

Miniature PCB Relay OJ/OJE

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

勝特力材料 886-3-5753170
勝特力电子(上海) 86-21-34970699
勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)



F0277-C

Typical applications
Appliances, HVAC, industrial control



Approvals

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

Contact Data

Contact arrangement	1 form A, 1 NO	
Rated voltage	30VDC, 277VAC	
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	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	100x10 ³ ops.	
LMH2 8A, 250VAC, res., -30°C to +85°C	30x10 ³ ops.	
HM 10A, 250VAC, res., -30°C to +70°C	100x10 ³ ops.	
HM2 10A, 250VAC, res., -30°C to +85°C	10x10 ³ ops.	
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 Ω±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

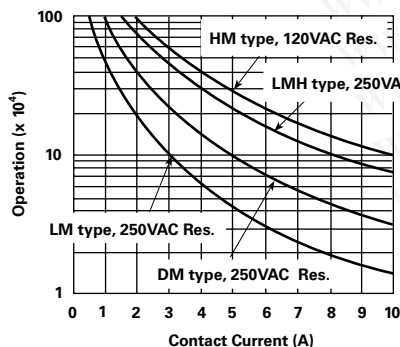
All figures are given for coil without pre-energization, at ambient temperature +23°C

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

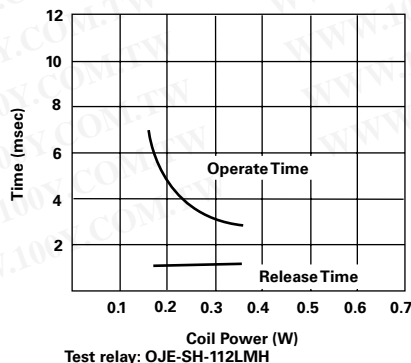
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
003	3	2.1	0.15	20	450
005	5	3.5	0.25	55.6	450
006	6	4.2	0.3	80	450
009	9	6.3	0.45	180	450
012	12	8.4	0.6	320	450
024	24	16.8	1.2	1280	450
048	48	33.6	2.4	5120	450

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

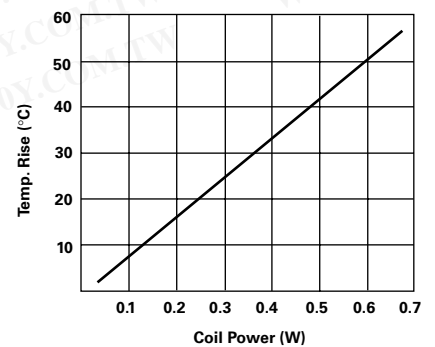
Electrical endurance



Operate time



Coil temperature rise



Miniature PCB Relay OJ/OJE (Continued)

Insulation Data

Initial dielectric strength between open contacts between contact and coil	750V _{rms} OJ: 4000V _{rms} OJE: 3000V _{rms}
Clearance/creepage between contact and coil	OJ: >3.2mm/6.4mm OJE: >1.6mm/3.2mm
Tracking index of relay base	PTI 250

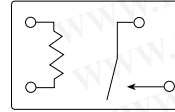
Other Data

Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.tycoelectronics.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 - dust protected 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

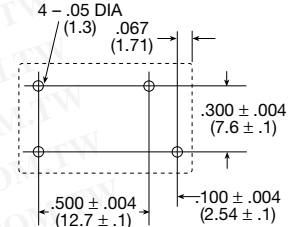
Terminal assignment

Bottom view on solder pins

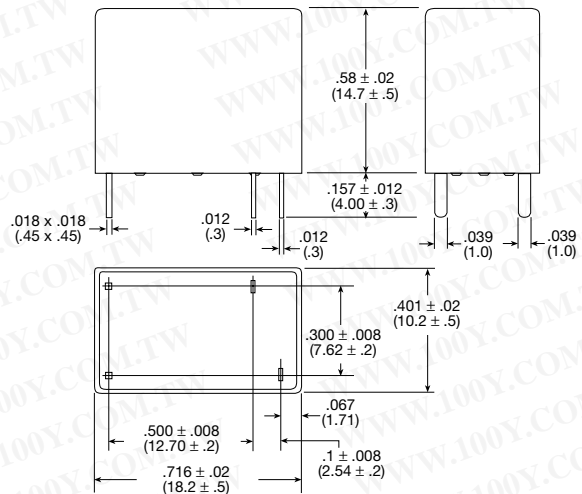


PCB layout

Bottom view on solder pins



Dimensions



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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

Coil voltage

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

Contact rating and coil power

450 mWcoil power	200mW coil power
DM 5A type, coil power 450mW	LM 3A type, coil power 200mW
TM TV-5 type, coil power 450mW	LMH 8A 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	5A		24VDC	450mW			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							5VDC	Wash tight	1461404-4		
OJE-SH-105DM,000							12VDC	Flux proof	1461400-1		
OJE-SS-105DM,000								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								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	8A	AgCdO	5VDC	200mW			Wash tight	2-1419129-9			
OJE-SH-105LMH,000								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		Flux proof	1721875-5					
OJE-SS-112LMH,000			Standard		Flux proof	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	Wash tight	1461403-5				
OJE-SH-124LMH-WG			WG type			Flux proof	1721875-6				
OJE-SS-124LMH,000			Standard			Wash tight	7-1419128-1				
OJ-SH-124LMH,000						Flux proof	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	Ag	5VDC	450mW			Class E	Wash tight	1461405-3		
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			Ag						Wash tight	1461405-5	
OJ-SS-112HM,000									Flux proof	1419135-3	
OJ-SS-112HMF,000									Class F	1461078-5	
OJE-SS-124HM,000							24VDC		Class E	6-1419128-4	
OJ-SS-124HM,000										1440007-2	
OJ-SS-124HM2,000			AgSnO								1721538-7

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