

### Miniature PCB Relay 0J/0JE

- 3 to 10A rating
- **■** Small size
- 4000V<sub>rms</sub> 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     |                               | $0^3$ ops. |
| DM 5A, 250VAC, res, -30°C to      | +85°C 60x1                    | $0^3$ ops. |
| LMH(2) 8A, 250VAC, res., -30°C to | ) +70°C 100x1                 | $0^3$ ops. |
| LMH2 8A, 250VAC,res., -30°C to    | +85°C 30x1                    | $0^3$ ops. |
| HM 10A, 250VAC, res., -30°C       | to +70°C 100x1                | $0^3$ ops. |
| HM2 10A, 250VAC, res., -30°C      | to +85°C 10x1                 | $0^3$ ops. |
| Contact ratings                   |                               |            |
| LM                                | 3A, 250VAC                    |            |
| DM                                | 5A 250VAC                     |            |
| LMH(2)                            | 8A 250VAC                     |            |
| HM(2)                             | 10A 250VAC                    |            |
| Mechanical endurance, DC coil     | 10x10 <sup>6</sup> operations |            |

| Coil Data                           |            |  |
|-------------------------------------|------------|--|
| Coil voltage range                  | 3 to 48VDC |  |
| Operative range, IEC 61810          | 2          |  |
| Coil insulation system according UI | Class F. F |  |

| Coil versions, DC coil, OJ/OJE-L sensitive type |                |         |         |            |            |  |  |  |  |  |
|-------------------------------------------------|----------------|---------|---------|------------|------------|--|--|--|--|--|
| Coil                                            | Coil Rated     |         | Release | Coil       | Rated coil |  |  |  |  |  |
| code                                            | voltage        | voltage | voltage | resistance | power      |  |  |  |  |  |
|                                                 | VDC            | VDC     | VDC     | Ω±10%      | mW         |  |  |  |  |  |
| 003                                             | 3              | 2.25    | 0.15    | 45         | 200        |  |  |  |  |  |
| 005                                             | 005 5<br>006 6 |         | 0.25    | 125        | 200        |  |  |  |  |  |
| 006                                             |                |         | 0.3     | 180        | 200        |  |  |  |  |  |
| 009                                             | 9              | 6.75    | 0.45    | 405        | 200        |  |  |  |  |  |
| 012                                             | 12             | 9       | 0.6     | 720        | 200        |  |  |  |  |  |
| 024                                             | 024 24         |         | 1.2     | 2880       | 200        |  |  |  |  |  |
| 048 48 36                                       |                | 36      | 2.4     | 11520      | 200        |  |  |  |  |  |

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

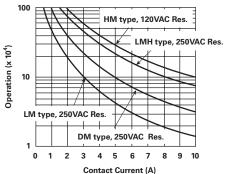
Coil versions, DC coil, OJ/OJE-D and -H type

| Coil | Rated   | Operate | Release | Coil       | Rated coil |
|------|---------|---------|---------|------------|------------|
| code | voltage | voltage | voltage | resistance | power      |
|      | VDC     | VDC     | VDC     | Ω±10%      | mW         |
| 003  | 3       | 2.1     | 0.15    | 20         | 450        |
| 005  | 005 5   |         | 0.25    | 55.6       | 450        |
| 006  | 6       | 4.2     | 0.3     | 80         | 450        |
| 009  | 09 9    |         | 0.45    | 180        | 450        |
| 012  | 10      | Ω /     | 0.6     | 330        | 450        |

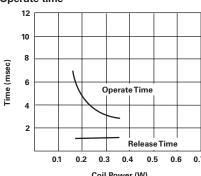
048 48 33.6 2.4 5120 450
All figures are given for coil without pre-energization, at ambient temperature +23°C

16.8

### Electrical endurance



### Operate time



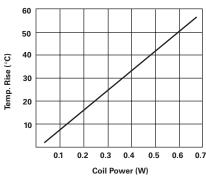
024

24

Coil Power (W) Test relay: OJE-SH-112LMH

### Coil temperature rise

1.2



1280

450

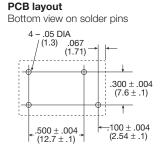


### Miniature PCB Relay OJ/OJE (Continued)

| Insulation Data                      |                           |  |  |
|--------------------------------------|---------------------------|--|--|
| Initial dielectric strength          |                           |  |  |
| between open contacts                | $750V_{rms}$              |  |  |
| between contact and coil             | OJ: 4000V <sub>rms</sub>  |  |  |
|                                      | OJE: 3000V <sub>rms</sub> |  |  |
| 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 |                           |  |  |

# Bottom view on solder pins

Terminal assignment



### **Other Data**

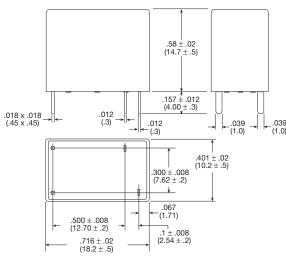
Packaging unit

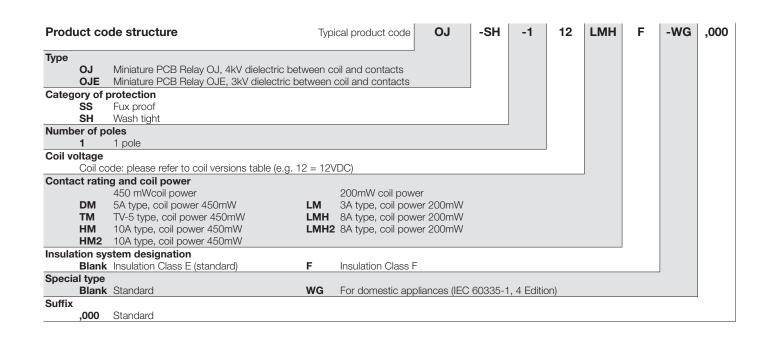
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.te.com/customersupport/rohssupportcenter

Ambient temperature DM: -30°C to +85°C НМ: -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

tray/100, carton box/1000

### **Dimensions**







### Miniature PCB Relay OJ/OJE (Continued)

| Product code      | Rating | Cont. mat. | Coil    | Coil power | Туре     | Insulation | Enclosure  | Part Number |
|-------------------|--------|------------|---------|------------|----------|------------|------------|-------------|
| OJ-SH-105LM,000   | ЗА     | 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-SS-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      |         |            | 1110     |            |            | 1721260-6   |
| OJ-SS-124LMH2-WG  |        | A 0.10     |         |            | WG type  | 01 5       |            | 1721874-6   |
| OJ-SS-124LMHF,000 |        | AgCdO      | -1 (5.0 | 150 111    | 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  |        | 1 0 0      |         |            |          |            | Flux proof | 4-1419128-3 |
| OJE-SS-112HM2,000 |        | AgSnO      |         |            |          |            | 100        | 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   |        | 1.6.6      |         |            |          |            |            | 1440007-2   |
| OJ-SS-124HM2,000  |        | AgSnO      |         |            |          |            |            | 1721538-7   |

## **Mouser Electronics**

**Authorized Distributor** 

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### TE Connectivity:

OJ-SH-124LM,000 OJE-SH-105DM,095 OJE-SH-124DM,000 OJ-SH-112DM,000 OJ-SH-112LM,000 OJ-SH105HM,095 OJE-SH-112DM,095 OJ-SH-105HM,000 OJ-SS-109DM,000 OJE-SH-105DM,000 OJE-SH-112HM,000
OJE-SS-112LMH,000 OJE-SH-105LMH,000 OJE-SS-105LMH,000 OJ-SS-124LMHF,000 OJ-SS-112LMH2 OJ-SS109LMHF,000 OJ-SS-109LMH2-WG OJE-SH-124LMH-WG OJ-SS-124LMH2 OJE-SS-112LMH2