9	6.75	0.9	180	450
012	12	9	1.2	320	450
024	24	18	2.4	1280	450
036	36	27	3.6	2880	450
048	48	36	4.8	5120	450

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

Electrical endurance

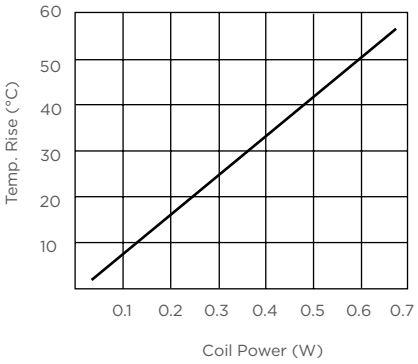


Operate time



Test relay: OJE-SH-112LMH

Coil temperature rise



INSULATION DATA

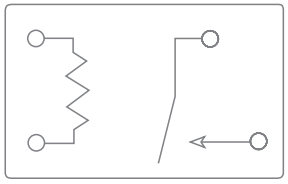
Initial dielectric strength	
Between open contacts	750Vrms
Between contact and coil	OJ: 4000Vrms
	OJE: 3000Vrms
Clearance/creepage	
Between contact and coil	OJ: > 7.7mm / 9.4mm
Between contact and coil	OJE: > 3.2mm / 3.6mm
Tracking index of relay base	PTI 250

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	
LM	-40 ~ +105C
DM	-40 ~ +85C
LMH(2)	-40 ~ +105C
HM(2)/HM6	-40 ~ +105C
Category of environmental protection	
IEC 61810	RTII - flux proof
	RTIII - wash tight
Shock resistance (functional)	10g
Shock resistance (destructive)	100g
Weight	6g
Resistance to soldering heat THT	
IEC 60068-2-20	RTII: 270°C/10s
	RTIII: 260°C/5s
Packaging unit	Tray/100, Carton box/1000

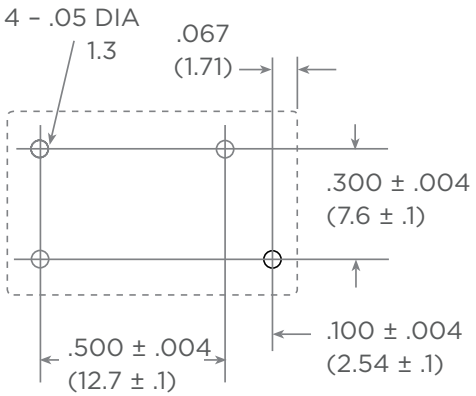
TERMINAL ASSIGNMENT

Bottom view on solder pins



PCB LAYOUT

Bottom view on solder pins



DIMENSIONS (Unit: mm)

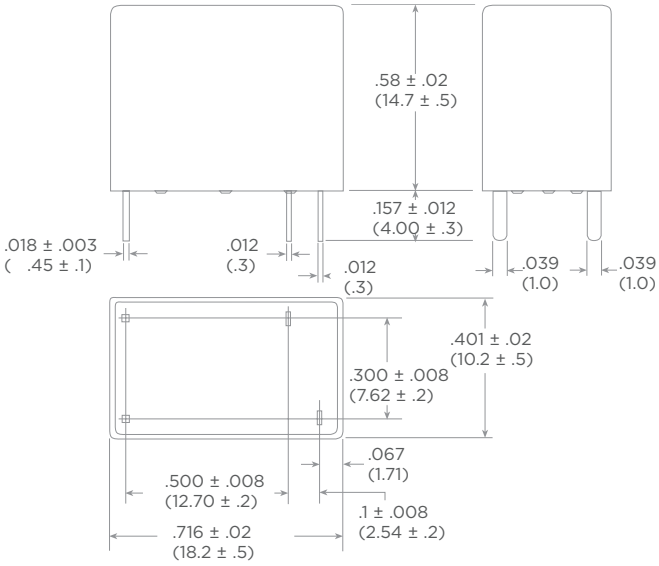


Diagram dimension	Tolerance
0.99mm max.	±0.1 mm
1-2.9mm	±0.2 mm
3mm min.	±0.3 mm

ORDERING INFORMATION

Part Number

OJ -SS -1 12 HM2 F -WG ,00000

Basic type

OJE	3KV dielectric between contact -coil
OJ	4KV dielectric between contact -coil

Category of protection

SS	Flux proof
SH	Wash tight

Number of poles

1	1 Pole

Coil voltage

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

Suffix

,00000	Standard
,E****	EX-version (IEC 60079-15 , 22.5 Sealed device)

Special type

Blank	Standard
WG	IEC 60335-1 complaint
R	Reflow-soldering type
EX1	EX version
WE X1	EX-version + WG (IEC 60079-15,22.4 Enclosed-break device)

Insulation system designation

Blank	Insulation class F
F	Insulation class F

Contact rating and coil power

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

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PRODUCT INFORMATION

Product Code	Rating	Contact Material	Coil voltage	Coil powder	Type	Insulation	Enclosure	Part Number
OJE-SH-112LM,000	3 A	AgNi	12 VDC	200 mW	Standard	Class F	Wash tight	1461401-5
OJ-SS-112LM,000							Flux proof	2-1419129-1
OJ-SS-124LM,000			24 VDC					3-1419129-1
OJE-SS-112LM,000			12 VDC					4-1419128-6
OJ-SH-105LM,000			5 VDC				Wash tight	1461404-1
OJ-SH-112LM,000			12 VDC					1461404-6
OJE-SH-112DM,00E0W	5 A			450 mW	EX-version			2071369-1
OJE-SH-105DM,000			5 VDC		Standard			1461400-1
OJE-SS-112DM,000			12 VDC				Flux proof	4-1419128-2
OJE-SH-124DM,000			24 VDC				Wash tight	1461400-5
OJ-SH-112DM,000			12 VDC					1461406-4
OJ-SH-105LMH,000	8 A	AgCdO	5 VDC	200 mW				8-1419128-1
OJ-SH-112LMH,000			12 VDC					9-1419128-8
OJ-SS-112LMH2		AgSnO2					Flux proof	1721260-5
OJ-SS-112LMH2-WG					WG version			1721874-5
OJ-SS-124LMH2			24 VDC		standard			1721260-6
OJE-SH-105LMH,000		AgCdO	5 VDC				Wash tight	1461403-3
OJE-SH-112LMH,000			12 VDC					1461403-4
OJE-SS-112LMH2		AgSnO2					Flux proof	1721261-5
OJE-SH-105HM,000	10 A	AgCdO	5 VDC	450 mW			Wash tight	1461402-4
OJE-SH-112HM,000			12 VDC					1461402-6
OJE-SS-112HM2,000		AgSnO2					Flux proof	1721539-5
OJE-SS-112HM2.000T0								1-1721539-7
OJE-SS-112HMF,F000		AgCdO						4-1419128-4
OJE-SS-124HMF,F000			24 VDC					6-1419128-6
OJ-SS-112HM6-WG,00000		AgSnO2	12 VDC		WG version			2071398-1
OJ-SS-124HM2,000			24 VDC		standard			1721538-7
OJE-SH-112HMF,00E0W		AgCdO	12 VDC		EX-version		Wash tight	2071370-1
OJ-SS-112LMH2-WEX1,00000	8 A	AgSnO2		200 mW	EX-version + WG		Flux proof	2071404-1
OJ-SH-112HM2-WG,00000	10 A		12 V	450 mW	WG version		Wash tight	2071505-1

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