

Miniature PCB Relay OJ/OJE

Реле, каталог, описание, технические, характеристики, datasheet, параметры, маркировка, габариты, фото, даташит, OJE-SS-106HM,000 - Универсальное реле,

- 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

серия OJE, универсальное, без защелки, SPST-NO, 6B DC, 10A
 oje-ss-124dm
 oje-ss-112hmf
 oje-ss-124hmf
 oje-ss-112hmf pfd
 oje-ss-124lmh
 oje-ss-112dm
 oje-ss-124hm
 oje-ss-112hm
 oje-ss-112lm
 oje-ss-112dm



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 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

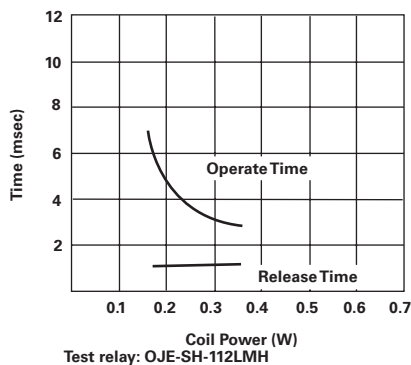
All figures are given for coil without pre-energization, at ambient temperature +23°C.

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

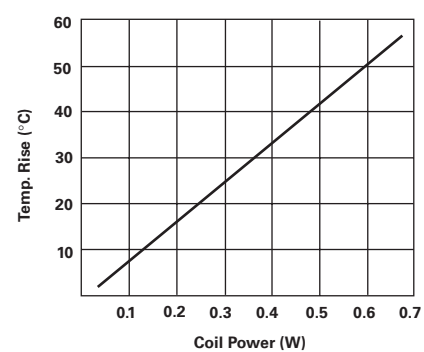
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
003	3	2.1	0.15	20	450
005	5	3.5	0.25	55.6	450
006	6	4.2	0.3	80	450
009	9	6.3	0.45	180	450
012	12	8.4	0.6	320	450
024	24	16.8	1.2	1280	450
048	48	33.6	2.4	5120	450

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

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

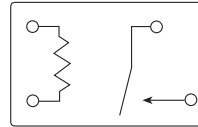
Other Data

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
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
Packaging unit	tray/100, carton box/1000

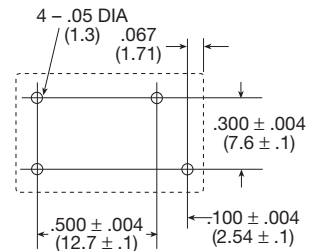
Terminal assignment

Bottom view on solder pins

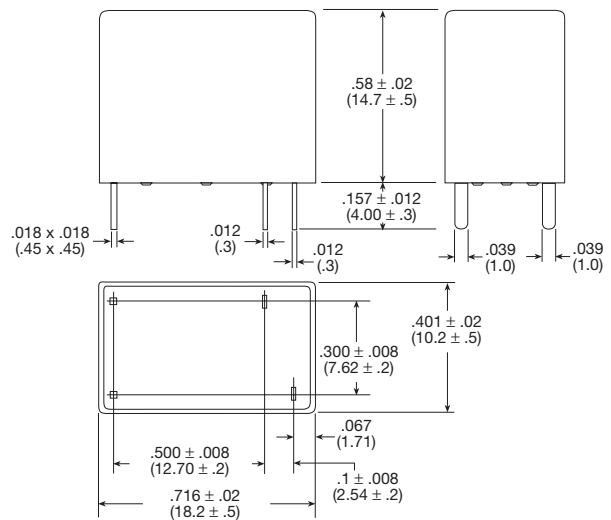


PCB layout

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

Coil voltage

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

Contact rating and coil power

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

Insulation system designation

- Blank** Insulation Class E (standard)
- F** Insulation Class F

Special type

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

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	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							Flux proof	2-1419129-1
OJ-SH-124LM,000								3-1419129-1
OJ-SH-124LM,000			24VDC				Wash tight	1461404-4
OJE-SH-105DM,000	5A		5VDC	450mW				1461400-1
OJE-SS-105DM,000							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								1721875-2
OJE-SS-105LMH,000					WG type		Flux proof	1461034-2
OJ-SH-105LMH,000					Standard		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			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		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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Miniature PCB Relay OJ/OJE

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



F0277-C

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	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

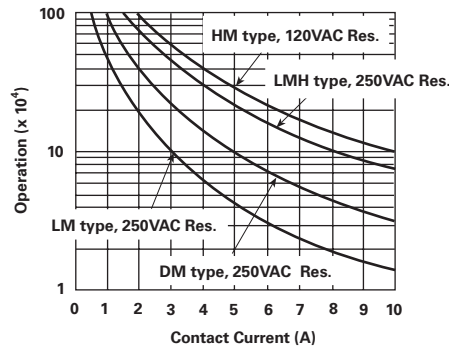
All figures are given for coil without pre-energization, at ambient temperature +23°C

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

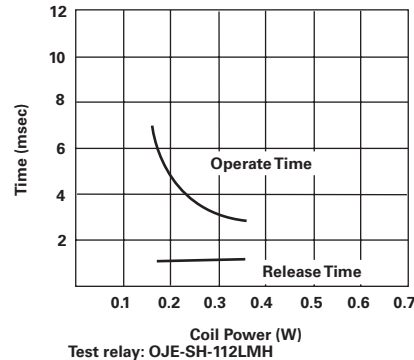
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
003	3	2.1	0.15	20	450
005	5	3.5	0.25	55.6	450
006	6	4.2	0.3	80	450
009	9	6.3	0.45	180	450
012	12	8.4	0.6	320	450
024	24	16.8	1.2	1280	450
048	48	33.6	2.4	5120	450

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

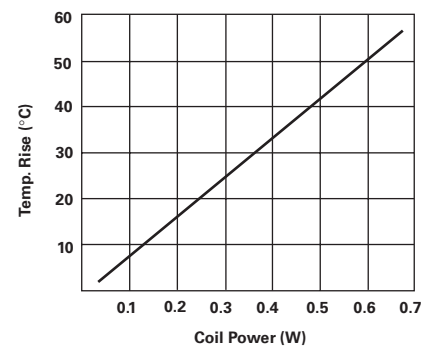
Electrical endurance



Operate time



Coil temperature rise



Miniature PCB Relay OJ/OJE (Continued)

Insulation Data

Initial dielectric strength	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

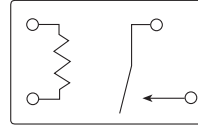
Other Data

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

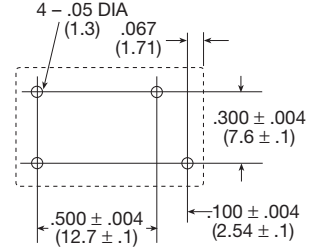
Terminal assignment

Bottom view on solder pins

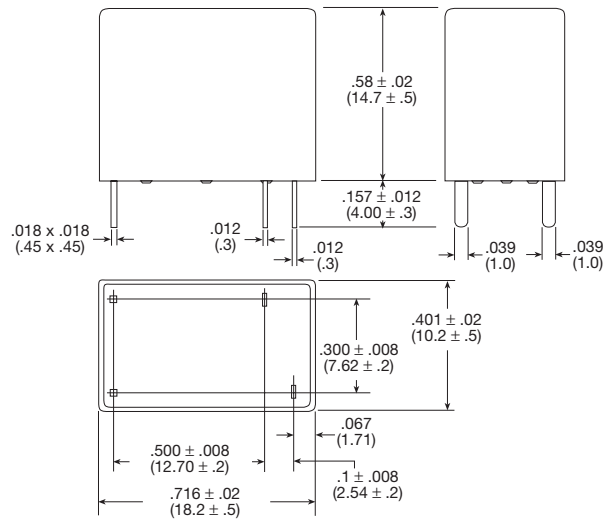


PCB layout

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	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

DM	450 mWcoil power 5A type, coil power 450mW	LM	200mW coil power 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
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Special type

Blank	Standard	WG	For domestic appliances (IEC 60335-1, 4 Edition)
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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	Ag	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							Flux proof	2-1419129-1
OJ-SH-124LM,000								3-1419129-1
OJ-SH-124LM,000			24VDC				Wash tight	1461404-4
OJE-SH-105DM,000	5A		5VDC	450mW				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	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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